

quello center

MEDIA & INFORMATION POLICY

2021-2022 ACADEMIC YEAR REPORT

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Mission

The James H. and Mary B. Quello Center is one of the leading U.S. academic centers in communication, media, and information policy. Our work examines the interactions between technology, policy, and society at the level of individuals, communities, and society. We collaborate with practitioners to translate rigorous academic research into the design and implementation of better information policy and governance. The Center's interdisciplinary research draws from multiple empirical methods and multi-disciplinary theoretical perspectives. The Center is based in the Department of Media and Information at Michigan State University (MSU). It consists of a core set of researchers, complemented by research associates across MSU as well as other U.S. and international universities and research centers.

Research Areas

	ICTs & society	Interactions of ICTs and society, e.g., social media use and self-esteem; information seeking and COVID-19 beliefs and knowledge formation during COVID-19.
	Digital equity and inclusion	Several projects focus on broadband access and quality, digital skills, and barriers to use, across rural and urban communities, to inform decisions aimed at narrowing digital divides.
	Digital innovation	Roles of policy in harnessing the benefits of emerging technologies, public interest innovation, responsible innovation.
	Platform and Internet policy	Our work covers a range of themes related to renewed efforts to design policy frameworks for digital platforms, to revisit Section 230, and to address the market power of big tech.
	Information security	With researchers in computer science and criminal justice we explore the economic, legal, behavioral, technical and policy aspects of cybersecurity.
	Foundations	Work in this area develops foundational knowledge informing policy responses to challenges such as digital platform power, privacy, surveillance, data ethics, and the governance of AI.

Advisory Board

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Keith N. Hampton, Director of Academic Research

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Inyoung Shin, Lecturer, Department of Computer Science, Yale University

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Research Associates

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Natascha Just, *Professor of Communication, University of Zurich, Switzerland*

A. Michael Noll, *Professor Emeritus, Annenberg School for Communication, USC*

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EXECUTIVE SUMMARY

During the 2021-2022 academic year, we continued our research and outreach on broadband policy, worked on two existing research projects, and obtained funding for two new projects. Our research was published in top-peer reviewed journals, presented at national and international conferences, and shared in online and in-person workshops and training sessions. Our research findings were cited in public policy documents, including the 2022 Economic Report of the President, media, and commentary.

On June 27, 2022, at a ceremony at the MSU STEM Building, a delegation from the National Telecommunications and Information Administration (NTIA) announced the award of \$10.5 million to MSU and Merit Network for Project [MOON-Light](#). The Michigan Open Optical Network – Leveraging Innovation to Get High-Speed Technology (MOON-Light), will help address critical infrastructure gaps by enabling technologically advanced, middle-mile fiber optic infrastructure across the state. Quello Center Director Johannes M. Bauer and Dr. Melissa Woo, MSU Executive Vice President for Administration, are co-Principal Investigators of the award.

Findings from our *Broadband Gap and Student Performance* report have become part of common, shared knowledge. Michigan State University honored Keith N. Hampton and Johannes M. Bauer with a MSU Distinguished Partnership Award for Community-Engaged Service, a prestigious university-level recognition for research and outreach. A new grant in the spring of 2022 provided the resources to launch a follow-up study with some of the same student population.

The grant from *Facebook* continues to support work on the effects of digital platforms on innovation. This research aims to generate insights into the multifaceted and often ambiguous roles of platforms on innovation in digital ecosystems. Both foundational and applied work, this project provides urgently needed theoretical and empirical insights that can help put the ongoing “techlash” discussions on a scientific basis. This research continues to be presented at national and international conferences to the regulators and policymakers, adding empirical rigor and nuance to the debate.

Quello Center affiliates continued to present work at academic research conferences. We also participated in national and international webinars for professional audiences and in several events for practitioners related to our work on broadband. The Center also organized and co-sponsored, with CITI at Columbia University, a well-attended Townhall at the 49th Research Conference for Communication, Information, and Internet Policy (TPRC49) and will be involved in the upcoming TPRC50.

Center affiliates published several articles in peer-reviewed publications, including *Telematics & Informatics*, *Telecommunications Policy*, and *Information Economics and Policy*. Additional articles are in revision and under review at top-ranked journals. Several book chapters, technical reports, and policy briefs complement the portfolio. As in past years, we used the Quello Center *SSRN E-Journal* to disseminate working papers prior to publication.

Finally, we were involved in numerous outreach activities at the local, state and national level, including the Ingham County Broadband Task Force and Opportunity Broadband, an emerging national coalition promoting digital inclusion and innovation. We have intensified our collaboration with the Pew Charitable Trust and several research centers across the country, including the University of Southern California, the University of Texas at Austin, and Carnegie-Mellon University.

1. SPEAKER SERIES AND POLICY DISCUSSIONS

One of our missions is to stimulate discussion of important and controversial issues, based on detailed examination of historical experiences as well as rigorous analyses of forward-looking policy options. Depending on the topic and the speaker, we conduct some discussions following Chatham House rules, record others for time-delayed release in our video archive (<https://vimeo.com/quellocenter>) or stream them live to a national and global audience (streamed talks are also placed in our video archive). Notable Center and co-sponsored events in the recent past include:

1.1. Speaker Series

- **Fernando Maestre**, Department of Computer Science & Engineering, University of Minnesota, *Living with HIV in Rural Areas: Addressing Healthcare* (April 2022).
- **Sandra Braman**, Texas A&M University, *"Because Technology" and other Legal Imaginaries of COVID-19* (March 2022)
- **Natascha Just, Alena Birrer, & Danya He**, Media & Internet Governance Division, Department of Communication and Media Research, University of Zurich, *Media-Concentration Control in Times of Platformization – Findings from a Cross-National Study* (February 2022).
- **Brianna B. Posadas**, Virginia Tech, *Big Data in Agriculture: Applications and Policy* (January 2022), cosponsored with the Rural Computing Research Consortium (RCRC) at MSU.
- **Bianca C. Reisdorf**, University of North Carolina, Charlotte; **Grant Blank**, University of Oxford; **Craig T. Robertson**, University of Oxford, **et al.** *Information Seeking During COVID-19: A Multi-Method Approach* (December 2021).
- **Josephine Wolff**, Tufts University, *Cyber Insurance Policy: The Role of Carriers and Regulators in an Emerging Market* (November 2021).
- **Pablo J. Boczkowski**, Northwestern University, *Abundance: On the Experience of Living in a World of Information Plenty* (October 2021).
- **Christopher Ali**, University of Virginia, *Farm Fresh Broadband* (September 2021).

All Quello Center talks are archived at <https://vimeo.com/quellocenter>

1.2. Panel Discussions and webinars

- **Innovation in 5G Technology: Leadership, Competition and Policy Issues.** Webinar hosted by the International Telecommunications Society (ITS) on April 27, 2022. With Maria Massaro (Volvo), Maria Alessandra Rossi (Florence School of Regulation), Johannes M. Bauer (Quello Center), Pier Luigi Parcu (Florence School of Regulation).
- **The Information Society–Restoring the Future.** Townhall at TPRC 49. Co-organized with Eli M. Noam at Columbia University. With The Honorable Ro Khanna (U.S. Representative, D-CA), Sherry Turkle (Massachusetts Institute of Technology), Robin Mansell (London School of Economics), and Michael R. Nelson (Carnegie Endowment for International Peace) (September 2021).
- **Digital Security in Enterprises in a Context of Increasing Digitalization.** Organized by NIC.br, Sao Pãolo, Brazil. With Laurent Bernat (OECD), Johannes M. Bauer (Quello Center), Éireann

Leverett (Concinnity Risks), Cristine Hoepers (CERT.br|NIC.br), Leonardo Melo Lins (Cetic.br|NIC.br), Georgina Núñez (UN ECLAC), (May 2021).

2. PROJECTS IN DEVELOPMENT

2.1. MOON-Light

Merit Network and Michigan State University are joint recipients of a \$10.5 million National Telecommunications and Information Administration (NTIA) Broadband Infrastructure Program Grant that will connect Michigan's many disparate Internet pathways.



This program, named the Michigan Open Optical Network – Leveraging Innovation to Get High-Speed Technology (MOON-Light), will help address critical infrastructure gaps by enabling technologically advanced, middle-mile fiber optic infrastructure across the state. It will allow interconnecting local Internet service providers (ISPs) to bring affordable, robust, high-speed broadband Internet to homes and businesses in Michigan's underserved/unserved population areas.

This project leverages funding from the National Telecommunications and Information Administration's Broadband Infrastructure Program (BIP), one of the recent infrastructure programs. BIP was a precursor to the Infrastructure Investment and Jobs Act (IIJA), which was signed into law by President Biden on November 15, 2021. As the State of Michigan continues to prepare for federally funded broadband investments, MSU and Merit proactively and independently applied for the NTIA grant to move things ahead faster.

The project deploys equipment-only on a statewide scale and requires no additional middle-mile fiber construction. Implementation is expected to take 12 months. Entire regions across Michigan lack high-performance fiber optical connections to the Internet through mainline attachments ("middle-mile" infrastructure), and many residents remain unserved with approximately 380,000 lacking any connectivity to their homes and businesses ("last mile" infrastructure).

Unlike closed (private) infrastructure networks that offer services from a single service provider to residents, the MOON-Light network will provide regional connectivity through an open-access network approach. Open-access networks (OANs) are high-performance networks that are open to multiple providers that leverage the infrastructure to offer high-capacity broadband services to residents and businesses.

Recording of event is available [here](#).

2.2. Spatial Inequality in the Digital Economy

A joint initiative with researchers at the Oxford University and the Humboldt Institute for Internet and Society (HIIG) in Berlin, this project seeks to understand the forces that drive inclusion and exclusion of regions and nations in the global digital economy. Building on strands of work in development economics and on digital entrepreneurship, we hypothesize that the digital development of nations can be measured as a network of technologies and the relations between them. Global inequalities in digital development can then be understood as differences in the positions of countries in the “technology space.” Using data from Stack Overflow, the world's largest question and answer website for programming related topics, we describe this technology space as a network. We believe that this perspective has the potential to result in a better understanding of persistent inequalities in the development of the digital economy. We were able to obtain funding from programs at Oxford University to carry out project development work.

3. ONGOING PROJECTS

3.1. The COVID-19 Pandemic and Rural Digital Inequities in Educational Attainment, Student Performance, and Psychological Wellbeing

This research, led by Keith N. Hampton and Johannes M. Bauer, will study the role of digital inequality on change in rural student’s academic performance, educational aspirations, and psychological wellbeing due to the COVID-19 pandemic. Utilizing existing survey and student record data from a 2019 sample of rural students will be paired with student records from standardized exams (2019-2022), and information on student internet during the pandemic. This work will answer the question of whether students with no or poor Internet access, and those with lower digital skills, experienced declines in academic performance, educational aspirations, or psychological wellbeing? And if initiatives by schools to “fill the gap” in the missing infrastructure for rural Internet access (e.g., deploying cell phone hotspots) was successful at preventing negative consequences to student performance, educational aspirations, and psychological wellbeing due to preexisting digital inequalities?

3.2. [Political and Health Information Seeking](#)

This project, partially funded by a grant from the *John S. and James L. Knight Foundation*, seeks to understand information seeking and how different practices influence knowledge about matters of public importance during periods of dynamic change. Such situations, exemplified but not limited to the coronavirus pandemic, necessitate that individuals and organizations make decisions based on incomplete and changing information, often complicated by deliberately misleading information. Using the unfolding coronavirus pandemic as a case to study the broader phenomenon of information seeking and verification under conditions of uncertainty and rapidly changing information, the research project examines the interplay between political and health information seeking. Controlling for socioeconomic and other factors, we are particularly interested in how sources and channels used to obtain, verify, and update information influence individuals’ mental models and factual knowledge about the pandemic and appropriate responses.

A team of researchers from Michigan State University, University of North Carolina Charlotte, Oxford University, and Clemson University conducted two nationally representative surveys in the United States and the United Kingdom. We are currently examining four research questions pertaining to theories of information seeking, information verification, and trust in different information sources: (1) What online media, offline media, and other information sources do American and British Internet users rely on and trust during the COVID-19 pandemic, and how do socio-demographic factors influence these choices? (2) (How) Do people update and verify information to deal with incomplete information and uncertain knowledge? (3) How do socio-demographic factors, information sources, and the updating rules used by individuals relate to their perceptions and knowledge about political and health topics related to COVID-19? (4) How do socio-demographic factors, information sources, and the updating rules used by individuals influence behavioral intentions?

Publications, Conference Papers, and Policy Briefs

- Muqaddam, A.A., Argyris, Y.A., Blank, G., Bauer, J.M., Knittel, M., & Cotten, S. (2022). Media Use, Misinformation, and COVID-19 Vaccination Intentions: A Study of the United States and the United Kingdom. Under peer review.
- Blank, G., & Reisdorf, B.C. (2021). Digital inequalities and public health during COVID-19: Media dependency and vaccination. Paper presented at the 72nd Conference of the International Communications Association (ICA), Paris, France.
- Robertson, C.T., Knittel, M., Blank, G., Bauer, J.M., & Shillair, R. (2021). The influence of news media, politicians, and experts as information sources on COVID-19 attitudes and beliefs: A US–UK comparison. Paper presented at the 72nd Conference of the International Communications Association (ICA), Paris, France.
- Reisdorf, B.C., Blank, G., Cotten, S., Argyris, A., Robertson, C.T., Knittel, M., & Bauer, J.M. (2021). Overcoming COVID-19 Vaccine Hesitancy. *Quello Center Policy Brief* 02/21.
- Reisdorf, B.C., Blank, G., Bauer, J. M., Cotten, S., Robertson, C.T., & Knittel, M. (2021). Information Seeking Patterns and COVID-19 in the United States. *Journal of Quantitative Description: Digital Media*, 1. [DOI](#)

3.3. Policies to Support Digital Innovation

This multi-year research initiative seeks to inform policies toward advanced ICT service and applications in the United States, with a current emphasis on 5G wireless services, platform ecosystems, and systemic types of innovation (e.g., smart mobility). Many of the topics addressed will also apply to emergent technologies, including 6G and sub-THz services as well as the Internet of Intelligence (IoI). 5G, 6G and sub-THz wireless services will constitute an integral part of the future gigabit communication network infrastructure. Platform ecosystems have been the focus of much criticism but the drivers of innovation in these markets, and positive and negative effects of digital platforms, are only poorly understood.

Projects in this area will examine how policy choices affect innovation outcomes. The \$100,000 gift from Facebook has helped launch work in this family of projects. A proposal to the *Sloan Foundation* was submitted and it currently in review. Some of the issues raised in the spectrum policy proposal to NSF addresses some of the issues is in preparation, together with researchers in the Economics Department at MSU and a project partner at MIT.

Publications and Working Papers

- Bauer, J.M. & Prado, T.S. (2022). Digital Innovation: An Information-Economic Perspective. Quello Center Working Paper 04/22. Under review.
- Prado, T.S. (2022). Emerging Policy and Regulatory Regimes for Digital Platforms: Lessons for U.S. Competition Policy. Paper to be presented at the 31st European Regional Conference of the International Telecommunications Society (ITS) and the 50th Research Conference on Communication, Information, and Internet Policy (TPRC50).
- Prado, T.S., & Bauer, J.M. (2022). Big Tech Platform Acquisitions of Start-ups and Venture Capital Funding for Innovation. *Information Economics and Policy*. <https://doi.org/10.1016/j.infoecopol.2022.100973>.
- Bauer, J.M. (2022). Toward new guardrails for the information society. *Telecommunications Policy*, 102350. Published online April 6, 2022. <https://doi.org/10.1016/j.telpol.2022.102350>.
- Bauer, J.M. & Bohlin, E. (2021). Regulation and innovation in 5G markets. *Telecommunications Policy*, 102260, <https://doi.org/10.1016/j.telpol.2021.102260>.
- Knieps, G. & Bauer, J.M. (2021). Internet of things and the economics of 5G-based local industrial networks. *Telecommunications Policy*, 102261, <https://doi.org/10.1016/j.telpol.2021.102261>.
- Bauer, J.M. and Prado, T.S., Digital Platforms and Innovation: Lessons for Innovation Policy and Regulation (December 15, 2020). Available at: [SSRN](#) or [DOI](#).

3.4. Broadband and Educational Achievements

Initiated in 2019, this study was designed to understand the repercussions of absent or poor home Internet connectivity on student performance and the associated costs to society. The focus was on Internet connectivity outside of school among middle and high school students enrolled in rural and small-town schools. Inequalities related to income and race are often used to explain why some people still do not have Internet or broadband access at home. Often overlooked in this discussion is the role of geography and varying levels of infrastructure access. Our study allowed to disentangle these factors.

The report published in March 2020 was widely read by policymakers and stakeholders. Building on the experience with the Broadband Gap project, we helped Merit Network to develop a toolkit that facilitates a highly granular assessment of the availability and quality of broadband connectivity. During the past year, the approach has been used by several counties across Michigan, including Washtenaw County, Berrien County, and Ottawa County, to assess the state of connectivity among their residents and to develop appropriate responses to overcome gaps and discrepancies. It was also used by several large organizations, including Wayne State University, to identify and help overcome connectivity gaps among students and faculty. The approach is scalable and applicable to state and national level information collection.

Publications and Working Papers

- Hampton, K.N., & Shin, I. (2022). Disconnection is More Problematic for Adolescent Self-Esteem Than Heavy Social Media Use: Digital Inequality, Restrictive Parenting, and the Relationship to Time Rural Youth Spend with Friends and Family. 2022 Hybrid Conference of the International Communication Association (ICA), Paris, France.

- Hampton, K.N., Robertson, C.T., Fernandez, L., Shin, I. & Bauer, J.M. (2021). How variation in Internet access, digital skills, and media use are related to rural student outcomes: GPA, SAT, and educational aspirations. *Telematics and Informatics* 63, 101666, <https://doi.org/10.1016/j.tele.2021.101666>.
- Bauer, J.M., Hampton, K.N., Fernandez, L., & Robertson, C.T. (2020). *Overcoming Michigan's homework gap: The role of broadband Internet connectivity for student success and career outlooks*. Quello Center Working Paper No. 06-20.
- Hampton, K.N., Fernandez, L., Robertson, C.T., & Bauer, J.M. (2020). *Broadband and Student Performance Gaps*. James H. and Mary B. Quello Center, Michigan State University. March. <https://doi.org/10.25335/BZGY-3V91>.

3.5. Cybersecurity Capacity Building

William Dutton continues his role as chair of the Social and Cultural Dimension of the Oxford Martin Institute's Global Cybersecurity Capacity Center at the University of Oxford. He is working on the specific notion of a cybersecurity 'mindset' with papers of his own and with Ruth Shillair. The research on the impact of cyber security capacity, based on a comparative analysis of 120 nations, is featured in a chapter of the 2nd edition of *Society and the Internet* by Oxford University Press. In addition, several journal articles and many conference presentations have come out of the project. This work is supported by the Foreign and Commonwealth Office in the UK, along with partners from other nations.

Publications

Shillair, R., Esteve-González, P., Dutton, W.H., Creese, S., Nagyfejeo, E., Von Solms, B. (2022). National Level Evidence-Based Results, Challenges, and Promise, *Computers & Security*, <https://doi.org/10.1016/j.cose.2022.102756>.

Creese, S., Dutton, W.H., Esteve-Gonzalez, P. & Shillair, R. (2021). Cybersecurity Capacity Building: Cross-National Benefits and International Divides. *Journal of Cyber Policy*, 6(2), 214-235. <https://doi.org/10.1080/23738871.2021.1979617>.

3.6. Social Tolerance and Communication Technologies

This project focuses on how the use of new communication technologies, such as social media and mobile phones, affects the durability of relationships, including intergenerational ties (e.g., child-parent-grandparent relations), exposure to other people's opinions and background, and how this exposure is related to outcomes such as social tolerance. This work tests a new theory in the study of community, that modern technologies facilitate persistent contact and pervasive awareness of social ties. As a result of persistence, relationships may be less transitory than in the recent past. This research expands our understanding of how the use of innovative technologies is related to the supportive nature of people's communities, the communication of diverse information, and interaction that could help counter the loss of social capital in contemporary communities. These processes and trends have the potential to increase social cohesion and social tolerance, thus improving the well-being of individuals and society. Keith Hampton is leading this project, with funding from the NSF.

4. MATURE AND COMPLETED PROJECTS

Data collection and analysis for the following projects has been concluded but additional articles and book chapters are under review and in preparation. For a list of publications please check <https://quello.msu.edu/publications>.

4.1. Threats from Ideologically Motivated Cyber Attackers

This research project led by Tom Holt (Criminal Justice), Arun Ross (Computer Science), Ruth Shillair (Quello Center), and Johannes M. Bauer (Quello Center) at Michigan State University and a team of collaborators at Arizona State University is examining an extensive data set documenting cyberthreats posed by politically motivated attackers. Ideologically driven attackers do not follow the monetary logic of financially motivated cybercriminals. Whereas there is rich research in the economics of cybercrime on profit-seeking cybercriminals, the strategies of politically motivated attackers are poorly understood, and defenses are often weak. We go beyond the prevailing machine learning approaches and develop a better system to identify such attacks and prevention strategies. The project is funded by contracts with Arizona State University and the Department of Homeland Security (DHS). We were invited to submit an additional round of funding. Additional funding will be sought from the National Science Foundation (NSF). The project has generated several conference presentations and two papers are currently under review at peer-reviewed venues.

Publications

- Banerjee, S.; Swearingen, T.; Shillair, R.; Bauer, J.M.; Holt, T.J.; & Ross, A. (2021). Using machine learning to examine cyberattack motivations on web defacement data. *Social Science Computer Review*. Published online on 23 February 2021, DOI.
- Holt, T.J.; Lee, J.R.; Freilich, J.D.; Chermak, S.M.; Bauer, J.M.; Shillair, R. & Ross, A. (2020) An exploratory analysis of the characteristics of ideologically motivated cyberattacks, *Terrorism and Political Violence*, DOI: [10.1080/09546553.2020.1777987](https://doi.org/10.1080/09546553.2020.1777987).

4.2. Improving the Quality of Broadband Data

This project started with comments submitted to the National Telecommunications and Information Administration (NTIA) in July 2018, in collaboration with Merit Network seeking input on improved methods for measuring broadband availability and quality. We proposed to use a crowd-sourcing inspired mechanism to collect individual level data and to combine it with complementary methods to reach the unconnected. From these comments, Merit developed a measurement framework consisting of an online speed test and a survey instrument, as well as a second information gathering channel, to obtain information from the unconnected.

4.3. Quello Search Project

This study examined public political opinions by asking Internet users how they use search, social media, and other important media, for political information, and what difference it makes for them. Led by William H. Dutton, the research team conducted an online survey of stratified random samples of Internet users in seven nations, including Britain, France, Germany, Italy, Poland, Spain, and the

United States. For a full list of publications related to this project see <https://quello.msu.edu/research/quello-search-project/>.

4.4. Broadband to the Neighborhood in Detroit

This project investigated the degree that neighborhoods in Detroit are disconnected from the Internet and what could be done to increase digital equity. Working in collaboration with the Wayne State University Center for Urban Studies, we conducted 525 telephone surveys with residents across three Detroit neighborhoods and conducted three focus groups. The team completed data collection in December of 2017 and has since published several articles based on the research.

5. COMMUNITY AND OUTREACH

5.1. Outreach and Public Service

We were involved in numerous outreach activities at the local, state and national level, including the Ingham County Broadband Task Force, working groups by the U.S. Department of Education, and Opportunity Broadband, an emerging national coalition promoting digital inclusion and innovation. We have intensified our collaboration with the Pew Charitable Trust and several research centers across the country, including the University of Southern California, the University of Texas at Austin, and Carnegie-Mellon University.

5.2. Quello Center Policy Briefs

In March 2020, we launched the inaugural Quello Center Policy Brief, a series of brief documents synthesizing longer research contributions that is intended for decisionmakers. See <https://quello.msu.edu/policy-briefs/>.

5.3. In the Media

In response to increasing coverage in news and other online events, we added a new page to our website. See <https://quello.msu.edu/in-the-media/>.

5.4. Video Library

We have steadily grown our library of archived talks and short interviews with our speakers, archived on Vimeo (see <https://vimeo.com/quellocenter>) and YouTube (<https://www.youtube.com/channel/UCeGcQFBPA0wb-OmoYwgUfEQ>). .

5.5. Online Presence

If you have not already done so, please:

- Check out the Quello Center website at <https://quello.msu.edu/>.
- Like our Facebook page at <https://www.facebook.com/QuelloCenter/>.

5.6. SSRN E-Journal

In addition, we have an online working paper archive on the Social Science Research Network (SSRN), currently featuring more than 100 working papers and reports. See: <https://www.ssrn.com/link/Quello-Center-PUB.html>

6. SELECTED PUBLICATIONS AND PRESENTATIONS¹

6.1. Journal Articles and Conference Proceedings

- Prado, T.S. & Bauer, J.M.** (2022). Big Tech Platform Acquisitions of Start-ups and Venture Capital Funding for Innovation. *Information Economics and Policy*.
<https://doi.org/10.1016/j.infoecopol.2022.100973>.
- Bauer, J.M.** (2022). Toward new guardrails for the information society. *Telecommunications Policy*, 102350. Published online April 6, 2022. <https://doi.org/10.1016/j.telpol.2022.102350>.
- Shillair, R., Esteve-González, P., Dutton, W.H., Creese, S., Nagyfejeo, E., Von Solms, B.** (2022). National Level Evidence-Based Results, Challenges, and Promise, *Computers & Security*, <https://doi.org/10.1016/j.cose.2022.102756>.
- Creese, S., **Dutton, W.H.**, Esteve-Gonzalez, P. & **Shillair, R.** (2021). Cybersecurity Capacity Building: Cross-National Benefits and International Divides. Forthcoming in the *Journal of Cyber Policy*. <https://doi-org.proxy1.cl.msu.edu/10.1080/23738871.2021.1979617>.
- Bauer, J.M.** & Bohlin, E. (2021). Regulation and Innovation in 5G Markets. *Telecommunications Policy*, 102260, <https://doi.org/10.1016/j.telpol.2021.102260>.
- Knieps, G. & **Bauer, J.M.** (2021). Internet of Things and the Economics of 5G-based Local Industrial Networks. *Telecommunications Policy*, 102261, <https://doi.org/10.1016/j.telpol.2021.102261>.
- Shin, I., & Hampton, K.N.** (2021). New Media Use and the Belief in a Just World: Awareness of Life Events and the Perception of Fairness for Self and Injustice for Others. *Information, Communication & Society*, 1-17. <https://doi.org/10.1080/1369118X.2021.1950804>.
- Hampton, K.N., Robertson, C.T., Fernandez, L., Shin, I. & Bauer, J.M.** (2021). How variation in Internet access, digital skills, and media use are related to rural student outcomes: GPA, SAT, and educational aspirations. *Telematics and Informatics* 63, 101666, <https://doi.org/10.1016/j.tele.2021.101666>.
- Reisdorf, B.C., Blank, G., Bauer, J. M., Cotten, S., Robertson, C.T., & Knittel, M.** (2021). Information Seeking Patterns and COVID-19 in the United States. *Journal of Quantitative Description: Digital Media*, 1. <https://doi.org/10.51685/jqd.2021.003>
- Prado, T.S. & Bauer, J.M.** (2021). Improving broadband policy design using market data: A general framework and application to Brazil, *Telecommunications Policy*, 45(5), 102111, [DOI](https://doi.org/10.1016/j.telpol.2021.102111).

¹ In reverse chronological order within each subsection.

- Banerjee, S.; Swearingen, T.; **Shillair, R.; Bauer, J.M.**; Holt, T.J.; & Ross, A. (2021). Using machine learning to examine cyberattack motivations on web defacement data. *Social Science Computer Review*. Published online on 23 February 2021, [DOI](#).
- Holt, T.J.; Lee, J.R.; Freilich, J.D.; Chermak, S.M.; **Bauer, J.M.; Shillair, R.** & Ross, A. (2020) An exploratory analysis of the characteristics of ideologically motivated cyberattacks, *Terrorism and Political Violence*, <https://doi.org/10.1080/09546553.2020.1777987>.
- Feijóo, C.; Kwon, Y.; **Bauer, J.M.**; Bohlin, E; Howell, B.; Jain, R.; Potgieter, P.; Vu, K.; Whalley, J.; & Xia, J. (2020). Harnessing AI to increase wellbeing for all: The case for a new technology diplomacy, *Telecommunications Policy*, 44(6), 101988, <https://doi.org/10.1016/j.telpol.2020.101988>.
- Hong, S.J.; **Bauer, J.M.**; Lee, K.; Granados, N.F. (2020). Drivers of supplier participation in ride-hailing services, *Journal of Management Information Systems*, 37(3), 602-630. <https://doi.org/10.1080/07421222.2020.1790177>
- Robertson, C.T.**, & Mourão, R. (2020). Faking alternative journalism? An analysis of self-presentations of “fake news” sites. *Digital Journalism*, published online 25 March 2020, DOI: [10.1080/21670811.2020.1743193](https://doi.org/10.1080/21670811.2020.1743193).
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- Aguelakakis, N., & **Yankelevich, A.** (2019). Collaborate or consolidate: Assessing the competitive effects of production joint ventures. *Economic Inquiry*, 57(1), 73-84.
- Astorne-Figari, C., López, J.J., & **Yankelevich, A.** (2019). Advertising for consideration. *Journal of Economic Behavior & Organization*, 157, 653-669.
- Dutton, W.H.**, and **Fernandez, L.** (2018/19), ‘How Susceptible Are Internet Users?’, *InterMEDIA*, December/January 2018/19 46(4): 36-40.
- Dutton, W.H.**, Creese, S., **Shillair, R.**, & Bada, M. (2019). Cybersecurity Capacity: Does It Matter? *Journal of Information Policy*, 9, 280-306.
- Fernandez, L.H., Reisdorf, B.C., & Dutton, W.H.** (2019). Urban Internet myths and Realities: A Detroit case study. *Information, Communication & Society*, 1-22, published online 5 June 2019, DOI: [10.1080/1369118X.2019.1622764](https://doi.org/10.1080/1369118X.2019.1622764).
- Hampton, K.N.** (2019). Social Media and Change in Psychological Distress over Time: The Role of Social Causation. *Journal of Computer-Mediated Communication*.
- Mack, E.A., **Dutton, W.H.**, Rikard, R.V., & **Yankelevich, A.** (2019). Mapping and measuring the information society: A social science perspective on the opportunities, problems, and prospects of broadband Internet data in the United States. *The Information Society*, 35(2), 57-68.
- Marin, A., & **Hampton, K.N.** (2019). Network Instability in Times of Stability. *Sociological Forum*, 34(2): 313-336.

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Reisdorf, B.C., Yankelevich, A., Shapiro, M., & Dutton, W.H. (2019). Wirelessly bridging the homework gap: Technical options and social challenges in getting broadband to disconnected students. *Education and Information Technology*, 24, 3803–3821. <https://doi.org/10.1007/s10639-019-09953-9>

Robertson, C.T., Dutton, W.H., Ackland, R., & Peng, T.-Q. (2019). The democratic role of social media in political debates: The use of Twitter in the first televised US presidential debate of 2016. *Journal of Information Technology & Politics*, 1–14.

6.2. Books and Chapters

Bauer, J.M. & Latzer, M. (forthcoming). Co-evolution: Applications and Implications for Governance Research in Media and Communication Studies. In: R. Mansell, M. Puppis, & H. van der Bulck (eds.), *Handbook of Media and Communication Governance*. Cheltenham, UK & Northampton, MA: Edward Elgar.

Bauer, J.M. (2022). Bauer, Johannes M. (2022). A framework for 5G and 6G market design. In E. Bohlin & F. Cappelletti (eds.), *Europe's future connected: Policies and challenges for 5G and 6G networks* (pp. 20-30), Brussels, Belgium: European Liberal Forum.

Bauer, J.M. (2022). Agile Regulation: Towards Flexible Governance of the Digital Economy. In: F. Birke, G. Brunekreeft, V. Stocker, & H.-J. Weiß (eds.), *Perspektiven der Netzökonomie*. Baden-Baden: Nomos Verlag.

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Hampton, K.N. and Wellman, B. (2021). All the Lonely People? The Continuing Lament about the Loss of Community. In L. Lievrouw and B. Loader (Eds.), *Routledge Handbook of Digital Media and Communication*. Abingdon, UK: Routledge. 281-296.

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Dutton, W.H. (2019). Wired City. In A.M. Orum (Ed.), *The Wiley Blackwell Encyclopedia of Urban and Regional Studies* (1st ed.).

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6.3. Book Reviews

Bauer, J. M. (2022). Review of Christopher Ali, *Farm Fresh Broadband: The Politics of Rural Connectivity*, MIT Press, 2021. *Journal of Digital Media & Policy*, 13(1), 143-146.
https://doi.org/10.1386/jdmp_00099_5.

Dutton, W.H. (2019), *Internet Daemons: Digital Communications Possessed*. Fenwick McKelvey. Minneapolis, MN: University of Minnesota Press, for *Journal of the Association for Information Science and Technology*.

6.4. Technical Reports

Reisdorf, B.C., Blank, G., Cotten, S., Argyris, A., Robertson, C.T., Knittel, M., & **Bauer, J.M.** (2021). Overcoming COVID-19 Vaccine Hesitancy. *Quello Center Policy Brief* 02/21.

Bauer, J.M., Hampton, K.N., Fernandez, L.H., & **Robertson, C.T.** (2020). Overcoming Michigan's homework gap: The role of broadband Internet connectivity for student success and career outlooks. Quello Center Working Paper No. 06-20.

Hampton, K. N., Fernandez, L.H., Robertson, C.T., & **Bauer, J. M.** (2020). Broadband and Student Performance Gaps. James H. and Mary B. Quello Center, Michigan State University. 3 March 2020, DOI.

6.5. Recent and Upcoming Presentations

Knittel, M. (2022, January). How an Online Health Support Community Responded to the COVID-19 Crisis," Paper to be presented at the Hawaii International Conference on System Sciences (HICSS) 2022.

Hampton, K.N., & **Bauer, J.M.** (2021, November). The Social Side of Building Fiber: Implications for Middle and High School Students Academic Performance and Self-Esteem. Michigan Universities Network Research Collaboration Summit. Merit Networks. Ann Arbor, MI.

Grant, B., & **Reisdorf, B.C.** (2021, September). Digital inequalities and public health during COVID-19: Media dependency and vaccination. Presented at the Digital Inclusion Policy and Research Conference 2021 (DIPRC2021), Liverpool, UK, September 14, 2021.

Hampton, K.N., & **Bauer, J.M.** (2021, November). When Access is Not Enough: Evidence from Rural Michigan. Washington, D.C., The Pew Charitable Trust.

Bauer, J.M. (2021, October). ICT Convergence: Challenges and Opportunities for Regulation and Public Policy. PURC/World Bank International Training Program on Utility Regulation and Strategy, Gainesville, Florida, October 12, 2021.

- Prado, T.S., & Bauer, J.M.** (2021, August). Effects of Big Tech Acquisitions on Start-up Funding and Innovation (August 17, 2021). Quello Center Working Paper No. 04-21, Available at SSRN: <https://ssrn.com/abstract=3787127> or <http://dx.doi.org/10.2139/ssrn.3787127>
- Prado, T.S.** (2021, June). Kill Zones? Effects of Big Tech Start-up Acquisitions on Innovation. 23rd Biennial Conference of the International Telecommunications Society (ITS), Gothenburg, Sweden, 21st-23rd June. <https://www.econstor.eu/handle/10419/238049>.
- Shillair, R., Dutton, W.H., Esteve-Gonzalez, P. and Creese, S.** (2021, May). *Understanding the Role of Human and the Machine in Cybercrime and Cybersecurity. Cybersecurity Capacity Building: Cross National Benefits and International Divides*. [Online]. SECREV: The Cybersecurity Revolution. <https://secrev.org/index.html>
- Hampton, K.N.; Robertson, C.T.; Fernandez, L.H.; Shin, I.; & Bauer, J.M.** (2021, May). Digital Media and Human Capital in Rural America: Broadband Access, Digital Skills, and Excessive Media Use for GPA, SAT, and Educational Aspirations. International Communication Association. Virtual Conference.
- Hampton, K.N.; Robertson, C.T.; Fernandez, L.H.; Shin, I.; & Bauer, J.M.** (2021, May). Beyond Equitable Access: Everyday Use and Digital Skills for Rural Students' Academic Outcomes. IEEE International Workshop on Communications Quality and Reliability. Virtual Conference.
- Hampton, K.N.** (2021, May). Beyond Equitable Access: Everyday Use and Digital Skills for Rural Students' Academic Outcomes. Bridging the Connectivity Challenge Hackathon. Cybera, Inc. Calgary, Canada.
- Creese, S., **Dutton, W. H.**, Esteve-Gonzalez, P., & **Shillair, R.** (2021, February). Cybersecurity Capacity Building: Cross-National Benefits and International Divides. TPRC48, The Research Conference on Communications, Information, and Internet Policy. Washington D.C. Available at SSRN: <https://ssrn.com/abstract=3658350> or <http://dx.doi.org/10.2139/ssrn.3658350>
- Knittel, M., & Shillair, R.** (2021, February) Information Policy, Privacy Failings, and Steps Towards Empowerment in Cases of Technology-Facilitated Sexual Violence. The Research Conference on Communications, Information, and Internet Policy TPRC48. Washington, D.C. <http://dx.doi.org/10.2139/ssrn.3748984>.

6.6. Work in Progress

- Bauer, J.M. & Prado, T.S.** (2022). Digital Innovation: An Information-Economic Perspective. Quello Center Working Paper 04/22. Under review.
- Prado, T.S.** (2022). Emerging Policy and Regulatory Regimes for Digital Platforms: Lessons for U.S. Competition Policy. Paper to be presented at the 31st European Regional Conference of the International Telecommunications Society (ITS) and the 50th Research Conference on Communication, Information, and Internet Policy (TPRC50).
- Bauer, J.M., Knittel, M., Ma, W., Blank, G., & Shillair, R.** (2022). Formation of Mental Models under Conditions of Uncertainty: The Case of COVID-19.

Hampton, K.N., & Shin, I. (under review). Disconnection is More Problematic for Adolescent Self-Esteem Than Heavy Social Media Use: Digital Inequality, Restrictive Parenting, and the Relationship to Time Rural Youth Spend with Friends and Family.