



BERKMAN KLEIN CENTER
FOR INTERNET & SOCIETY AT HARVARD UNIVERSITY

Annual Report

Academic Year 2017–2018

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Part One: Report of Activities

A. Summary of Academic Year: 2017–2018

1. Executive Summary

The 2017–2018 academic year has been an active one for the Berkman Klein Center for Internet & Society. Throughout the year we have continued to leverage the unique qualities of our interdisciplinary Center to write code to support our research, host activities to educate the public as well as private convenings of disparate voices, offer an intellectual platform for our international and diverse fellows' community, and support educating students in the Cyberlaw Clinic to solve real world problems. In particular, in 2017–2018, we focused on tackling complex research questions and finding new ways to share our insights with the world, working toward a more diverse and inclusive community, and implementing the results of a strategic planning process aimed to help bolster the Center operationally and to improve internal and external communications. We produced rigorous scholarship that pushes the boundaries of knowledge in areas such as the ethics and governance of artificial intelligence, convened diverse, global perspectives on a range on pressing topics related to technology and the law including privacy, security and the Internet of Things, and shared ideas and facilitated learning through formal and informal settings.

Research with Impact: The Ethics and Governance of Artificial Intelligence Initiative

Over the past year, the Berkman Klein Center, together with the MIT Media Lab, embarked on a major effort to develop a range of activities, tools, and prototypes as anchor institutions for the Ethics and Governance of Artificial Intelligence Fund. In support of the initiative's commitment to advancing AI in the public interest, the anchor institutions launched an array of research programs; built a platform where stakeholders working across disciplines, sectors, and geographies can meet, engage, learn, and share; and translated research to students, policymakers, and academics. The Center continues to leverage its deep experience and international networks in order to apply scholarship and knowledge to emerging AI challenges.

Specifically, over the past year the initiative has focused on **Algorithms and Justice**, exploring ways in which government institutions incorporate artificial intelligence, algorithms, and machine learning technologies into their decision making; **Media and Information Quality**, developing tools and empirical research to help users, platforms, and policymakers better respond to the effects of automation and machine learning on content production, dissemination, and consumption patterns; **Global Governance**, working to reduce information asymmetries between the public and private sectors; and **Autonomous Vehicles**, anticipating impacts on the future of labor, exploring how these vehicles will push the limits of existing governance frameworks, and identifying the forms of transparency necessary to build new accident liability regimes.

As part of the Ethics and Governance initiative, we were pleased to co-host the [Global Symposium on Artificial Intelligence and Inclusion](#) in Rio de Janeiro, which brought together guests and collaborators from around the world from sectors including advocacy, philanthropy, media, policy, and industry to

examine both the opportunities and the challenges of AI-based technologies through the lens of inclusion, broadly conceived. The convening allowed us to deepen our shared understanding of challenges and opportunities related to AI and inclusion, and to identify and discuss areas for research, education, and action. This event also helped mark the fifth anniversary of the [Global Network of Internet and Society Centers](#), which was launched here at Harvard Law School in 2012 and has now grown to more than 80 participating centers.

Toward a More Diverse and Inclusive Community

We have continued to invest in, herald, and celebrate the tremendous efforts and contributions from our world-class community. Over the 2017–2018 year, the range and breadth of our community continued to grow in new directions, involving people with research agendas and backgrounds new to the Center and instigating new explorations and collaborations. With our increasingly diverse community, both in Cambridge and beyond, we have worked to honor the differences in background and experiences, and hosted conversations and experiments for how we can explore our own community dialogues and make the Center an increasingly inclusive environment. We welcomed an incredible crop of fellows, faculty associates, affiliates, students, and interns to the community this year.

To make Berkman Klein fellowships a possibility for as wide a range of applicants as possible, in the 2017–2018 academic year we offered a small number of stipends intended to support people from communities that are underrepresented in fields related to Internet and society, who will contribute to the diversity of the Center’s research and activities, and who have financial need. We are offering stipends again in the 2018–2019 year. Over the past year we also expanded our efforts to reach out to new communities with our fellowship and summer internship calls, and we worked closely with a community-led Race and Media Working Group to bring in speakers and scholars of color to participate in our luncheon series. We are laying the groundwork for capturing diversity and inclusion data through community conversations and guidance from representatives across the university so that we can track our progress.

Another community-building pilot was the introduction of the fellows’ “kitty,” which provided a new way for us to better support fellows by providing funding for things like travel to conferences and events. This helped to extend our work to new communities and created opportunities for fellows to bring new ideas back to the Center. The kitty also enabled projects and teams to hire Harvard students as interns.

Strategic Planning for Maximum Impact

Over the past year, we’ve worked thoughtfully to implement the findings of our recent strategic planning process. We’ve taken steps to improve both our internal and external communications. Internally, we’ve focused on facilitating greater communication and transparency among and throughout the community at all levels. Related activities and achievements include piloting a new staff meeting model that encourages engagement and leadership opportunities, providing greater consistency and transparency around advancement criteria and opportunities for research staff, holding a one-day retreat for the staff with involvement with the broader Center community to foster discussion and encourage feedback, and establishing a series of management trainings for formal managers as well as other staff. Several of these

steps have been taken on the advice of an outside consultant who is working to help us deepen our ongoing efforts and will help us to implement additional steps in the coming year.

Related to external communications, we have worked to narrow and sharpen our institutional narrative through additional written outputs and one-pager project descriptions and, perhaps most visibly, through our redesigned digital presence. Ten years in the making, the new Berkman Klein Center website provides an updated, clearer picture of who we are and what we do, providing topic areas that allow us to better contextualize our work within the broader landscape of Internet and society issues and surfacing more robust linkages among and between content, providing a more comprehensive picture of the Center's body of work over the last two decades.

2. Research, Scholarship and Project Activities

a. Areas of Inquiry—Research Program's Mission Statement

As an interdisciplinary, university-wide center with a global scope, the Berkman Klein Center has an unparalleled track record of leveraging exceptional academic rigor to produce real-world impact. The Center is committed to pushing the edges of scholarly research, building tools and platforms that break new ground, and fostering active networks across diverse communities. Our vibrant, collaborative community of independent thinkers represents a wide range of philosophies and disciplines, making us a unique home for open-minded inquiry, debate, and experimentation. We are united by our commitment to the public interest.

To do its work, our interdisciplinary community collaborates on data collection and analysis, elaborating on new methodological approaches to the study of digital phenomena, and opening our tools and scholarship through distributed and cooperative solutions. Substantial work includes research on privacy and cybersecurity; content regulation and censorship online; youth and media; ethics and governance of artificial intelligence; digital humanities; civic participation, public discourse, and media; Internet governance; open access; interoperability; digital health; harmful speech online; and digital finance, among other focal areas at the intersection of the Internet and society.

Research at the Center spans a range of activities that reflect our interdisciplinary foundation and constitution. Methodological approaches are drawn from a range of disciplines and include legal and policy analysis, case studies, focus groups, surveys, social network analysis, and content analysis. The Center strives to produce research that is both academically rigorous and applicable to the most important questions and issues of the digital age. Producing top-caliber publications is a primary focus. The Center also invests resources in data collection, data aggregation, and developing new tools and platforms for the study of the Internet and society. Among many examples are the [Internet Monitor](#) project, which collects, analyzes, and visualizes data related to the health of the Internet; [Media Cloud](#), a digital media analysis platform; and [Lumen](#), a project that provides public access to takedown requests.

The combination of our fellows program, technical development team, academic research, and teaching in the Cyberlaw Clinic make the Berkman Klein Center unique among its peers.

b. Projects/Research and Scholarship

Cybersecurity

Launched in early 2015, the [Berklett Cybersecurity](#) project has aimed to rethink the set of responsibilities connected to foreign intelligence gathering and its role in promoting cybersecurity. The project is led by Faculty Director Jonathan Zittrain, former National Security Agency Director of Compliance John DeLong, former US National Counterterrorism Center Director Matt Olsen, and cybersecurity expert Bruce Schneier, and it is supported by senior researcher David O'Brien and research associate Tiffany Lin. In addition, this year Salome Viljoen joined the project as a fellow.

The Berklett Cybersecurity project regularly convenes a diverse group of security and policy experts—one that by all accounts is unlikely to exist anywhere else—to discuss a broad range of enduring problems related to cybersecurity as it intersects with areas such as law enforcement, commercial regulation, liability, proposed legislation, technical standards, and company policies, along with the mainstays of foreign intelligence, national security, and the public-private interface. Its goal is to foster candid exchange among experts who do not usually have a chance to engage with one another and to distill the novel insights and consensual opinions learned from these discussions.

During 2017–2018, the project convened four meetings in Cambridge, Massachusetts, and collaborated with members in government, industry, civil society, and academia. Topics discussed during the regular convenings ranged broadly within the scope of the project. Perhaps the most persistent topic in discussion throughout the year was the Russian “active measures” campaign that took place during the lead-up to the 2016 election. In this vein, the Berklett group touched on election security; the role of platforms in policing truth, advertising, and other types of content; and potential government interventions. In addition, the group continued to make progress on other topics, such as Internet of Things security and surveillance, the government’s role in disclosing software vulnerabilities to vendors, encryption policy, and the debate surrounding the ability of private actors to use “active defenses” or “hack back” in response to cyberattacks.

Subsets of the Berklett group also met with a bipartisan group of senators and their staffers in an educational capacity, sharing insights gained from the project. In December, the project team organized a two-day workshop with the Cyberlaw Clinic on privacy and cybersecurity issues, which was attended by more than 40 representatives from 22 state attorneys’ general offices across the country. Members of the Berklett project team also contributed to collaborations throughout the year with the World Economic Forum’s project on cyber resilience and the East West Institute’s encryption breakthrough group, among others. In addition to meetings and collaborations, the project released a publication in the fall on cross-border data sharing, mutual legal assistance treaties (MLATs), and the US Department of Justice’s proposed solution to the growing problems associated with these arrangements. Two additional publications are nearing completion and will be published in 2018.

Ethics and Governance of Artificial Intelligence Initiative

Over the past year, the Berkman Klein Center, together with the MIT Media Lab, embarked on a major effort to develop a range of activities, tools, and prototypes as anchor institutions for the [Ethics and Governance of Artificial Intelligence Fund](#). In support of the initiative's commitment to advancing AI in the public interest, the anchor institutions launched an array of research programs; built a platform where stakeholders working across disciplines, sectors, and geographies can meet, engage, learn, and share; and translated research to students, policymakers, and academics. The Center continues to leverage its deep experience and international networks in order to apply scholarship and knowledge to emerging AI challenges.

Through research and engagement with many collaborators, the Ethics and Governance of Artificial Intelligence Initiative made progress across the topics identified as [core use cases](#) and cross-cutting themes. Selected highlights are included here:

Algorithms and Justice: The Algorithms and Justice use case, led by the HLS Cyberlaw Clinic, explored ways in which government institutions incorporate artificial intelligence, algorithms, and machine learning technologies into their decision making.

Over the last year, the aim has been to help the public and private entities that create such tools, state actors that procure and deploy them, and citizens they impact understand how those tools work. For example, Algorithms and Justice published an open letter—signed by Harvard and MIT faculty, staff, and researchers Chelsea Barabas, Christopher Bavitz, Ryan Budish, Karthik Dinakar, Cynthia Dwork, Urs Gasser, Kira Hessekiel, Joichi Ito, Ronald L. Rivest, Madars Virza, and Jonathan Zittrain—to the Massachusetts Legislature to inform its consideration of risk assessment tools as part of ongoing criminal justice reform efforts in the Commonwealth. The letter has influenced the legislature to adopt a more pragmatic approach to the use of risk assessment tools in the criminal justice system. Through the AGTech Forum, the use case convened and built a network of state attorneys general across the country and raised awareness about emerging AI issues for policymakers who have not traditionally been focused on issues related to AI and algorithmic accountability. Algorithms and Justice also developed new courses, educational materials, clinical projects, and teaching curricula to train future lawyers on the hard legal challenges of AI and to influence the next generation of leaders. Although the work in this area began with a focus on the United States and continues to address domestic issues, it is beginning to develop more generalizable lessons and best practices that may be applied in international contexts.

Media and Information Quality: The core use case on Media and Information Quality developed tools and empirical research to help users, platforms, and policymakers better respond to the effects of automation and machine learning on content production, dissemination, and consumption patterns.

This past year, through work with Media Cloud, the AI team developed analytical tools and conducted empirical research to increase understanding of the mechanisms by which media

manipulation occurs, track its prevalence within media ecosystems, and assess the potential for alternative interventions in order to evaluate the impact of these technologies on societal attitudes and democratic institutions. Additionally, the AI team hosted a major convening titled “Information Disorder, New Media Ecosystems and Democracy: From Dysfunction to Resilience.” This invitation-only symposium co-hosted by the Berkman Klein Center, USC AnnLab, Shorenstein Center, Data & Society, and MIT’s Center for Civic Media brought together a diverse community of researchers and practitioners to strategize about how to ensure that technology and media work for people and develop a roadmap to address the challenges of disinformation across the media ecosystem. Media and Information Quality also worked with technology platforms to better understand how they are addressing issues of information quality, harassment, and freedom of expression, particularly in the context of developing and deploying machine learning, and the group hosted a lunch talk and community workshop this past fall with Monika Bickert, Facebook’s head of global policy management, as well as making a “spelunking” expedition to Facebook in January 2018 to get an inside look at the company’s content moderation practices.

Autonomous Vehicles: As vehicles are increasingly automated, it becomes imperative not only to improve human-machine interaction but also to anticipate what autonomous vehicles mean for the future of labor, explore how they will push the limits of existing governance frameworks as they travel across geographic boundaries, and identify the forms of transparency needed to build new accident liability regimes.

In the spring of 2018, fellow Aida Joaquin, together with researchers from the Berkman Klein Center, produced a series of introductory policy primers on autonomous vehicles aimed at policymakers around the globe who are beginning to grapple with the realities of regulating autonomous vehicles within their jurisdiction. The policy primers and a proposed policy framework were disseminated to 75+ experts, and describe key regulatory issues for AVs, a range of policy and governance frameworks, and suggestions for policy innovation and experimentation. With the MIT Media Lab, the Berkman Klein Center also co-hosted the [Symposium on Trust and Ethics of Autonomous Vehicles \(STEAV\)](#), which brought together scientists, engineers, lawmakers, and car manufacturers to discuss ethical considerations and trust in autonomous vehicles. The symposium explored the complex interplay of factors to consider for AVs on the road, including those of fairness, liability, responsibility, utilitarianism, intervention, survivability, and more.

AI and Global Governance: As a cross-cutting theme of the initiative, AI and Global Governance works to reduce information asymmetries between the public and private sectors in order to provide policymakers the tools they need to navigate a complex, highly technical, and global policy space.

Throughout the past year, the use case has bridged information gaps for policymakers and other stakeholders across Asia, Latin America, and Europe through expert convenings, consultations, publications, and joint ventures. As part of this work, the AI team developed new policy frameworks such as the Layered Model for AI Governance and the Data Commons 1.0 as part of

the Data for Good track that was organized at the AI for Good Summit in Geneva. The AI team offered policy expertise in a variety of global contexts, including steering the UN Central Executive Board toward more comprehensive policies for sustainable AI capacity-building through written memos and dialogue and playing a key role in the creation of new AI Ethics and Governance institutions and initiatives, including the Singapore Management University School of Law AI Research Centre and its corresponding research program. Members of the AI and Global Governance initiative also participated in events to share work on AI governance and gain additional insights, such as the Internet Governance Forum, the Global Festival of AI Ideas organized by Bytedance China, and the Global Symposium for Regulators, where they offered guidance to ICT regulators on the future of AI and other emerging technologies. Through the Global AI Dialogue series, the project hosted working meetings with collaborators in Seoul, Beijing, Hong Kong, Zurich, and Florence, primarily focused on exploring cross-border social impact metrics, approaches to aggregating and analyzing AI data, and identifying best practices for bolstering trust in AI and its use for the social good. Additionally, AI and Global Governance helped initiate a number of collaborations, including one between Tsinghua University in China and the AI Index (a project within the Stanford 100 Year Study on AI) to begin developing a coordinated set of social impact measurements across the United States and China. Finally, the team created a report and interactive visualization demonstrating how six use cases of AI interact with human rights as set out in the Universal Declaration of Human Rights.

Global Access in Action

The [Global Access in Action](#) (GAiA) project conducts action-oriented research, supports breakthrough initiatives, facilitates stakeholder dialogue, and provides policy advice to both public and private sector stakeholders. 2017–2018 was a year in which GAiA made significant progress in its effort to improve access to medicines for vulnerable populations. One major project GAiA undertook was the expansion of a pilot project that aims to develop a public-health-sensitive legal framework for the sustainability of a low-cost medicine supply. Our legal advice also provided legal protections that are necessary to incentivize innovations among pharmaceutical companies.

The project started in 2016 in Namibia and expanded to two other countries in sub-Saharan Africa, Malawi and Mozambique. The initiative, led by William Fisher and Ruth Okediji, also involved collaboration with Global Good to fight substandard and falsified (S&F) medicines in sub-Saharan Africa with the use of field detection technology: a miniature spectrometer. While access to medicines is an issue at stake, the problem of S&F medicines can exacerbate the existing access challenges. In the introductory letter of the [project's annual report](#), GAiA's co-directors, William Fisher and Quentin Palfrey, stressed that “Even those who have access are at risk of consuming counterfeit medicines in many countries that often lead to lethal consequences.” GAiA is working to establish a quality assurance network among the countries involved in the pilot project to allow for data sharing on S&F medical products. Through the implementation of the technology, this network of countries will be able to share data on S&F medicines more efficiently and enhance the integrity of regional distribution and supply chains.

The year also saw increased engagement both with the academic community and with international peers and stakeholders. In April 2018, at an event held by the David Rockefeller Center for Latin American Studies at Harvard University, Palfrey gave a presentation titled “Access to Affordable Medicines and

Pharmaceutical R&D in Latin America.” Participants explored access to affordable medicines; the availability of different types of drugs, especially generics; and the transformative policies needed to make progress on pharmaceutical research and development. Participants also discussed the ideas Palfrey put forward in the green paper “Expanding Access to Medicines and Promoting Innovation: A Practical Approach.” In March 2018, Fisher participated in a conference organized jointly by the Brazzaville Foundation, the Harvard Global Health Institute, and the London School of Hygiene and Tropical Medicine to discuss the issue of S&F medicines. Fisher presented the implementation of a field detection technology, a miniature spectrometer to fight S&F medicines, that is currently deployed as part of the larger technical assistance project in sub-Saharan Africa.

Ashveena Gajeelee held additional rich discussions and presentations of GAIa’s projects in the context of the Global Health Forum held in Geneva in April 2018 and at the Consortium of Universities for Global Health in New York in March 2018.

Global Network Initiative

The Berkman Klein Center is a founding member of the [Global Network Initiative](#) (GNI), a multi-stakeholder initiative composed of companies, academics, socially responsible investors, and civil society organizations that is focused on advancing human rights issues in the information and communication technology sector. Vivek Krishnamurthy, a clinical attorney in the Cyberlaw Clinic, represents the Center on GNI’s board of directors and is a member of its Accountability, Executive & Management, and Policy Committees.

Over the last year, the Cyberlaw Clinic has played a key role in overhauling the GNI’s process for assessing the compliance of its member companies with the organization’s Principles on Freedom of Expression and Privacy. This work, which the Clinic began in the spring of 2017, culminated with the GNI board’s unanimous adoption in February 2018 of an “Assessment Toolkit” that will serve as a framework for the next biennial round of assessments, scheduled to begin in the fall of 2018. The Cyberlaw Clinic also supported the GNI’s efforts to revamp and modernize its implementation guidelines to reflect lessons learned over the organization’s eight-year history and align them with the UN Guiding Principles on Business and Human Rights. Krishnamurthy and his Cyberlaw Clinic students have also been assisting the GNI in its policy research and advocacy role. This included the preparation of research memoranda on a range of emerging legal questions and assisting the GNI in identifying its next set of policy priorities.

Harmful Speech Online Project

Over the course of the Harmful Speech Online project, we have sought to uncover and interrogate new dimensions of the complex issues arising from and leading to harmful speech online. We do this by tracking and analyzing policy; designing and implementing research initiatives; and building and fostering networks of practitioners focused on issues at the intersection of technology and online discourse.

This year we continued to monitor and evaluate policy issues, and translated them to more general audiences. In August 2017 we published a compendium of short essays called “[Perspectives on Harmful](#)

[Speech Online](#)” that highlighted novel challenges and responses to harmful speech online, as well as international perspectives on the matters. The essays were collected from members of the Berkman Klein community and included topics such as [youth content moderation on Scratch](#), [the effect of regulation on online speech](#), and [Internet shutdowns as an anti-hate speech mechanism](#). This mode of output enabled us to communicate with technical and nontechnical readers alike, and we cross-posted some of the essays on the Center’s Medium account to further increase their reach.

We continue to develop and experiment with new methods to empirically study harmful speech online. Building upon prior work analyzing the online discourse of white nationalists, we have expanded our collection of data on social media and also expanded the time span under study. We are currently working on computational text analysis methods designed to document and summarize the evolution of discourse online that can be applied to study the emergence and propagation of harmful speech online. We anticipate being able to share results by the end of calendar year 2018.

In addition, over the course of 2017–2018 our team has extensively researched the state of the field of harmful speech online. We examine perspectives from civil society, government, and industry to identify pressures that have compelled changes in the field, such as political and public pressures, and other mechanisms, such as artificial intelligence, that have had a substantial impact on the way that people from across sectors work on understanding and responding to harmful speech online. Further, platform governance and content moderation are two topics that have been central to recent discourse about harmful speech online, and so we are researching each of these in depth. We plan to compile our findings into a report that will be published later this year.

Through a number of convenings, we continued to foster collaboration and networks around the subject of harmful speech online. In September 2017, the Center hosted a public event titled “[The Line Between Hate and Debate](#)” featuring Monika Bickert, Facebook’s head of global policy management, in conversation with Professor Jonathan Zittrain. They discussed the [challenges of content moderation as well as strategies the company uses to mitigate these issues](#). After the public event concluded, we shifted to a more intimate program for Berkman Klein community members and continued the conversation. With fellow Mary Gray hosting, presentations from project principal investigator Urs Gasser and fellows Desmond Patton and Jenny Korn prompted a deeper level of engagement with Bickert and the many issues and questions around content moderation.

We further contributed to network building by co-hosting an October 2017 workshop with VOX-Pol, an academic network focused on research violence online political extremism. With partners from Dublin City University and Central European University, we interrogated the balance between protecting civil liberties and countering violent extremism online in a workshop titled “Countering Violent Extremism Online and the Impact on Civil Liberties.” Center staff members Robert Faris and Nikki Bourassa participated in the workshop alongside faculty associate Susan Benesch and affiliate Kate Coyer. A workshop report will be published by VOX-Pol in the fall of 2018.

In April 2018, the team continued network-building initiatives with a different set of actors. Co-hosted by Professor Chris Bavitz and Nikki Bourassa, with participation from Professors Jonathan Zittrain and Charles Nesson, we convened a diverse group of experts and Harvard Law School alumni for a

“hackathon” on issues at the intersection of speech, technology, and online discourse. Experts with backgrounds in industry, academia, and civil society and specialties ranging from countering violent extremism to platform governance to civil liberties shared short, “lightning” talks and advised participants as they worked through challenges including online harassment, disinformation, and violent extremism. These talks will be turned into a series of case studies in the fall of 2018.

The Center piloted a policy development program led by Professor Jonathan Zittrain that enables technology and media companies to consult with the Center’s community on challenging issues such as harmful speech online, while also enriching our own analyses and insights through greater understanding of the companies’ internal processes and procedures. The program’s first visit, made in January 2018, was to Facebook’s policy product teams that deal with issues of harmful speech online and artificial intelligence, led by the company’s

Vice President of Global Policy and Harvard Law School alumna Monika Bickert. Eight participants including HLS Professor Ruth Okediji, Harvard Law School SJD candidate Elettra Bietti, and Berkman Klein faculty associate Chinmayi Arun spent three days discussing policy and practice with different teams at Facebook’s headquarters. We implemented this program a second time in March 2018 with a visit to the *New York Times*’ community team, which moderates online comments by leveraging an algorithm developed by Google called Perspective. This model of engagement and learning has proved successful so far, and next we will turn to developing public-facing outputs to share the insights gained on these visits.

Harvard Open Access Project

The [Harvard Open Access Project](#) (HOAP), directed by Peter Suber, fosters open access to research within Harvard and beyond, undertakes research and policy analysis on open access, provides access to timely and accurate information about open access itself, and develops TagTeam—an open-source tagging and aggregation tool to support its gathering and dissemination of open-access-related news. During the 2017–2018 academic year, HOAP began pro bono consultations with 36 universities, foundations, government agencies, and nonprofit publishers about open access, open access policies, and practices. In addition, it continued pro bono consultations with 56 organizations that had started in previous years. In the same period, HOAP deepened its collaboration with the Harvard University Office for Scholarly Communication and expanded its outreach on and off campus with 20 public talks on open access and open research tools.

In May 2018, HOAP hosted an invitation-only Workshop for Funder Open-Access Policies, joined by representatives from 19 public and private research-funding organizations. In addition, HOAP supervised the Open Access Tracking Project (OATP), enlarged the daily OATP feeds reporting open-access-related news and comment to the open access community, and upgraded TagTeam, which serves as the platform for OATP. It enlarged the Open Access Directory, the wiki-based encyclopedia of open access, and expanded its widely endorsed guide to good practices for university open-access policies.

Internet Governance

For a long time, Internet governance as a topic was largely focused on the institutions and governance structures that developed and maintained Internet protocols and domain names and numbering. However, a transition by the Internet Assigned Numbers Authority in September 2016 accelerated and heightened an ongoing debate about the outer bounds of Internet governance as a field. In 2017 the Center contributed to this debate by highlighting the complex interactions between domestic policy and Internet governance, as well as the important role that diversity and inclusion must play in the future of Internet policy. The Center explored the intersection of domestic policy and Internet governance through the Hoover Institute's publication of a paper by Ryan Budish and Urs Gasser on the [unintended impacts of domestic encryption policies](#). Christopher Bavitz presented on the topic of the right to be forgotten at a May 2017 conference, "Freedom of expression and the right to be forgotten," hosted by Universidad de Los Andes in Bogotá, Colombia. Scholarship coming out of that conference—concerning implications of the right to be forgotten (and extraterritorial application of the European Union's right to be forgotten law) for traditional Internet governance structures—is expected to be published in academic year 2018–2019.

On the issues of inclusion and Internet governance, we presented several findings at the 2017 Internet Governance Forum in Geneva, Switzerland. For example, Urs Gasser led a panel on social responsibility and ethics in artificial intelligence, focusing on the pressing need, inasmuch as AI is incorporated into the functioning of the global Internet, to establish a distinctively global discourse that is informed by the differences between Eastern and Western cultural values, business environments, economic development levels, and political, legal, and regulatory systems. Similarly, a panel on artificial intelligence and inclusion, featuring Urs Gasser and Berkman Klein fellows Chinmayi Arun and Malavika Jayaram, focused on the growing need for a more diverse perspective regarding the policy issues and consequences of AI, translating to the Internet governance community findings from our Global Symposium of AI and Inclusion in Rio de Janeiro.

Internet Monitor

The [Internet Monitor](#) project, led by principal investigator Jonathan Zittrain, research director Rob Faris, software developer Justin Clark, and project coordinator Casey Tilton, evaluates, describes, and summarizes the means, mechanisms, and extent of Internet content controls and Internet activity around the world.

In September 2017, Internet Monitor, along with five partner organizations, formed an Internet measurement consortium that aims to detect, measure, and report Internet disruptions and censorship around the world. The consortium consists of researchers at the Berkman Klein Center, ICLab at the University of Massachusetts, the Center for Information Technology Policy at Princeton University, the International Computer Science Institute at UC Berkeley, Measurement Lab at New America's Open Technology Institute, and the Open Observatory of Network Interference.

In 2017–2018, Internet Monitor and its collaborators have made significant progress on the consortium's four main goals. First, Internet Monitor has merged its website availability testing tool, AccessCheck, with ICLab's network of vantage points around the world; this tool allows Internet censorship researchers to collect data on website censorship in real time. Second, the consortium continues to implement robust

data storage standards to facilitate collaboration between teams working on measuring Internet censorship. Third, the consortium continues to develop data analysis and interpretation tools that will provide strong technical evidence of Internet censorship. Finally, the consortium plans to create a new public interface for accessing near-real-time data on Internet accessibility, issue periodic summaries of results, and produce papers that document the technical advances of the consortium.

Over the past year, Internet Monitor provided expert analysis on the state of global Internet freedom via its Research Bulletin series, which was launched in October 2017. Internet Monitor published three Research Bulletins in 2017–2018. “[The Slippery Slope of Internet Censorship in Egypt](#)” summarizes the dramatic increase in Internet censorship in Egypt between May and October 2017, examines the Twitter conversation around website blocking in Egypt, and identifies ways that users disseminate banned content.

“Iran’s National Information Network: Faster Speeds, but at What Cost?” by Simin Kargar investigates the blocking of social media platforms during the Iranian protests in January 2018 and analyzes the effectiveness of the Iranian government’s campaign to encourage domestic content consumption and hosting through its National Information Network.

“The Yemen War Online: Propagation of Censored Content on Twitter” by Helmi Noman, Rob Faris, and John Kelly analyzes the sharing of information on Twitter among different political groups related to the ongoing conflict in Yemen. The study finds that the networks on Twitter are organized around and segregate along political lines. The networks cite web content, including censored websites, that reflects and informs their collective framing of the politically sensitive issues.

Internet Robustness

The Internet Robustness project, led by Jonathan Zittrain, Rob Faris, and Sebastian Diaz, develops software to safeguard the promise of the URL, or “Uniform Resource Locator,” that information placed online can remain there, even amid network or endpoint disruptions. The heart of the project is [Amber](#), a proof of concept for the “Mirror-As-You-Link” protocol initially suggested by Zittrain.

The project publicly launched Amber in 2016 within the official WordPress.org plug-in directory and Drupal.org module directory. When installed on a website, Amber detects when the website publishes a new link and automatically makes a backup of the content at the other end of that link if the linked site does not object. If a visitor to the website clicks on a link that is unavailable, Amber notifies the user about the broken link and presents the mirrored page; the visitor is then able to view the page when it would otherwise be inaccessible.

In line with the commonplace that “lots of copies keeps stuff safe,” the software enables Amber users to store snapshots using a combination of the following third-party storage and archiving systems: Internet Archive, Perma, and Amazon Simple Storage Service (Amazon S3). Examples of the types of websites that have downloaded Amber include a legal resources website, an academic study guide clearinghouse, a journalist trainer, a political fact-checking and archiving group, an Internet history digital archive, a Vietnamese activist blog, a European academic job listing website, a fair-use blogger, and a Nigerian storytelling archive.

Lumen

Led by principal investigator Christopher Bavitz and project manager Adam Holland, with technical support from the Center’s “Geek Cave” as well as occasional outside developers, the [Lumen](#) project is an online database of takedown requests related to online content. Lumen’s primary goals are to educate the public about removal requests and takedown notices that are sent to Internet publishers, search engines, and others; to provide as much transparency as possible about such requests in terms of who is sending them, why, and to what effect; and to facilitate research on the notices. In 2017–2018 Lumen received an average of approximately 6,000 notices per day, and its data corpus grew to include slightly fewer than nine million notices referencing approximately 3.2 billion URLs. The project website was visited approximately 11 million times, primarily by users in Europe, North America, and Asia, but also by users in virtually every country in the world, even including a few from Antarctica.

A variety of researchers and public interest groups began or continued to work with the Lumen database, including individuals from the UK, Australia, the EU, and the United States. Most notably, Professor Eugene Volokh at UCLA continued to work closely with Lumen’s data for his ongoing research project studying possibly falsified US court orders that seek removal of online material. Professor Volokh [presented](#) his work at Harvard Law School and at the Berkman Klein Center in the spring of 2018, and also participated in a Lumen session at the 2018 RightsCon in Toronto.

On the practical side of things, Lumen continued to work with the Center’s technical support staff to improve and upgrade the website and database, especially to keep pace with notice volume. Lumen also continued to work closely with Google and Twitter, the database’s two largest sources of notices by volume, to help them integrate more of the notices they receive into Lumen’s API submission protocols. It’s possible that removal requests for all Google products will be API-integrated by the end of 2018, a huge milestone for the project.

Media Cloud

[Media Cloud](#) is an open platform for qualitative and quantitative study of online media. The Media Cloud platform has been developed jointly by the Berkman Klein Center and the MIT Media Lab’s Center for Civic Media, and is led, in part, by Yochai Benkler. Every day, Media Cloud collects and archives articles published by over 50,000 media sources worldwide. An API and three tools—Explorer, Topic Mapper, and Source Manager—provide automatic analysis of topics selected by users, and also enable users to extract and analyze data themselves. All are freely available to the public and implemented through an open-source code base.

This year, the team continued to build upon Media Cloud’s analytic capabilities and invested heavily in upgrading the user interface. The team remade the tool formerly known as Dashboard into a more user-friendly interface called Explorer, officially enabled public users to create spidered topics through Topic Mapper, and launched a number of new analytical modules within the user interface of the platform. In March 2018, Media Cloud co-hosted a conference titled “Exploring Media Ecosystems.” Over 100 attendees from institutions across the country gathered to discuss the current state of media, research

interests, and findings, and quantitative and qualitative research methods and tools. The team also co-hosted “Information Disorder, New Media Ecosystems and Democracy: From Dysfunction to Resilience” in June 2018, which gathered over 100 experts on media manipulation for two days of action-oriented discussion and small-group workshopping.

The primary focus of our related research efforts continues to be understanding media ecosystems before and after the 2016 US presidential election. In August 2017, we published “Partisanship, Propaganda, and Disinformation: Online Media and the 2016 US Presidential Election,” a follow-on to our earlier piece in the *Columbia Journalism Review* and a more in-depth look at open web media and social media in the lead-up to election day. A major finding of this paper was the asymmetry of media source distribution across the political spectrum. Prominent media on the left are well distributed across the center, center-left, and left. On the right, prominent media are skewed to the right with negligible attention to sources in the center-right. The study was subsequently referenced in several dozen media outlets, including the *New York Times*, the *Washington Post*, the *Atlantic*, and MSNBC’s “The Beat with Ari Melber.”

The Media Cloud team then turned to studying the United States media ecosystem after the election, with a particular interest in understanding media manipulation and the role of artificial intelligence. Through further network mapping of media sources using data from after the election, we identified shifts in centrality and influence before and after the vote. We found that media sources that grew in prominence before the election faded and become less influential in its aftermath. We identified fundamental causes of political partisanship to be social and political, rather than technological. We unpack these insights and more, and our full results and analysis will be published in a book to be published in the fall of 2018, co-authored by Yochai Benkler.

metaLAB (at) Harvard

Supported by the Dean of Arts and Humanities, located in the Graduate School of Design, and engaged in the community of its institutional home, the Berkman Klein Center, [metaLAB](#) continues its exploration of intersections in technology, the arts, and the humanities. This year, the core team, consisting of Jeffrey Schnapp, Matthew Battles, Jessica Yurkofsky, and Sarah Newman, were joined by students and collaborators from the Graduate School of Design and MIT's Media Lab and Comparative Media Study programs, and by international collaborators from Germany, the UK, Italy, and Austria. Berlin-based designer Kim Albrecht has been a core member of metaLAB as well; Daniel Oyolu worked as project coordinator in the latter half of 2017–2018.

metaLAB's projects have continued to take shape through platforms, publications, teaching, and exhibitions. metaLAB's largest project, the course-selection platform [Curricle](#), entered development this year. Curricle will serve as a complement to Harvard's online course catalog, with the goal of using data visualization and other dynamic tools to encourage discovery and interdisciplinary study. In collaboration with the Center's director of technology, Sebastian Diaz, metaLAB completed a prototype in June 2018, with public release and testing scheduled for the next academic year. The Curricle team contributed to a Harvard-wide consortium on curricular data research, organized by Harvard's Initiative for Learning and Teaching, and offered advising on course-data visualization at the Safra Center for Ethics.

The Library Test Kitchen Cookbook, released as a website in a public alpha version, began sourcing “recipes” for the book, part of the metaLAB Projects Series with MIT Press. Jessica Yurkofsky served as design consultant for Reading List for Life, a project to unlock millions of college syllabi in public libraries, in partnership with Columbia University and former Berkman Klein fellow Alison Head. Locally, metaLAB contributed graphic- and information-design work to the Cyberlaw Clinic's Guide to Protest Art.

With the metaLAB team, faculty director Jeffrey Schnapp co-taught "Robots In and Out of Buildings," a Graduate School of Design course exploring robotic autonomy and mobility in the built environment. Additionally, metaLAB offered workshops at Vassar College, Harvard Art Museums, Houghton Library, the Cambridge Public Library, and the MIT Media Lab. metaLAB's work in the artistic domain has included explorations of the intersections of art and artificial intelligence, projects exploring migration and global community, and sensory encounters with nature in the city, resulting in exhibitions, publications, presentations, and panels both internationally and locally.

metaLAB's work at the intersection of art and AI, organized by Sarah Newman, has been shown in the Harvard Art Museums, the South by Southwest Festival, the 123data festival in Paris, and Berlin's Rainbow Unicorn Gallery during Transmediale Festival, accompanied in most cases with artist talks and panels. These works have enjoyed extensive media interest, with coverage in *Wired*, *Fast Company*, *Engadget*, and several other publications. Moving forward, metaLAB will continue to work on AI, technology's roles in the natural world, and the exploration of information design in libraries, museums, and other institutions. The team is especially focused on interventions that foster public dialogue and benefit the common good, in collaboration with the Berkman Klein community and colleagues at Harvard and beyond.

Network of Interdisciplinary Internet & Society Centers

The Berkman Klein Center continued to actively contribute to the Global Network of Internet & Society Centers (NoC) over the 2017–2018 academic year. As a collaborative initiative among academic institutions with a focus on interdisciplinary research on the development, social impact, policy implications, and legal challenges of the Internet, a number of our contributions were produced in conjunction with the Network's leadership secretariat, the Institute for Technology and Society of Rio de Janeiro (ITS Rio).

A major effort this past year focused on exploring, researching, and convening experts and practitioners from around the world on issues related to AI and inclusion. In November 2017, along with ITS Rio and NoC, and supported by the International Development Research Centre and Open Society Foundations, the Berkman Klein Center organized and co-hosted a “Global Symposium on AI & Inclusion,” in Rio de Janeiro, which brought together almost 200 invited guests and collaborators from around the world. Representatives from advocacy, philanthropy, media, policy, and industry addressed both the opportunities and the challenges of AI-based technologies through the lens of inclusion, broadly conceived. The event identified, explored, and addressed the opportunities and challenges of artificial intelligence in order to build a better, more inclusive, and diverse world together. Inclusion and diversity served as a cross-cutting theme of the Ethics and Governance of Artificial Intelligence Initiative, and our research and educational efforts in this area helped to reframe the debate around inclusion and AI. The

culmination of our efforts, including conference proceedings, a research agenda, and related resources, were collected and centralized on <https://aiandinclusion.org/>.

A number of additional activities were catalyzed by the symposium and the research we conducted over the course of the year. At the 2017 Internet Governance Forum in Geneva, the NoC hosted a roundtable which focused on development of artificial intelligence and its impact on inclusion in areas such as health and well-being, education, low-resource communities, public safety and security, employment and the workplace, and entertainment, media and journalism. Additionally, in May 2018, the Berkman Klein Center and ITS Rio convened Center representatives and friends at RightsCon, a global human rights conference focused on digital technologies. The Humboldt Institute for Internet & Society held a workshop titled “The turn to artificial intelligence in governing communication online,” inspired by conversations that took place during the Rio event. The workshop gathered international experts from academia, politics, civil society and business in Berlin to discuss technological advances, the extent of ‘artificial intelligence’ deployment, and the range of approaches to understanding the status and future impact of AI systems to govern social communication on the Internet.

Finally, the NoC and the Berkman Klein Center continued to contribute to the NoC’s regional efforts. The Center assisted in the design of programs and research for the Digital Asia Hub, which seeks to cultivate a stronger understanding of Asia’s view on AI ethics and safety, as well as to promote discussion on how Asia can design and implement AI for the social good. The Digital Asia Hub also received funding from the Ethics and Governance of Artificial Intelligence Fund and helped to produce outputs related to the Center’s work on the global governance of AI. Further, the Center is helping to incubate additional regional efforts in Asia related to the Digital Asia Hub, including branches in Singapore and Thailand. The NoC has also launched exploratory efforts to incubate research hubs in Europe and Latin America.

Privacy Tools for Sharing Research Data

As part of the Privacy Tools for Sharing Research Data project, the Berkman Klein Center joins Harvard’s Center for Research on Computation and Society (CRCS), the Institute for Quantitative Social Science, and the Data Privacy Lab, as well as the Program on Information Science at MIT Libraries, to translate the theoretical promise of new technical measures for privacy and data utility into practical computational and legal tools that can be applied in a variety of contexts. The project is supported by the National Science Foundation, the Alfred P. Sloan Foundation, and the US Census Bureau.

Led by Faculty Director Urs Gasser, with support from David O’Brien, Salome Viljoen, and Alexandra Wood, the project’s legal team directs the development of new privacy frameworks, legal instruments, and policy recommendations that complement advanced tools for private data analysis that the project is also developing. In 2017–2018, this team led the co-authorship of multiple articles introducing new approaches to data privacy and fairness that integrate concepts from law, computer science, and social science, including “Practical Approaches to Big Data Privacy Over Time” in the *Oxford International Data Privacy Law* journal; “Bridging the Gap between Computer Science and Legal Approaches to Privacy,” forthcoming in the *Harvard Journal of Law & Technology*, “A Harm-Reduction Framework for Algorithmic Fairness” forthcoming in *IEEE Security & Privacy*, “Is Privacy Privacy?” forthcoming in *Philosophical Transactions of the Royal Society*, and “Differential Privacy: A Primer for a Non-Technical Audience,” forthcoming in the *Vanderbilt Journal of Entertainment & Technology Law*.

Ongoing collaborations with computer scientists at CRCS to understand the relationship between legal and technical approaches to privacy also resulted in a new draft paper, “Hybrid Legal-Technical Concepts of Privacy,” that was workshopped at the 2018 Privacy Law Scholars Conference. This research reached diverse law, policy, and technical audiences through invited talks at events hosted by the Boston Bar Association, Boston College Law School, the Boston University Cyber Alliance, the Brussels Privacy Hub, the Department of Health and Human Services, DIMACS at Rutgers University, the Federal Committee on Statistical Methodology, the Future of Privacy Forum, and the MIT Media Lab. Findings were also shared with the general public through an editorial in the *Boston Globe* and a blog post published by the Brookings Institution’s TechTank.

Additionally, the team engaged with the policymaking process, with joint comments submitted to the US Office of Management and Budget and the Future of Privacy Forum. In December 2017, they co-hosted the workshop “Privacy Tools for Data Sharing: Lessons Learned and Directions Forward” at Harvard University, highlighting lessons learned about both data privacy and interdisciplinary research, and showcasing practical tools the project has developed for sharing privacy-sensitive research data. Throughout the year, the team also engaged in an ongoing collaboration with the US Census Bureau, Georgetown University, CRCS, and Pennsylvania State University to assist the Census Bureau in developing formal privacy models tailored to its specific legal requirements for privacy and utility.

Responsive Communities

The Responsive Communities team, in collaboration with the Knight Foundation, convened dozens of city officials from across the US to discuss the implications of the Internet of Things and Smart City planning. Held in San Jose, California, in December 2017 and in Detroit in June 2018, the conferences centered on a series of case studies prepared by the Responsive Communities team and concluded with in-depth summary reports that have been shared with foundations and academics.

Responsive Communities has produced a number of outputs to build on the momentum of recent years to influence the national debate around Internet access as a matter of social and economic justice. A book by Professor Susan Crawford about fiber-optic networks as the next infrastructure frontier, “Fiber: The Coming Tech Revolution—and Why America Might Miss It,” will be published by Yale University Press in January 2019. Maria Smith has completed a documentary series for stakeholders to deploy in their work to make high-speed Internet access ubiquitous. The videos address topics including digital redlining, net neutrality, telecom lobbying, and state preemption laws.

The Responsive Communities team—Susan Crawford, Waide Warner, and Maria Smith—also led the second successful year of Harvard Law School’s Responsive Communities Lab, a cross-listed course for law, design, policy, and business students across the university. Students in the class produced a series of case studies, playbooks, and deep analyses of topics at the intersection of technology and government.

SHARIAsource

SHARIAsource is a flagship research venture of the Islamic Legal Studies Program (ILSP) at Harvard Law School. Led by Intisar Rabb and Sharon Tai, this initiative organizes the world's information on Islamic law so as to make it accessible and useful. Working with a global team of editors, SHARIAsource provides a platform to house primary sources of Islamic law, organize the people to critically analyze them, and promote research to inform academic and public discourse about Islamic law. SHARIAsource was originally developed by ILSP using the framework of another Berkman Klein open-source project, the Emily Dickinson Archive, with the help of an outside developer. The Berkman Klein Center has continued this work, supporting SHARIAsource and the ILSP with development of the platform and technical project management. New technical resources and features include the development of an Arabic OCR platform, data visualization, and a template for organizing specialized information. This basket of resources will continue to help bridge the divide between research among Islamic law specialists and comparativists or other general-interest readers.

Wikipedia Server Data Analysis

The Wikipedia Server Data Analysis project, led by Jonathan Zittrain, is a collaborative effort between the Berkman Klein Center and the legal department of the Wikimedia Foundation. Its two goals are to identify the historical and current inaccessibility of Wikipedia subdomains and articles from Wikipedia's anonymous request volume data and to develop an open-source tool that incorporates the same methodologies so that other web hosts can identify inaccessibility of their own properties. The project wrapped up in 2017 by publishing a wide-ranging report on the censorship of Wikipedia around the world and developing open-source tools that help discover evidence of such censorship in server access logs.

Youth and Media

Led by principal investigator Urs Gasser and Youth and Media (YaM) director Sandra Cortesi, together with Andres Lombana-Bermudez and Alexa Hasse, and supported by Berkman Klein fellows and faculty associates Reynol Junco, Lionel Brossi, and Leah Plunkett in cooperation with the Cyberlaw Clinic, YaM encompasses an array of research, advocacy, and development initiatives around youth (ages 12-18) and digital technology. Interacting closely with other teams at the Berkman Klein Center, YaM draws on the knowledge and experiences of individuals with various backgrounds, including psychology, ethnography, sociology, education, media theory, and the law. Building upon this interdisciplinary approach, YaM invites and amplifies the voices of youth throughout the research process, aiming to develop contributions that reflect and address young people's needs, perspectives, experiences, and interests. The team's work builds upon an evidence base that offers unique insights into the creative, educational, and revolutionary possibilities of youth activity in the digital space while addressing the genuine concerns that come with living life online. For additional information about Youth and Media, please visit www.youthandmedia.org. See also, www.digitallyconnected.org and www.conectadosal.org.

An ambitious project, YaM embraces the core pillars of the Berkman Klein Center, which are summarized below. (For more information, please see http://brk.mn/yam_2017-2018overview.)

Study. Over the past academic year, YaM has researched topics related to youth and digital life, with results shared in four forthcoming reports. “Youth and Digital Citizenship + (Plus)” disentangles the contested notion of digital citizenship, mapping out over 30 different frameworks from around the world and analyzing the evolution of the concept of digital citizenship and its relationship with other skill-related terminology. “Youth and Artificial Intelligence (AI): Where We Stand” takes a closer look at AI-based technologies and their impact on young people’s lives in domains such as education, health and well-being, entertainment, and the future of work. “Youth and the Digital Economy”—a collaboration between the Berkman Klein Center and the Nordic Centre, led by Berkman Klein faculty associate Christian Fieseler—analyzes how youth exercise their agency and participate in economic activities online, discusses power dynamics and youth positionality in online platforms, and includes case studies on aspirational labor, virtual collaboration, and capital-enhancing activities. “Youth and Cyberbullying” presents an aggregation and summary of recent, primarily academic literature on youth and cyberbullying and serves as an addendum to “Bullying in a Networked Era: A Literature Review.” In addition to these four reports, the YaM team has intensified its efforts to explore the role parents and adults play in supporting youth media practices and participation across different social domains. Additionally, expanding the team’s previous work in Latin America, two YaM members, in close collaboration with members of several other institutions, participated in a book project—“Youth, Digital transformation and new forms of inclusion in Latin America” (*Jóvenes, transformación digital y formas de inclusión en América Latina*)—as editors of sections on privacy and the digital economy.

Educate. The YaM team continued to work on the design of open-access learning resources and expanded its repertoire to include both group and individual activities. In collaboration with Center affiliate Susan Benesch, fellows Sunoo Park and Jenn Halen, and the First Draft team at Harvard Kennedy School’s Shorenstein Center on Media, Politics and Public Policy, YaM has been developing new learning experiences and playlists on information verification, cryptography, counterspeech, and artificial intelligence. Additionally, YaM transformed 24 of its existing learning experiences about privacy, advocacy, and online presence into group activities and adapted older learning experiences implemented in the US for a more global audience.

Build. The YaM team expanded the scope and reach of the Digital Literacy Resource Platform by adding new resources and thematic areas. Additionally, the team continued to develop RERights.org—a child-centered initiative, led by Amanda Third at Western Sydney University in partnership with Digitally Connected and UNICEF’s Voices of Youth, that enables adolescents (ages 10-19) to discuss and share their ideas and experiences regarding the digital age. Insights on young people’s access to and use of digital technologies were collected using a process designed by the RERights.org team and UNICEF and later included in UNICEF’s The State of the World’s Children and its companion report.

Connect. In close collaboration with the Conectados al Sur network, the YaM team co-hosted Conectados al Sur: Costa Rica in January 2018, which centered on digital transformation issues and new challenges for the inclusion of youth. Additional information, including an [overview](#), the [agenda](#), [pictures](#), and [videos](#) are available online. Other network-building efforts include the

“Global Symposium on AI and Inclusion” in Rio de Janeiro and an “Inclusion in Action” workshop in Bogotá, Colombia. Moreover, team members participated in national and international conferences including Digital Media and Learning, in Irvine, California; the Scratch conference, in Cambridge, Massachusetts; the Connected Learning summit, in Cambridge; UNICEF’s Empowering Children in a Digital Age symposium, in Washington, D.C.; Ceibal Winter School’s Rethinking Education in the Age of Digital Technology, in Punta del Este, Uruguay; the Swiss Media Forum, in Lucerne; the Red Cross meeting in Aarau, Switzerland; RightsCon, in Toronto; and the Internet Governance Forum, in Geneva, Switzerland.

Some selected press coverage from this year includes *Migros-Magazin*, “*Sandra Cortesi über das Potenzial der Digitalen Welt*” (February 2018), *O Globo*, “We still need to better understand how to create and use artificial intelligence systems, says researcher” (November 2017), and *La Nación*, “*Cómo mejorar la relación que padres e hijos tienen alrededor de la tecnología*” (October 2017).

Library Innovation Lab Projects

Caselaw Access Project

The Harvard Law School Library has undertaken an initiative to digitize all published US case law. The ultimate goal of the [Caselaw Access Project](#) is to provide free public access to US case law for the benefit of scholars, researchers, governments, entrepreneurs, the legal community, and the public. The project team has completed scanning approximately 40 million pages and processing over 30 million pages. We’re now turning our attention to various modes of access and exploration of the data, and we anticipate releasing a public API and other tools by the fall of 2018. The project is led by Director and Faculty Chair Jonathan Zittrain, Library Innovation Lab managing director Adam Ziegler, and Jack Cushman.

H2O

The Harvard Law School Library Innovation Lab and the Berkman Klein Center have continued to collaborate to offer the suite of [H2O](#) classroom tools with a particular emphasis on free, adaptable digital casebooks. These online casebooks can be curated to fit the faculty’s pedagogy and 19 teaching objectives, and to draw on a growing corpus of diverse materials. The Library Innovation Lab team of Adam Ziegler, Casey Gruppioni, Ben Steinberg, and Brett Johnson has worked to enhance the performance and usability of the H2O platform, to expand administrative capabilities, and to prepare for continued growth and adoption among faculty and other users.

Perma.cc

[Perma](#) is an open-source user-directed solution to link rot. It enables authors, journals, courts, and publishers to create archived versions of cited web sources and to direct readers to those archives using permanent, unique URLs. To ensure resiliency, the archive will be distributed among multiple “mirror” partners—principally libraries—that dedicate physical server capacity to the preservation effort. Perma is focusing initially on law journals and court opinions, where the problem is acute, as documented by Berkman Klein Center co-founder Jonathan Zittrain, co-founder Lawrence Lessig, and Kendra Albert in

their study, “Perma: Scoping and Addressing the Problem of Link and Reference Rot in Legal Citations,” 127 Harv. L. Rev. F. 176 (2014). The project is led by Zittrain and a team at the Harvard Law School Library. Perma currently counts over 200 library partners, including a majority of American law schools; over 1,000 journals, courts, and faculty members; and 20,000 individual account holders. Together, they have created roughly 750,000 Perma Links. Perma’s use is encouraged by the *Bluebook* and the *Chicago Manual of Style*, and Perma is in the midst of fulfilling a major grant from the Institute of Museum and Library Sciences to scale the service beyond academic legal scholarship and court opinions.

c. Clinical Work

Overview

The Berkman Klein Center’s Cyberlaw Clinic engages Harvard Law School students in real-world litigation, licensing, client counseling, advocacy, and other law and policy projects and cases covering a broad spectrum of legal issues. The Cyberlaw Clinic was the first of its kind, and it continues its tradition of innovation.

In recent years, the Clinic has experienced a spike in demand among both students and clients. Both constituencies value the breadth and complexity of the Clinic’s projects, the variety of clients it serves, the sophistication of its pedagogy, and the richness of the connections it develops among theory, doctrine, and practice. To accommodate this increased demand, this year the Clinic added a new clinical instructional fellow, Kendra Albert, to the teaching team.

The Cyberlaw Clinic enrolled 32 students in fall 2017 and 27 new and continuing students in spring 2018, for a total of 59 students gaining substantive experience in the Clinic during the 2017–2018 academic year. Those students enrolled for a total of 182 credits over the year, and overall the Clinic’s supervising attorneys managed 9,057 hours of student work.

During the summer, the Clinic welcomes students from a diverse range of law schools to continue its work for existing clients, accommodate fast-breaking new opportunities that emerge in the summer months, and help with intake for the coming year. In summer 2018, the Clinic brought on three law student interns dedicated full time to the Clinic and a fourth dedicated part time.

Substantive Practice and Client Base

During 2017–2018 the Clinic, recognizing the significant work that it was doing on issues relating to artificial intelligence, algorithms, and machine learning, added an AI-specific practice area. The new area of practice stands alongside the Clinic’s traditional areas of focus, including communications infrastructure; consumer protection, privacy, and compliance; general internet business law; government innovation; intellectual property; litigation and amicus advocacy; online safety, digital civil liberties, and user rights; speech, media law, and the First Amendment; and technology and access to justice. The Clinic’s work in these areas ran the gamut this year, from preparing legal research memoranda for clients, to drafting transactional and public-facing policy documents, to representing clients in negotiations or as *amici curiae*.

The Clinic served a broad range of clients, including individuals, small and mission-driven startups, nonprofit organizations and advocacy groups, academic institutions government entities, and arts and cultural institutions. Simultaneously, the Clinic intensified its strategy to integrate student representation and legal support with research projects at the Berkman Klein Center. One notable example is the Clinic's support of a Berkman Klein fellow's project to submit a high volume of Freedom of Information Act requests to government agencies in support of her research. Another is the Clinic's support for the Center's Assembly program, which hosted teams working to develop innovative AI applications.

Teaching and Pedagogy

The Clinic staff continued to refine the program's mode of engaging with students inside and outside the classroom, making changes to the Cyberlaw Clinic Seminar to bring substantive and professional lessons to life even with the relatively large class sizes that have become standard due to student demand. The Seminar offered students opportunities to learn about practice and professional responsibility issues that arise when counseling clients on matters relating to technology, intellectual property, privacy, and speech. It also permitted students to participate in skill-building exercises and—perhaps most important—regular case rounds sessions in which they shared information about their projects and learned from one another.

The Clinic's supervisors taught other courses and engaged in other teaching initiatives this year as well, as noted under the heading "Contributions to Harvard Teaching Programs" below.

Based on the success of the Seminar's dedicated role-play session (which was developed within the last few years and offers students an opportunity to engage in discussions and negotiations around a hypothetical fact pattern relating to a tech law and policy hot topic), the Clinic staff added additional experiential learning components to the Seminar. Students delved in deeply on these topics, debating a full range of perspectives during small breakout discussions and in session with the full class.

Representative Cases and Matters

A few notable examples of cases and projects handled by Clinic students during the past academic year are given below:

(a) *Litigation.* The Clinic, both directly and working in tandem with law firms around the United States, has represented individuals and organizations in pre-litigation disputes and active litigation across subject areas ranging from intellectual property to media law. Of particular note in 2017–2018:

The Clinic has been working with an individual whose domain name registration was inappropriately terminated.

The Clinic filed an *amicus* brief on behalf of the United Nations Special Rapporteur on the Right to Privacy Joseph Cannataci in *United States v. Microsoft*. The brief, in support of neither party, offered important context about Internet jurisdiction and how the right to privacy should be situated in the context of global human rights laws and norms.

The Clinic represented regular collaborators Restore the Fourth in filing a US Supreme Court *amicus* brief in *Byrd v. United States*, in support of petitioner Terrence Byrd, arguing that private agreements should not limit Fourth Amendment rights.

Clinic students assisted Professor Bernard Chao of the University of Denver Sturm College of Law in drafting an *amicus* brief that Chao filed in the US Supreme Court case *Mentor Graphics v. Eve-USA*, arguing that the Federal Circuit failed to properly apportion damages when assessing respondent's lost profits.

The Clinic drafted and filed, with the assistance of local counsel, an *amicus* brief on behalf of members of Congress Zoe Lofgren (D-CA) and Darrell Issa (R-CA) in the D.C. Circuit Court of Appeals in *ASTM et al., AERA et al. v. Public.Resource.Org*. The brief, in support of Public.Resource.Org, addresses the implications of allowing copyright to constrain the public's access to governing law.

(b) Intellectual Property. Copyright and other intellectual property issues appeared frequently on the Clinic's docket over the year. Of particular note:

The Clinic participated in the Copyright Office's triennial Digital Millennium Copyright Act section 1201 rulemaking on behalf of the Software Preservation Network. Clinic students drafted a petition, initial comment, and reply, and prepared witnesses for a hearing at the Library of Congress. A decision is expected in the fall of 2018.

The Clinic advised a small journalism-focused software company on how to build an archiving product to minimize its litigation risk from copyright holders.

Clinic students advised software developers on the application of copyright doctrine to game rules and visual game assets.

A Clinic student worked with a small development company to identify an appropriate open-source license for a media-related software project.

The Clinic concluded a year-long project with the publication of the "Cyberlaw Guide to Protest Art," a publicly accessible collection of resources for those interested in creating and disseminating political art online.

The Clinic worked with librarians at a major research university to begin developing a process to assist faculty in pursuing copyright transfer terminations for eligible publications, in accordance with the terms of the Copyright Act.

Clinic students assisted the operators of a digital archive of audiovisual materials in reviewing individual pieces of content to determine whether making such materials publicly accessible would be permissible under copyright law.

(c) *Privacy and Data Security.* As public concern continues to mount over the privacy and security of information people entrust to digital devices and services they use every day, privacy has grown into one of the Clinic's busiest areas of practice. Many of the Clinic's active projects now involve a privacy component. Some of highlights of such work during the year include:

The Clinic provided advice to clients on complying with the European Union's General Data Protection Regulation, which came into force in May.

A Clinic student helped a Harvard-based institution revise the terms of use and privacy policy for an academic data-sharing platform.

Clinic students assessed risks associated with vulnerability research and assisted with a vulnerability disclosure to a large company.

A Clinic student helped to prepare a research memo on unique issues related to vulnerability disclosure in the cryptocurrency context.

The Clinic worked with a small technology company to develop the privacy policy and terms of service for a queer dating service.

The Clinic evaluated the plausibility of litigating privacy-related claims before an international tribunal that is not a common forum for such cases.

The Clinic advised an international NGO on the legality of providing software tools designed to protect user privacy and security online to end users located in countries subject to US economic sanctions.

The Clinic advised an international organization on the legality of using novel technological techniques to evade government surveillance of online communications in certain foreign countries.

The Clinic advised the developer of an open-source Internet security tool on complying with the terms of popular app stores in distributing its product.

(d) *Free Speech and Media Law.* The Cyberlaw Clinic has been very active in addressing the broad spectrum of legal issues faced by those who express themselves online or host the expression of others on services that they operate. The Clinic has provided advice and counsel in matters involving First Amendment issues, defamation claims, and anonymous speech online. Of note this year:

The Clinic advised a nonprofit news site on a story it published containing allegations of harassment. Clinic students researched relevant law, conducted a pre-publication review, and addressed concerns raised about the story after it was published.

Clinic students provided advice to a group of scientists engaged in preserving government environmental data. The advice covered diverse topics such as for-profit/nonprofit collaboration, political activity limitations for 501(c)(3) corporations, and website terms of service.

A Clinic student provided Freedom of Information Act support to help a biographer gain access to historical records.

The Clinic provided support for FOIA requests about privacy regulations changes for non-citizens on behalf of an international privacy NGO.

The Clinic advised an international media advocacy organization on the potential impact of proposed legislation in several Caribbean countries on press freedom.

(e) Digital Civil Liberties. During the past year, the Cyberlaw Clinic has continued to work with leading domestic and international civil liberties organizations to study the legality of a range of surveillance and investigative techniques used by governments in the US and around the world. Our work has ranged from evaluating how various actors can shed more light on the scope and scale of government information requests to advising our clients on possible avenues for reform through legislation and litigation. Of particular note:

The Clinic advised an international NGO on constitutional issues surrounding the use of novel “network investigative techniques” by federal law enforcement.

The Clinic prepared a comprehensive analysis of federal and state statutes and judicial precedents governing the permissible scope of searches of a particular digital device on behalf of a renowned civil liberties organization.

The Clinic, along with the Harvard Law School Criminal Justice Policy Program and the Stanford Criminal Justice Center, organized a convening of police chiefs, government officials, academics, and civil liberties watchdogs to discuss use of police technology. As one of the outcomes of that convening, Clinic students drafted a pocket guide to responsible procurement of technology, which will be disseminated to police departments around the country.

Clinic students advised a civil liberties organization on tools to identify particular motions being filed in federal district court.

The Clinic advised a nonprofit organization working to advance individuals’ right to control the terms on which they engage with online entities, including retailers, advertisers, and other websites. Students assisted the client in the development of novel user-side terms of use that would give individuals control over how their data is used.

The Clinic analyzed the emerging phenomenon of government-affiliated entities making requests of private Internet platforms to remove content that violates the latter’s terms of service on behalf of the Global Network Initiative.

The Clinic prepared a comprehensive review of federal and state legislation governing the use of cell site simulators (i.e., “stingrays”) by law enforcement personnel.

The Clinic played an instrumental role in developing the new Assessment Toolkit that the Global Network Initiative will use to assess the performance of its member companies in protecting the free expression and privacy rights of its users against unlawful government interference.

(f) Government Innovation. During 2017–2018, Clinic students worked on a number of government technology projects, including projects with the Commonwealth of Massachusetts and the City of Boston. Highlights include:

The Clinic pursued means of using technical tools to make public data from a federal government agency more easily accessible.

The Clinic worked with a regional organization in the Boston area to develop an FAQ on legal limitations on municipal data sharing. This FAQ has been provided to local governments, hospitals, and social service providers seeking to share data, specifically in the context of preventing opioid overdoses.

The Clinic worked closely with a city’s chief data officer to update and draft key open data policies and establish a separate data governance policy for the city’s analytics staff.

(g) Artificial Intelligence, Algorithms, and Machine Learning. The Clinic has rapidly built its practice relating to AI and machine learning, based on client demand, in the context of the Berkman Klein Center’s broader initiative around the Ethics and Governance of Artificial Intelligence. Clinic students engaged with this subject matter across a diversity of projects, including:

A Clinic student helped a group of Harvard- and MIT-based faculty and other researchers to prepare a letter to Massachusetts legislatures about the use of risk assessment tools in the criminal justice system.

Clinic students advised the developer of an art-generating AI system in license negotiations with the artist on whose works the system was trained.

Clinic students counseled an artist who uses AI technologies in his work regarding a legal claim and conducted negotiations on the artist’s behalf in seeking to resolve the claim. Students also did legal research and advised the client on how to mitigate legal risk in the design of a future project.

A Clinic student advised an academic lab on the copyright implications of publishing creative works generated, in part, by an AI trained on publicly available but copyrighted works.

The Clinic prepared a comprehensive analysis of the benefits and risks that artificial intelligence poses to human rights, on behalf of a government entity.

Clinic Events and Outreach

Clinic staff organized and participated in a variety of events and outreach to the HLS community and beyond during the past year, including:

Chris Bavitz and Kira Hessekiel, collaborating with James Tierney from Harvard Law School's State Attorney General Clinic, organized a new series of workshops called the AGTech Forum. These first two events brought together state attorneys general and staff from across the country with academics and technologists from the Berkman Klein Center and beyond to discuss emerging issues in technology and how they will impact the work of the state attorneys general. The first workshop, in December 2017, focused on privacy and cybersecurity, and the second, in May 2018, concentrated on artificial intelligence.

Members of the Clinic team participated in RightsCon, which took place in spring 2018 in Toronto. At RightsCon, Kendra Albert participated in a panel on whether warrant canaries could be used for encryption backdoors called "The Canary at the Backdoor" Vivek Krishnamurthy participated in panels on the responsibility of small and medium-size technology companies to protect human rights, and on the growing trend of courts in democratic countries ordering the removal of online content on a global basis. Chris Bavitz participated in a panel about intermediary liability and the Center's Lumen database as well as a panel about ethical and legal issues in platform-based research.

Maria Smith created a series of documentary videos exposing divides in internet access across urban and rural regions of the United States. She presented her research and project at a Harvard Law and Berkman Klein-sponsored talk in March 2018 and premiered the capstone documentary during the plenary of Net Inclusion 2018 in Cleveland, Ohio. Maria worked with various stakeholders across the country, including Next Century Cities, the Ford Foundation, and the Federal Reserve Bank of Dallas, to screen the documentary.

Kendra Albert and Chris Bavitz participated in a panel on *Naruto v. Slater*, otherwise known as the "Monkey Selfie" case, with PETA's general counsel, co-sponsored with Harvard Law School's Animal Law Program.

Kendra Albert spoke on the ways the gig economy is affecting workers' digital security in "Gig Work and the Digital Security Divide" at ENIGMA 2018.

Kendra Albert delivered the Library Information Technology Association's President's Program, called "The Silences of (Big) Data" at the American Library Association Annual Conference.

Kendra Albert and Chris Bavitz participated in a panel on the future of teaching legal tech at Harvard Law School in the World: Bicentennial Celebration.

Kendra Albert and Mason Kortz had papers workshopped at the annual Privacy Law Scholars Conference in Washington, D.C.

Chris Bavitz participated in the Harvard Library Office for Scholarly Communications' annual Fair Use / Fair Dealing Week festivities as a featured speaker in the panel discussion "Litigation and Fair Use, the Last 15 Years."

Mason Kortz presented at the Cyberjustice Lab at the University of Montréal, giving a talk titled "Artificial Testimony: Algorithms and Legal Proof."

Jessica Fjeld was featured in the Interactive track at the South by Southwest festival in Austin, appearing on a panel titled "AI Creativity in Art, Neuroscience, and the Law" alongside two artists and a neuroscientist whose work engages AI and art.

Jessica Fjeld presented a poster she co-authored with two other Harvard clinicians (from the Human Rights Clinic and the Child Advocacy Project) at the Association of American Law Schools Clinical 2018 conference in Chicago. The poster shared insights from the first year of an innovative program of new clinician education consisting of workshops and leading groups led by new clinicians themselves. Fjeld, along with Mason Kortz, has been central to the program's development.

Vivek Krishnamurthy delivered an open digital lecture to members of the Harvard Law School Alumni Association titled "Can the Law Protect Privacy from Technology?"

Vivek Krishnamurthy gave a talk to the California International Law Center at the UC Davis School of Law titled "Data Privacy in the Cloud: The *Microsoft Ireland* Case."

Vivek Krishnamurthy was a keynote panelist at the International Institute of Communications—Canada annual conference on the topic of Canadian courts and Internet jurisdiction.

Vivek Krishnamurthy participated in a panel at the Business for Social Responsibility annual conference in Newport Beach, California, titled "The Ethics of Artificial Intelligence."

Members of the Clinic's teaching team continued to engage with the broader public through writing and interactions with media. Notable examples include:

Mason Kortz, with MIT Professor Finale Doshi-Velez, published an op-ed in the *Washington Post* on the necessity of explainability in AI in the wake of fatal crashes in which autonomous vehicles were involved. ("AI is more powerful than ever. How do we hold it accountable?" March 20, 2018.)

Jessica Fjeld and Mason Kortz wrote a Comment for the *Harvard Journal of Law and Technology's* online digest, laying out an accessible framework for art-generating AI systems to facilitate licensing and negotiation among the parties involved ("A Legal Anatomy of AI-Generated Art: Part I," November 21, 2017.)

Kendra Albert co-wrote an article on the use and expansion of electronic ankle monitors for *Logic* magazine (volume 3, 2017).

Susan Crawford authored a number of pieces for *Wired*, on subjects ranging from net neutrality (“Net Neutrality Is Just a Gateway to the Real Issue: Internet Freedom,” May 18, 2018) to the regulation of social media companies (“Calling Facebook a Utility Would Only Make Things Worse,” April 20, 2018) to government facilitation of fiber-optic networks (“America Needs More Fiber,” February 8, 2018).

Kendra Albert’s essay “Difficult Speech in Feminist Communities” was featured in the Berkman Klein publication *Perspectives on Harmful Speech Online* (August 14, 2017).

Mason Kortz spoke to Courthouse News about federal prosecutors’ acquisition of encrypted messages sent and received by Michael Cohen, in “Files from Cohen Shredder, Encrypted Apps Restored by Feds” (Adam Klasfeld, June 15, 2018).

Mason Kortz weighed in for TechCrunch on whether a new Google product might constitute eavesdropping, in “Does Google’s Duplex violate two-party consent laws?” (Devin Coldewey, May 18, 2018).

Kendra Albert provided background on litigation targeting video game cheaters for an in-depth legal explainer on the lawsuit targeting a teenage Fortnite cheater. (“The Curious Case of the Fortnite Cheater?” The Verge, May 9, 2018.)

Vivek Krishnamurthy provided context for the Clinic’s work representing the owner of France.com, whose domain was seized by the French government this year, in a *New York Times* article, “This Man Is Taking France to Court to Win Back France.com.” (Niraj Chokshi, May 1, 2018).

Kendra Albert expressed optimism about the likelihood of the Copyright Office recommending a Digital Millennium Copyright Act exemption for software preservation “Software preservationists seek exception to copyright law” (TechRepublic, April 3, 2018).

Vivek Krishnamurthy was interviewed by the *Harvard Gazette* about the Cambridge Analytica scandal and the privacy practices of social media giants, for “On the web, privacy in peril” (Christina Pazzanese, March 21, 2018).

Vivek Krishnamurthy spoke with American Public Media’s *Marketplace* about the Cambridge Analytica scandal (March 19, 2018).

Vivek Krishnamurthy took part in the National Constitution Center’s podcast alongside Vermont solicitor general Benjamin Battles, on the subject of the *United States v. Microsoft* case (March 1, 2018).

Kendra Albert commented on a controversial ruling that embedding a tweeted image could constitute copyright infringement, in “A Ruling Over Embedded Tweets Could Change Online Publishing” (*Wired*, February 16, 2018).

Jessica Fjeld spoke to a reporter at Hyperallergic about the Clinic’s legal guide for protest artists, in “A Legal Guide Helps Artists Make and Protect Protest Art” (Sarah Rose Sharp, January 30, 2018).

Kendra Albert’s research was the subject of numerous news articles, including in Gizmodo, the Parallax, and the Register following their presentation at the Enigma cybersecurity conference in January, “How the Gig Economy Exposes Workers to Cybersecurity Risks” (Kate Conger, January 17, 2018).

Chris Bavitz was interviewed by Gretchen Weber on the Berkman Klein Center’s Platform podcast about the open letter he authored along with Kira Hessekiel and others at the Center, Harvard, and MIT, advising the Massachusetts Legislature about concerns with the use of risk assessment tools in connection with statewide criminal justice reforms, in “When a Bot Is the Judge” (November 2017).

Chris Bavitz weighed in on free speech on the Internet in the context of the alt-right, in “Cyber Sedition: How the Alt-Right Is Challenging Free Speech on the Internet” (*Harvard Political Review*, October 2, 2017).

Kendra Albert explained why Facebook continues to face problems with its targeted advertising, in “Facebook’s racist ad problems were baked in from the start” (The Verge, September 22, 2017).

Kendra Albert explained why video game companies, in normal circumstances, rarely object to gamers’ streaming for a broader audience, in “Why was it so easy to weaponized copyright against PewDiePie?” (The Verge, September 12, 2017).

d. Other Activities

Through discussions, lectures, conferences, workshops, and other gatherings, the Center convenes diverse groups around a wide range of topics that examine the Internet as a social and political space. While research and teaching are the Center’s top priorities, these auxiliary connections facilitate the continuous expansion and renewal of the Center’s core network. They stimulate interactions with other disciplines and institutions and provide diverse perspectives from academics, policymakers, activists, students, and technologists.

I. Conferences and Special Events

The Berkman Klein Center’s conferences and special events engage students, faculty, and fellows as well as government representatives, business leaders, and civil society members through their unique tenor and approach, and often lead to new collaborations.

A selection from this year:

Did fake news save Kenya from an Internet shutdown? Emerging Trends in Tech and Elections in Africa: featuring Grace Mutung’u, the 2016/17 OTF Information Controls Fellow at the Berkman Klein Center. In this talk Grace Mutung’u explored emerging trends in the use of technology in elections and their effects on Internet freedom. She gave a short background on the history of technology and elections

in Kenya and then participates in a Q&A with Center affiliate Ellery Biddle of *Global Voices* and answered questions from the audience.

HUBweek 2017: Programming the Future of AI: Ethics, Governance, and Justice: Harvard Law School Clinical Professor and Director of the Cyberlaw Clinic Chris Bavitz, along with Harvard's Cynthia Dwork, Christopher L. Griffin, Margo I. Seltzer, and Jonathan L. Zittrain, discussed the evolution of artificial intelligence, with an emphasis on ethics, governance, and criminal and social justice. Drawing from the research, community building, and educational efforts undertaken as part of our Ethics and Governance of Artificial Intelligence initiative, leading experts in the field shared and reflected on insights from ongoing activities related to the judiciary and fairness.

China and the Internet: Kaiser Kuo, a veteran of digital media in China and now co-host of the popular China-focused current affairs podcast *Sinica*, discussed the state of internet censorship in China and how it has evolved during their long involvement in the Chinese internet. Kuo lived in China for over 20 years, and experienced the vicissitudes of shifting regulation from the earliest days of the internet in China. Kuo has worked as an internet entrepreneur, a technology reporter, and as director of international communications for two major Chinese internet companies, Youku and Baidu. He explored the factors that may explain the inflection points in content policy, and examined some of the prevailing notions in the west about internet censorship in China.

Deep Mediatization: Social Order in the Age of Datafication: Social and communication theorists Nick Couldry and Andreas Hepp drew on their recent book *The Mediated Construction of Reality* (Polity 2016) to explore what happens to the concept and practice of 'social order' in the era of datafication. They started out from their proposal made in the book that today we are living in an era not just of mediatization, but *deep* mediatization where every element of social process and social life is composed of elements that have already been mediated.

Safe Spaces, Brave Spaces with author John Palfrey, Head of School at Phillips Academy, Andover. Can diversity and free expression co-exist on our campuses? How about in our town squares, our cities, and our world? In this talk, John Palfrey—Head of School at Phillips Academy, Andover, and author of the new book "Safe Spaces, Braves Spaces"—led a discussion of two of the foundational values of our democracy in the digital age.

National Security, Privacy, and the Rule of Law: While civil libertarians and conventional national security advocates have typically found little to agree on, today they share a profound anxiety about the trajectory of state intelligence gathering. Through a concrete hypothetical--ripped from tomorrow's headlines, if not today's--the speakers explored the difficult decisions to be made around these issues, including actors from business, government, civil society, and the citizenry at large.

Global Symposium on Artificial Intelligence and Inclusion: This conference was held in Rio de Janeiro, and brought together guests and collaborators from around the world from sectors including advocacy, philanthropy, media, policy, and industry to address both the opportunities and challenges of AI-based technologies through the lens of inclusion, broadly conceived. The convening allowed us to deepen our shared understanding of challenges and opportunities related to AI and inclusion, and to

identify and discuss areas for research, education and action. (This event also helped mark the fifth anniversary of the [Global Network of Internet and Society Centers](#), which was launched here at Harvard Law School in 2012 and has now grown to more than 80 participating centers.) Drawing upon learnings from the conference, we've compiled a suite of resources (housed at www.aiandinclusion.org) that aims to establish key themes, questions, and opportunities for ensuring that voices and perspectives from diverse populations help shape the future of AI. [This Medium post](#) from Amar Ashar and Sandra Cortesi provides context related to the importance of ensuring that diverse perspectives from around the world are heard and incorporated as we shape the future of artificial intelligence and its role in our lives. Key takeaways from our work on AI and inclusion informed a white paper the [International Development Research Centre](#) (IDRC) is producing on AI and human development.

The AG Tech Forum: Fall 2017 Workshop – Privacy & Cybersecurity: This workshop was the first in what the Berkman Klein Center for Internet & Society at Harvard University envision to be a series of convenings geared toward providing opportunities for collaborative engagements among state attorneys general, technology companies, academics, and other stakeholders about innovation, corporate citizenship, and regulation. The topic of this first workshop is privacy and cybersecurity. Participants include representatives of state attorney general offices, companies, and universities with an interest in issues that relate to data protection, data breach, consumer privacy, and the like.

Net Neutrality in the United States: A panel featuring Christopher S. Yoo (UPenn) and Matthew Wood (Free Press). The January 4 release of the Federal Communications Commission's Restoring Internet Freedom Order marked the most recent turn of events in the longstanding and ever-changing debate over net neutrality. A panel of leading experts explored the consequences of this action, including the implications of the Order, the outcome of the judicial challenge, and the possibility of legislative reform.

Past, Present, and Future of the Digital Public Library of America: featuring John Bracken, executive director of the Digital Public Library of America (DPLA), and colleagues. Bracken was recently appointed the executive director of DPLA, which was conceived of at Harvard and incubated by the Berkman Klein Center. The event centered on a discussion about the role of libraries in a technological society and reflected on the DPLA's past, present and future and explore the way in which libraries can contribute to a stronger civic life in the midst of disruptive times.

metaLAB + friends openLAB: metaLAB is an idea foundry, knowledge-design lab and production studio experimenting in the networked arts and humanities. The group opened their doors to showcase some of the interesting projects that were ongoing.

A Conversation on Data and Privacy, with former Facebook general counsel Chris Kelly. Kelly worked extensively in developing Facebook's early approaches to public policy challenges including privacy. This event provided a free form discussion about Kelly's career path, the goals of Facebook's privacy policies, their interplay with Facebook's business model, and strategies for implementation. They also discussed more generally the current political environment in which user-data-driven technology companies find themselves, potential re-implementation, and the possible role of domestic and international privacy regulation.

A talk with Marilù Capparelli, PhD, Legal Director at Google: The Harvard Italian Law Association and the Berkman Klein Center for Internet & Society led a discussion on several legal and regulatory issues concerning digital platforms including controversial content, brand safety, privacy and GDPR compliance, scope of removal and CJEU pending cases, tax, copyright, and antitrust enforcement.

Force of Nature, Celebrating 20 Years of the Laws of Cyberspace. The Berkman Klein Center recognized the 20th anniversary of the paper *The Laws of Cyberspace* (Taipei March 1998) by Professor Lawrence Lessig and discussed how it laid the groundwork for Berkman Klein Center's field of study.

Blockchain and the Law: The Rule of Code, a book talk featuring author Primavera De Filippi. This talk looked at how blockchain technology is a dual-edge technology that could be used to either support or supplant the law. After describing the impact of this new technology on a variety of fields (including payments, contracts, communication systems, organizations and the internet of things), it examined how blockchain technology can be framed as a new form of regulatory technology, while at the same time enabling the creation of new autonomous systems which are harder to regulate. The talk concluded with an overview of the various ways in which blockchain-based systems can be regulated, and what the dangers are of doing so.

Workshop for Funder Open-Access Policies: This workshop convened funders and academics to explore policy issues that research funders should consider when drafting, enhancing, or implementing their OA policies.

AG Tech Forum—Algorithms, Artificial Intelligence, and Machine Learning: New and Emerging Legal Challenges and Opportunities Workshop: This workshop was the second in what the Berkman Klein Center envisions to be a series of convenings geared toward providing opportunities for collaborative engagements among state attorneys general, technology companies, academics, and other stakeholders about innovation, corporate citizenship, and regulation. The topic of this second workshop was algorithms, artificial intelligence, and machine learning. Participants included representatives of state attorney general offices, companies, and universities with an interest in issues that relate to data protection, data breach, consumer privacy, and the like.

Information Disorder, New Media Ecosystems and Democracy: From Dysfunction to Resilience: This invitation-only symposium co-hosted by the Berkman Klein Center, USC AnnLab, Shorenstein Center, Data & Society, and MIT's Center for Civic Media convened a diverse community of researchers and practitioners to strategize about how to ensure that technology and media work for people and develop a roadmap to address the challenges of disinformation across the media ecosystem. The Berklet Cybersecurity project convened four day-long meetings that brought together a diverse group of experts from academia, civil society, industry, and the US intelligence community members discussed a wide range of enduring problems of surveillance and cybersecurity, such as encryption, public-private information sharing, software liability, and the vulnerability equities process. The Center participated in many international events for the Ethics and Governance of Artificial Intelligence, Network of Centers and Youth and Media Projects.

We also hosted various local events and supported them logistically. These include annual community kickoff and related activities; a community-focused Ethics and Governance of AI kickoff meeting; a Privacy Tools project workshop; a project launch on blockchain and collaborative economy led by Samer

Hassan; Internet Monitor project kickoff meeting; a workshop on digital ethics in Africa featuring Stéphan-Eloïse Gras; the capstone event for Library Innovation Lab's Knight Foundation Prototype program; a VOX-Pol Workshop on the role of social media companies in responding to extremism online; Media Cloud's full-team summit; our Digital Finance Initiative's FinTech Principles Roundtable; the Right to the City conference organized in partnership with the Engagement Lab at Emerson College, City as Platform Lab at University of Waterloo, and the School for the Future of Innovation in Society at Arizona State University; a CopyrightX Summit with HLS Professor William Fisher and extended teaching fellow community; the Forum on Trust and Ethics of Autonomous Vehicles with the MIT Media Lab; a workshop on Information Fiduciaries; and the Ethical Technology in Industry workshop.

From a distance, we supported the Internet of Things Knight Foundation events in San Jose, California, and Detroit.

II. Working Groups and Workshops

A number of community members engaged in working groups to tackle and discuss major issues relating to Internet and Society. A few of the working groups at the Berkman Klein Center have been meeting for years, and some began just a few months ago. The wide range of topics emphasizes the scope of work conducted across the Center, as well as the unique interests of members of the Berkman Klein Community.

During 2017–2018, Berkman Klein affiliate Elettra Bietti and faculty associate Nick Couldry jointly coordinated **Theory, Ethics and Law Reading Group** which focused on issues of the ethics and theory underlying contemporary technology, with an emphasis on the philosophical and theoretical underpinnings of privacy and artificial intelligence. Participants from a wide range of backgrounds met regularly (every two weeks or more) to discuss pioneering literature at the crossing of AI and privacy, which significantly clarifies questions of power, opacity, accountability, governance, and the meaning of liberty in an increasingly data dependent world. This reading group had a significant impact on participants' research agendas, leading some to refine their understanding of the issues at stake and to incorporate such understanding in their books or papers, and directing others toward new research avenues. Participants also felt that reading and understanding theoretical works was essential to grasping the complexities underlying digital institutions and innovation.

Mary Gray, a Berkman Klein fellow and senior researcher at Microsoft, and Kathy Pham, a Berkman Klein fellow, former Google employee, and founding member at the United States Digital Service, founded and co-led the **Ethical Tech Working Group** at the Center this year. The group focuses on social responsibility and ethics in tech, ranging from academia to industry. They draw on their perspectives as computer scientists, critical race and gender scholars, designers, ethnographers, historians, lawyers, political scientists, and philosophers to share reflections on what it will take to build more publicly-accountable technologies and how to bridge diverse expertise from across industry and academia to get there.

The **Misinformation Working Group** hosted weekly meetings to discuss scholarly literature and illustrative examples of so-called "fake news" from all over the globe. These discussions profited tremendously from the participant's multidisciplinary, theoretical, methodological, and practical

background as well as from the group's international composition. The group also regularly exchanged with guest speakers from the US and beyond, scholars and practitioners alike, to learn more about the spreading of misinformation in different countries, its analysis, and current attempts to fight it. Grounded in these discussions, the working group engaged in the design of an empirical study to understand and learn more about people's perceptions of misinformation. The study consists of both qualitative and quantitative data collection. A survey questionnaire was developed in spring 2018 and is soon to be fielded in the US, with more countries scheduled to follow. The group also plans to conduct a set of qualitative interviews on the topic as well.

During the spring 2018 term, affiliate Amy Johnson and fellow Andres Lombana-Bermudez ran a biweekly working group, **Tech Through Spec**, that used speculative writing techniques to explore current and future technologies. The working group built on a series of sessions Amy Johnson ran earlier in the year. Working both individually and collaboratively, participants imagined fresh perspectives and everyday lived experiences in response to prompts created specifically for the group, such as, "It's 100 years from now and your quilting circle is working with patches of old smart cloth. Write the conversation that occurs as you all stitch together." And, "Disembodied consciousnesses are now a thing. What do their passports look like?" The sessions inspired short fiction, reinvigorated projects and people, and yielded a related workshop on using speculative techniques to expand participation in digitalization processes, run by Amy Johnson and Grace Mutung'u at the 2018 Citizen Lab Summer Institute.

The **Blockchain Working Group**, with participants from Harvard Law School, MIT and the Berkman Klein Center, held weekly informal reading groups that covered the emerging legal and regulatory approaches to cryptocurrency and blockchain technology. The group explored topics ranging from commercial law, taxes and liens on cryptocurrency transactions to financial crime, market supervision and securities laws for blockchain tokens. The Blockchain working group also brought together over 20 world-recognized experts, practitioners, government representatives, research institutions and industry representatives from several countries to discuss the challenges facing the next generation of financial services at a roundtable session. Held Monday, March 12, 2018 at Harvard Law School, this event was the latest within a series started in 2016 to examine how Financial Technology ("FinTech") will revolutionize business and society.

The **Race and Media Working Group**, founded and coordinated by fellow Jenny Korn, focused on discussing issues of race, racism, and racial justice, especially related to the Internet and popular media. Members of the Race and Media working group led a Fellows Hour on considering how race is implicated within diverse forms of work, from the creative and academic, to the corporate and nonprofit. The Race and Media working group held a discussion on the influential movie *Black Panther*, which resulted in a publicly-available, crowdsourced syllabus. The Race and Media working group worked to diversify the speakers brought to BKC, inviting women and individuals of color to share research and experiences on digital enclaving, Black cyberfeminism, Twitter church, techno-chauvinist behavior, online discrimination, and digital neighborhoods.

The **Bridging Privacy Definitions Working Group**, led by Kobbi Nissim at Georgetown University, Alexandra Wood at the Berkman Klein Center, and Micah Altman at MIT Libraries, emerged from the Privacy Tools Project and has met weekly since 2014 to explore various privacy-related definitions from

law, computer science, and social science, and the gaps and intersections between them. Meetings span a wide range of topics, including measures of informational harm, de-identification techniques, formal mathematical models such as differential privacy, and standards set forth in privacy regulations and guidance. During the 2017–2018 academic year, the group focused on characterizing informational harms, reasoning about discrimination and fairness, understanding privacy concepts underlying data protection regulations, and developing non-technical interpretations of privacy concepts from the scientific literature. Members of the group summarized their findings in cross-disciplinary papers analyzing privacy concepts from law and policy and modeling them mathematically, explaining technical privacy concepts using intuitive illustrations, and proposing new approaches to demonstrating that the use of a particular privacy technology is sufficient to satisfy a particular regulatory requirement for privacy protection. The group also drafted joint comments providing policy recommendations in response to requests for comments from the Office of Management and Budget and the Future of Privacy Forum.

The **Healthcare Working Group** met every two weeks throughout the year to explore a wide range of issues around health and wellness. The group aims to facilitate the exchange of knowledge and experience among fellows, many of whom are doing work relevant to healthcare, and to bring in outside experts in an informal environment for candid discussion. Led by affiliate David Arney, the group brought in participants from local hospitals, research labs, and centers for discussions with members of the Center. Some of the topics of keen interest included digital health and the internet of things, artificial intelligence in health and wellness, access to health resources, and patient privacy as it relates to data sharing, ownership, and de-identification. The group is currently working on a white paper capturing some of these areas of discussion and framing a number of research questions around digital health.

The weekly **Berkman Klein Geeks Hour** brought together geeks and friends for events such as skill-shares on 3-D printers, vinyl cutters, and bike maintenance; a tour of Harvard’s Data Center; and talks by guest speakers about emerging tech.

Inspired by the model successfully used by Stanford’s Dissertation Boot Camp, Rachel Kalmar organized a **Writing Group** that met one to three times per week at the Berkman Klein Center. The purpose was to use social pressure to aid members in achieving their own goals. When the group met, members gave a one-sentence description of what they planned to write that day. Except during a 15-minute break, group members agreed not to talk, check email or social media, or otherwise engage in non-writing activities. Attendance varied throughout the semesters, but feedback was unanimous that this structure was helpful. Additional fellows working groups that met during the 2017–2018 academic year include the Cybersecurity Working Group, the Government Tech Working Group, the Destroying Utopias Working Group, the Working Group on Voter Turnout, the Open Working Group, and the Harvard Law School Student Roundtable.

The Center also hosted a variety of community meetings this year. The Center started the fall semester with three half-day workshops. Two of the events revolved around a difficult question posed by a featured guest and shared in a public luncheon format, followed by a half day internal workshop focused on solutions. A third event was focused on what it means to be a part of the BKC community. Additional internal-facing events included an op-ed-writing workshop lead by Bruce Schneier; a gathering for our Fellowship Advisor Board; a session for the community focused on tips for talking to

the press; an annual holiday party; Fellows Hour ignite talks featuring eight community members sharing a wide range of ethical technology topics; several community-wide impromptu luncheons; a variety of community-focused meetings for the purposes of website development and design and relocation to new office space on HLS campus (Lewis Hall) in 2021; an internal brainstorming session for the AG Tech Forum informing AI policy; an internal community-focused book writing seminar lead by Bruce Schneier; HLS-Harvard Title IX training for staff; a student-led Comparative Digital Privacy Mini-Symposium as part of Urs Gasser's HLS course; a working session on AI and the Internet of Things for Health and Wellness; Morality, Faith, Ethics, and AI / Tech Meeting which was an open-ended internal discussion among folks interested in ethics, religion, and tech with Aden van Noppen (resident fellow at HDS) and BKC community members; a full-day Community Retreat focused on leadership; and end of year party to thank the BKC Community and mark our annual accomplishments.

The Center also hosted casual alumni gatherings on the west coast and in Washington, D.C., as well as alongside RightsCon in Toronto.

III. Events

Luncheon Series. For over a decade, the Center has hosted our flagship seminar and discussion series. These on-campus presentations attract a loyal following among students, faculty, and others from Harvard and beyond, are webcast live, and are made available as a podcast series. Many important projects and scholarly works have been vetted and influenced early in their trajectory at the Berkman Luncheon Series. This year's seminars featured the following conversations (in chronological order):

Jonathan Zittrain, the George Bemis Professor of International Law at Harvard Law School and the Harvard Kennedy School of Government, Professor of Computer Science at the Harvard School of Engineering and Applied Sciences, Vice Dean for Library and Information Resources at the Harvard Law School Library, and co-founder of the Berkman Klein Center for Internet & Society, led an interactive learning conversation about the Center and its network of researchers, activists, faculty, students, technologists, entrepreneurs, artists, policymakers, and lawyers.

Monika Bickert, Facebook's Head of Global Policy Management, along with her global team manages the policies for what types of content can be shared on Facebook and how advertisers and developers can interact with the site. And also manages the company's response to terrorist content online. She met in conversation with Jonathan Zittrain to discuss online abuse and the role that technology can play in addressing it for her talk.

Katherine Maher, executive director of the Wikimedia Foundation, met in conversation with Harvard Law School Professor Yochai Benkler, to discuss the topic of "Will Wikipedia exist in 20 years?"

Nathaniel Raymond, founding director of the Signal Program on Human Security and Technology at the Harvard Humanitarian Initiative (HHI) of the Harvard Chan School of public health, led a talk on the ethical, legal, and technical implications of this pivotal movement, referring to the Networking age, in the history of humanitarianism.

Caroline Weinberg, a public health researcher and educator, with a focus on social determinants of health and increased health literacy as a means of improving health outcomes in underserved communities, led a talk in which she discusses how the internet is involved in the planning of large scale, high visibility political demonstrations and also how we can harness the potential of demonstrations to build into movements.

Professor Jeffrey Schnapp, Carl A. Pescosolido Chair in Romance and Comparative Literatures, faculty member of the architecture department at the Graduate School of Design, and a Faculty Co-Director of the Berkman Klein Center, led a talk on Curricule, a platform that gives students powerful tools in data visualization and analytics for browsing and selecting courses, which will offer a new experience in course selection at Harvard.

Ethan Katsh, one of the founders of the field of online dispute resolution, graduate of Yale Law School and one of the first legal scholars to recognize the impact new information technologies would have on law, led a discussion on how technology influences access to justice across five areas, including ecommerce, healthcare, work, social media, and the courts system. He also explained that his central concern is to create an online environment with improved access to justice and dispute resolution for individuals.

Catherine Knight Steele, Assistant Professor of communication at the University of Maryland—College Park and the Director of the Andrew W. Mellon funded African American Digital Humanities Initiative (AADHum), argues in her talk that “the use of online technology by Black feminist thinkers has changed not only the outcome of Black feminist writing, but also has changed the technologies themselves.”, and also that Because of the history of systemic racism, Black women have had to develop “unique communicative and technological capacities” in order to survive.

Dennis Tenen, Assistant Professor of English and comparative literature at Columbia University, drew on his recent book *Plain Text: The Poetics of Computation*, and identified key intersections between literary theory and computation during his talk.

Sarah Florini, Assistant Professor of film and media studies in the Department of English at Arizona State University, led a talk on Black Users, Enclaving, and Methodological Challenges in a shifting Digital Landscape.

Ian Bogost, Professor of interactive computing at the Georgia Institute of Technology, author, and award-winning game designer led a talk, along with Professor Jeffrey Schnapp, on the future of technology using a technology that has not yet mainstreamed, autonomous vehicles.

Professor Orly Lobel, award-winning author, prolific speaker, commentator, and scholar on policy and industry, led a talk on the legal disputes between toy powerhouses to expose the ways IP is used as a sledgehammer in today’s innovation battles.

Jonas Kaiser, Berkman Klein affiliate and DFG postdoctoral fellow, analyzed the right-wing networked public sphere. Kaiser emphasized, although they are often theorized as critical spaces in which to

challenge the mainstream, counterpublics do not necessarily uphold progressive values.

Jon Lovvorn, first policy director of the Harvard Animal Law & Policy Program. Jeff Kerr, general counsel to PETA and its international affiliates. After a photographer left his camera equipment out for a group of wild macaques to explore, the monkeys took a series of photos, including selfies. Once the photos were posted publicly, legal disputes arose around who should own the copyrights.

Nate Hill, executive director of the Metropolitan New York Library Council (METRO). In this talk, Nate gave an overview of the programs at METRO/599 studio, talked about the challenges associated with this organizational recalibration, sought input and ideas from the group, and extended an invitation to attendees to visit the studio.

David Harris, founder of The Global Lives Project and Platforms for Building Empathy & Connection spoke about the evolution of the project, and its ambitious goal of connecting the diverse experiences of humanity around the globe, and building empathy.

Julia Dressel, “With the rise of big data and the prevalence of technology in everything we do, we’ve become frequent subjects of algorithms,” explained Julia Dressel, recent graduate of Dartmouth College and current software engineer. Dressel spoke about her research on the fairness and accuracy of algorithmic recidivism predictions.

Maria Smith, Harvard Law School. The online world is no longer a distinct world. It is an extension of our social, economic, and political lives. Internet access, however, is still often considered a luxury good in the United States. Millions of Americans have been priced out of, or entirely excluded from, the reach of modern internet networks. In this talk, Maria Smith shares a four-part documentary series that highlights divides in connectivity, from Appalachia to San Francisco, and explores the complex web of political and economic forces behind them.

Jennifer E. Rothman. In today’s world where little remains private, Jennifer E. Rothman, Professor of Law and Joseph Scott Fellow at Loyola Law School, sees the right of publicity as something that could provide relief where today’s version of the right of privacy has failed to do so. The right of publicity, which typically protects the defendant, stops others from using a person’s name, likeness, or certain additional aspects of their identity.

Eugene Volokh, UCLA School of Law. “Cheap speech” has massively increased ordinary people’s access to mass communications -- both for good and for ill. How has the system of remedies for defamatory, privacy-invading, and harassing speech reacted? Some ways are predictable; some are surprising; some are shocking. Prof. Eugene Volokh (UCLA) laid it all out.

James Boyle and Jennifer Jenkins, Duke Law School. Artistic musical expressions like mash-ups and sampling are often thought of as unique and new phenomena emerging from participatory culture in the digital age. However, as James Boyle and Jennifer Jenkins, Professors of Law at Duke University, argued at this talk, “remix isn’t America’s future; remix is America’s past.” Boyle and Jenkins drew from their

comic book, *Theft: A History of Music*, in which they tell the story of 2,000 years of musical borrowing.

Kathy Pham and friends from the Berkman Klein Community. The Ethical Tech Working Group at the Berkman Klein Center meets weekly to discuss the ethics of technology and to bridge the gap between industry and academia. In this series of lightning talks, eleven members of the group shared insights into issues related to technology, ethics, and social responsibilities, highlighting the value that each of their own disciplinary trainings bring to the table.

Dariusz Jemielniak and Jérôme Hergueux. In this talk, Dariusz and Jerome identified and discussed the social and economic contexts in which file sharing is considered more or less acceptable by law practitioners. In the process, they fostered a conversation on the possible changes in regulation that would allow us to catch up with the established social norm.

Dieter Shirley and Alex Shih, founding members of the CryptoKitties team, Dieter Shirley and Alex Shih, discuss the unique governance, legal, and regulatory challenges of putting cats on the Ethereum blockchain. CryptoKitties is an early pioneer in the space, and, having navigated securities law early on in its release, shared unique insights on classifications. They also discussed some of the more ethical challenges they've been facing, and best practices for approach.

Renee DiResta. Narrative manipulation issues—such as manufactured consensus, brigading, harassment, information laundering, fake accounts, news voids, and more—are increasingly well-documented problems affecting the entire social ecosystem. This has had negative consequences for information integrity, and for trust. This talk examined the ways that these same manipulative tactics are being deployed on Amazon, which is now the dominant product search engine and a battlefield for economically and ideologically motivated actors.

Jessica Fjeld and Mason Kortz. Cyberlaw clinicians Jess Fjeld and Mason Kortz led a discussion about copyright in AI-generated works, the need for a shared understanding of what is and isn't up for grabs in a license, and how forward-thinking contracts can prevent AI developers and artists from having their rights decided by our (often notoriously backwards-looking) legal system.

Digital Health Series. The Center began hosting Digital Health luncheons as a part of the Tuesday Luncheon Series this year. This new series kicked off in the spring and is co-hosted by the Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics, the Center's Global Access in Action Project, and the Harvard Global Health Institute.

John Freedman, president and CEO of Freedman HealthCare. Health spending continues to outpace wages and GDP, while some new insurance designs transfer greater shares of that to patients' own out of pocket costs. In this talk, Dr. Freedman discussed what is driving health care costs up, who is benefiting, and how data is harnessed to study problems and remedy them.

John Stubbs, Berkman Klein affiliate. Global Access in Action hosting the event, Trump's 'America First' Trade Agenda: What It Means for Access to Medicines

GAiA co-director William Fisher spoke at a conference organized jointly by the Brazzaville Foundation, Harvard Global Health Institute, and the London School of Hygiene and Tropical Medicine (LSHTM) to discuss the issue of substandard and falsified (S&F) medicines.

GAiA co-director Quentin Palfrey presented at an event held by the David Rockefeller Center for Latin American Studies at Harvard University titled “Access to Affordable Medicines and Pharmaceutical R&D in Latin America.” The event was co-sponsored by the International Health Systems Program and Harvard T.H. Chan School of Public Health, to explore access to affordable medicines, availability of different types of drugs, especially generic, and the transformative policies needed to make progress on pharmaceutical research and development in the Latin American and Caribbean region.

The Center continued to host monthly internal community-facing luncheons over the past year. Topics included presentations from Samer Hassan on his recently awarded grant that examines the future of collaborative economies, algorithmic governance, blockchain, cooperation and more; HLS Professor William Fisher on the use of technology to combat counterfeit medicines in sub-Saharan Africa as part of the GAiA project; Susan Benesch and Kendra Albert on Everything but Takedown: The Gamut of Non-Censorious Responses to Harmful Speech Online; Dr. King-Wa Fu from the University of Hong Kong on his China online expression project.

e. Fellows/Visiting Researchers/Research Assistants/Interns

Ifeoma Ajunwa, a faculty associate, was invited this year to give a TEDx Cornell talk on controversies regarding algorithmic tools in the workplace. This talk listed some concerns that was the basis of the \$150,000 grant that she (along with other Cornell professors) won from the Cornell Institute for Social Sciences. Ajunwa also gave similar keynote talks at the 2018 Sage Assembly in Seattle and the Mechanism Design for the Social Good Workshop at the Economics and Computing Conference at Cornell University. Her article, Age Discrimination on Platforms, was accepted for publication by the *Berkeley Journal of Employment and Labor Law*. Ajunwa also wrote op-ed articles on the Cambridge Analytica Scandal and platform authoritarianism for the *Washington Post* and the American Civil Liberties Union.

Kendra Albert returned to Cambridge in 2017–2018. They rejoined the Cyberlaw Clinic as a clinical instructional fellow, working with students and clients on matters related to computer security, freedom of expression, and intellectual property. In addition to their legal work, Albert published a piece on electronic ankle monitors in *Logic*, and testified before the United States Copyright Office on behalf of the Software Preservation Network. They also gave a number of talks, including “Gig Work and the Digital Security Divide” at Enigma 2018, and “The Silences of (Big) Data” for the LITA President’s Program at the American Library Association Annual conference.

Meryl Alper, a faculty associate, has explored the role of technology as both an enabler of and barrier to accessibility, inclusion, and equality for individuals with disabilities. This school year, she published “Inclusive Sensory Ethnography: Studying New Media and Neurodiversity in Everyday Life” in the journal *New Media & Society* and wrote a piece for *Pacific Standard*. Alper gave invited talks at the University of Michigan, Ithaca College, and Bard Graduate Center, presented her work at the annual conferences of the International Communication Association and the American Speech-Language-

Hearing Association, and served as an invited judge at the Machine Learning Accessibility Hackathon, Microsoft New England Research and Development. Her book “Giving Voice: Mobile Communication, Disability, and Inequality” (MIT Press, 2017) was also awarded a PROSE Award Honorable Mention from the Association of American Publishers’ Professional and Scholarly Publishing Division in the Media and Cultural Studies Category.

David Arney is a new affiliate this year working on medical device interoperability and digital health. Dave started a Healthcare Working Group to facilitate discussions among fellows working on projects relevant to digital health and between members of the center and outside practitioners, manufacturers, regulators and others interested in advancing digital health. Dave hosted an open house for the fellows at the Medical Device Plug and Play Interoperability lab at Massachusetts General Hospital, where he is the lead engineer. Dave was appointed a principal associate at Harvard Medical School in January, has published several papers and conference presentations this year, and has several more in progress.

Elettra Bietti, an affiliate, successfully completed her first year of the doctorate program at HLS. She co- led a reading group on ethics, theory and law, exploring the philosophical underpinnings of privacy and AI and contributing to a deepening of all of the participants’ research agenda and thinking on ethics and AI. Bietti also researched, wrote and presented on the impact of the GDPR and on the role and justifications for consent as a tool for regulating privacy and data harvesting. Additionally, she met with employees at Facebook and *The New York Times* to better understand and help them focus their efforts on the AI and content moderation front. With the Cyberlaw clinic, Bietti helped Doc Searls and his team on the legal aspects of the Customer Commons project.

Joanne Cheung, a fellow, focused her study on how people, architecture, and media contribute to democratic governance. Inspired by the history of land-use regulation in the United States, she developed a theoretical framework for comparing the design of public space and social media platforms. Cheung presented her work at the Sackler Colloquia Student Fellows Symposium at the National Academy of Sciences and the Honoring All Expertise Berkman Luncheon (with the Ethical Tech Working Group). Building off her theoretical work, she developed a new architectural design for the New England town hall. This new town hall studied how the building type transformed from a historic public space to a Facebook feature, and imagined what the practice of everyday politics both online and offline should look like in a networked society. In parallel to her fellowship, Cheung co-organized the 6th annual xDesign Conference at the Harvard Graduate School of Design. She also continued her art practice and created photographs and videos reflecting on the effect of climate change on the Icelandic landscape. This body of artwork was exhibited at Industry Lab and written up in the *Harvard Gazette*.

John Collins, an affiliate, has explored emerging public policy issues related to financial technology, with a specific focus on cryptocurrencies, blockchain technology, and novel public-private partnerships aimed at supporting innovation. Working with the Digital Finance Initiative team, Collins helped organize a number of roundtables bringing together key global stakeholders to discuss issues facing governments and industry as financial technological solutions continue to develop. He helped organize several days of events in Cambridge featuring the leadership of CryptoKitties to discuss the emerging environment of crypto-collectibles. He co-founded the [First State Fintech Lab](#), a nonprofit organization committed to bolstering the financial technology ecosystem in the State of Delaware by supporting public-private

engagement, workforce development, and diversity. Collins was also a featured speaker at conferences in US, Europe, and Asia, and a frequent contributor to media articles dealing with cryptocurrencies and blockchain technology.

Yasodara Cordova, an affiliate, is a fellow researcher at the Kennedy School at Harvard. She has been [exploring](#) the frontiers of data collection, and the consequences of restricted data access to the development of Artificial Intelligence applications in developing countries. She contributed to the discussions on Digital Citizenship, Identity and Blockchain-based Cloud Communities. Finally, Cordova has been researching the political consequences of the use of [messaging apps in Brazil](#) and other countries; and the relationship between the use of different protocols for communicating and its impacts on privacy and freedom of speech.

Nick Couldry, a faculty associate, researched and wrote the manuscript of a new book (with Ulises Mejias): *Colonized by Data* for a US university press for publication in 2019. He also gave talks at Berkman, MIT, NYU and elsewhere on his previous book, *The Mediated Construction of Reality* (with Andreas Hepp) and elsewhere on the media chapter of the International Panel on Social Progress. Within Berkman Klein, Couldry set up, with fellow Elettra Bietti, a reading group on ethical and legal theory; its discussions focused on data and surveillance issues in particular and will hopefully be continued into 2018–2019.

Juan Carlos De Martin, a faculty associate, presented his book on University in the digital age at several venues this past year, including Harvard's Department of Romance Languages and Literatures (February 2018). De Martin also designed a new graduate course titled: "Digital Technologies and Society" that will be offered at the Politecnico di Torino (Italy) for the first time during the academic year 2018–2019. The course will address topics such as algorithmic bias, data ethics and professional deontology.

Judith Donath, a fellowship advisor, continued writing *The Cost of Honesty*, her book about technology, trust, and deception (Yale University Press). Donath's book discusses how new technologies transform communication and impression formation, influencing everything from our mundane greeting habits to how we make critical decisions about who or what to trust. In a world where anonymous channels promise to make deception ubiquitous while surveillance technologies threaten to eradicate it, where we befriend bots that flawlessly mimic our voice and expressions, understanding the impact of innovations is crucial. We are hampered, though, by inadequate models of how communication functions and passionate but blurry ideas about the role of trust and deception in society. Using an evolutionary model of communication as the foundation, Donath's book explores how technologies change communication, how cultural forces affect how we adopt innovations, and how the complex interplay between trust and deception shapes our world. Taking occasional breaks from book writing, Donath gave several talks on this topic, in venues ranging from the Oxford Internet Institute to a rabbinical training seminar. She debated (for the opposition) the proposal "Social Media in Anti-Social" at the Cambridge Union. In "Uber-free," she wrote about the possible ad-supported future of autonomous cars (*Atlantic*, December 2018)

Jonathan Donner, an affiliate, researched Digital Identity and Digital Finance in the Global South. This past year, Donner gave the keynote address on "The future of digital development" to USAID/FHI 360 in Washington, D.C. He also served on two doctoral candidate committees, at USC Annenberg and the

University of Cape Town. Additionally, Donner delivered agenda-setting work funded by Omidyar Network on vulnerability, privacy, and digital identity (an Aadhaar India evaluation).

Mailyn Fidler, an affiliate, finished her book manuscript, *Weapons of the Weak, Cyber Politics and Africa's Quest for Autonomy*, and submitted it for peer review. She participated in Berkman Klein's inaugural bipartisan cyber policy workshop at the Senate, and contributed to the UK House of Lords inquiry into foreign policy and technology. She also blogged about the African Union's alleged bugging by China, and continued to participate in the Berklett cybersecurity group.

Christian Fieseler, a faculty associate, continued his research into new forms of digital work and into computer-mediated practices of contingent gig work, particularly in the sharing economy. As part of this research, within a Horizon 2020 project of the European Union, Fieseler conducted surveys and focus groups across Europe on how well the platforms facilitating the sharing economy fulfil the privacy, power and participation expectations of Europe's citizens, and drafted recommendations to the European Commission how to enable more fairness in the sharing economy. The results of this research project are also partially reflected in an upcoming special issue of the *Journal of Business Ethics* on the responsibilities of the sharing economy, which he guest-edited. Fieseler also continued his work with the Youth and Media team at the Berkman Klein Center, on young people and their interaction with and transition into the digital economy, where the team and he continued finalizing an upcoming set of research papers as well as prepared a number of focus group interviews with young people on their employment prospects.

Mariel Garcia-Montes, an affiliate, published her regional research on youth and privacy in civil society. She interviewed 18 organizations in the Americas, and shared her findings on the MIT Center for Civic Media blog, and in her Master's thesis for the Comparative Media Studies program at MIT. She was also the co-host of 13-year-old Keneisha on "Careers for Years" at ZUMIX Radio.

Arzu Geybullayeva, an Open Technology fellow, researched information control mechanisms in Azerbaijan. As part of her research she looked at Azerbaijan's internet infrastructure, as well as relevant legislation that has had an impact on internet freedoms in Azerbaijan. Geybullayeva also worked on documenting past internet blocks and prepared a timeline of internet censorship in Azerbaijan. She has also published a number of [articles](#) during this time for [Open Democracy](#) and attended Internet Freedom Festival in Valencia where she spoke at several panels, RightsCon in Toronto, and World Democracy Forum in Dakar.

Christoph B. Graber, faculty associate and Professor of Law at the University of Zurich (UZH), has been working on a research project about constitutional theory and the Internet that shall eventually lead to a book. As a preliminary study to that book, he published an article: "Freedom and Affordances of the Net" in the *Washington University Jurisprudence Review*. Graber also published two book chapters: "Legal Sociology" in a book introducing Swiss law to international students and "Law of the Film Economy" (in German), a chapter in a handbook on Swiss legal practice. Over the year he taught four courses and two seminars at UZH: an introductory course on Legal Sociology (in German), an advanced course on Legal Sociology (in English), a course on Art Law and Culture (in German), a course titled "Regulation without Law? Law and the Technologies of the 21st Century" (in English), a seminar on Ethics, Law and Business (in German) and a seminar on Law in Film (in German). In cooperation with

the Berkman Klein Center, he organized an interdisciplinary expert Workshop on Artificial Intelligence, Law and Governance at UZH. Graber presented papers at the Artificial Intelligence and Regulation Conference organized by LUISS University at Rome and at the Annual Meeting of the Law and Society Conference in Toronto. He also acted as a discussant at the Annual Meeting of the Society of the Social Study of Science in Boston.

Eldar Haber, a faculty associate and a senior lecturer at the faculty of law at the University of Haifa, Israel, continued his research on cyber-related and law-and-technology topics. During this year, he worked mainly on the topics of IoT and AI from legal perspectives. He mainly focused on the various legal, technological, and social implications of the “always on” society, e.g., the potential threats in the use of “always on” personal assistants (like Amazon Echo/Show/Look and Google Home) and smart toys. As for the latter, an article on the regulation of smart connected toys is forthcoming at *Ohio State Law Journal* (2019). This year, Eldar also finished working on his book: *Criminal Copyright* (Cambridge University Press, July 2018). Eldar presented his works and works-in-progress at several conferences and workshops worldwide, including teaching courses on cybercrime, cyberwarfare and cybersecurity in Israel, India and Brazil.

Jenn Halen, a fellow, studies the motivations and consequences of adopting decision-making algorithms into governing processes. Halen’s work on her doctoral dissertation, papers, and conference panels has focused on highlighting the political dimensions of algorithm design and decisions. She has advocated for perspectives that address technology issues within a more holistic political framework that is attentive to the power dynamics and worldviews that affect automated systems, especially those deployed by governments. This work has been the focus of her interactions within the broader Berkman Klein fellow community, including work with the Ethical Tech and Government Tech fellow working groups. While at the Berkman Klein Center, Halen has also contributed to several projects within the Ethics and Governance of Artificial Intelligence Initiative, including helping to design the Cyberlaw Clinic’s Algorithmic Risk Assessment Tool Database and leading the weekly “ThursdAI” AI community meetings.

Samer Hassan, a faculty associate, and Associate Professor at the Universidad Complutense de Madrid, researches decentralized collaboration. This year he launched his ERC-funded project [P2P Models](#), which aims to build Blockchain-based decentralized organizations for a different Collaborative Economy. With the support of Yochai Benkler and other Berkman Klein advisors, the interdisciplinary project will build both social theory and software tools to facilitate the emergence of platforms which rely on decentralized infrastructure, democratic governance and are economically sustainable. Hassan is presenting the project in multiple venues, including Harvard’s EconCS, Platform Cooperativism Conf (NYC), Open Coop (London), DSI Fair (Rome), POSS (Paris), Annenberg-Oxford MPSI (Oxford). In parallel, his team has built a [web tool](#) visualizing the evolution of wiki communities, and a [blockchain-based infrastructure](#) to decentralize the open science process. Hassan has continued his teaching activities, and has published several academic articles on the aforementioned topics.

Dean Jansen, an affiliate, has been a core participant of the Ethical Tech Working Group at the Berkman Klein Center. He has been contemplating the limitations of open source software as a means of fostering broad personal freedoms in the technological sphere. In February of 2018, Jansen co-organized a trip of

Berkman Klein fellows and affiliates to the Data & Society Research Institute (D&S) in NYC. The [D&S visit](#) included a round table session on the topic of ethics in technology. He contributed to the Berkman Klein luncheon talk, [Honoring All Expertise: Social Responsibility and Ethics in Tech](#). Jansen also pursued more equitable models for work in the on-demand economy via his role at the [Participatory Culture Foundation](#) and one of the organization's sustainability initiatives, [Amara On Demand](#).

Dariusz Jemielniak, a faculty associate, finished and submitted a book for MIT Press on "Collaborative Society," as well as signed a contract with Oxford University Press to write on digital studies methods. He also wrote academic articles about the perception of fairness in digital files sharing, as well as on Wikipedia. Jemielniak continued his engagement in the board of trustees of the Wikimedia Foundation.

Amy Johnson, an affiliate, works on unexpected uses of social media and other sociotechnical systems, with specific attention to play, language, and governance. This year she wrote a chapter on the Arabic localization of Twitter for an edited volume from Cambridge University Press; a journal article on language policy and power in sociotechnical systems; and co-wrote an article on language, the internet, and digital communication. Her chapter on Japanese-language manual bots on Twitter was published in *The Handbook of Japanese Media*. In the spring she co-organized a symposium on the Aesthetics of Information at the Center for Humanistic Inquiry at Amherst College, where she started as a postdoctoral fellow in the fall. After running a series of initial sessions that explored speculative techniques, she joined forces with fellow Andres Lombana-Bermudez to create the Tech Through Spec working group at the Berkman Klein Center. With Grace Mutung'u, she further expanded these techniques at Citizen Lab's summer institute. This year, Johnson presented her research on government use of social media at AoIR and ISHS; on manual bots at Society of the Social Study of Science; on language policy and sociotechnical systems at All Things in Moderation; and on how and when Twitter listens to the user voice at ICA. She continues to research government use of social media, working with the Cyberlaw Clinic and the BU/MIT Technology & Cyberlaw Clinic.

Jonas Kaiser is an affiliate, and an associate researcher at Alexander von Humboldt Institute for Internet & Society. In the last year, he has been working on his research project on right-wing online counterpublics in Germany and the United States that is funded by the German Research Foundation (DFG). The project, which is set at the intersection of political and digital communication and which features state of the art digital methods, will result in a book for Oxford University Press. Last year, he published an article in *Communication and the Public*, co-authored a book chapter for an edited volume on sports communication, wrote a book chapter that will be published in an upcoming edited volume on climate change and the far-right, and won the best paper award in the ICA's Environmental Communication division. In addition, he wrote several blog posts on topics like misinformation or hypes in communication research. He presented his work at international peer-reviewed conferences like ICA, AoIR, and ECREA's Political Communication conference. His research was featured in multiple news outlets including *Süddeutsche Zeitung*, the *New York Times*, and *BuzzFeed*.

Simin Kargar is an affiliate focused on the gender implications of harmful speech online and disinformation. She gave a talk at National Democratic Institute (NDI) on gender and disinformation in online public spheres and participated in a workshop on designing an assessment tool for active women in politics against harassment, online and offline. Kargar gave a few talks on business and human rights,

gender, harassment and online public spheres at SXSW and RightsCon, and to graduate students at Tufts Fletcher School, Georgetown, and Universities of Toronto and Zurich. Her paper on the weaponized harassment and disinformation online against Iranian dissidents was presented at the ICA conference. Her research is currently up for publication through a communication journal. She also became involved in the implications of bias in AI and storytelling and presented her work with IVOW—a smart storytelling agency—to the AI community at MIT Media Lab.

Emad Khazraee, a fellow, was awarded a National Leadership Grant from Institute for Museum and Library Services (IMLS) to bring advance data analytics and AI to public libraries to serve local communities. During his fellowship at Berkman Klein Center, he continued his research on social media and extended it to the area of misinformation and worked with the misinformation working group to design an empirical study to understand people’s perception of misinformation. He recently completed a research project on computational propaganda on Polish Twitter in collaboration with Internet Policy Observatory at the Annenberg School for Communication at the University of Pennsylvania. In the past few months, Khazraee presented his research at different venues including Harvard CGA annual conference, Maryland Institute for Technology in the Humanities, World Wide Web Foundation, and MIT Media Lab. During the past year, his research has been accepted for or published in journals such as *Journal of the Association for Information Science and Technology (JASIST)*, *Social Media + Society*, *Big Data and Society*, and *Digital Humanities Quarterly*.

Jenny Korn, a fellow, has explored identity and representation through online and in-person discourses, focusing on how popular concepts of race and gender are influenced by digital interactions, political protest, and institutional kyriarchy. She founded and coordinated the Race & Media working group, which concentrated on discussing issues of race, racism, and racial justice through hosting speakers, particularly presenters of color. Korn gave two public presentations at the Berkman Klein Center, one in the fall titled “Harmful Talk Online: How Race Online Interacts with Homophily, Contagion, and Stigma” and one in the spring titled “From Academia to Programmers: Critical Race Training to Incorporate Race into Ethics and Technology.” Korn also gave a gallery talk on her first art installation ever, titled “A Word: A Race, A Gender,” which invited individual participation on considerations of race, gender, sexuality, power, class, and bias within online image search results. Besides publishing work on the topics of race, gender, activism, ethics, and the Internet, she won the Outstanding Book Chapter Award from the African American Communication and Culture Division of the National Communication Association.

Mason Kortz recently completed his third semester as a clinical instructional fellow in the Cyberlaw Clinic. Over the past year, Kortz has worked with students to draft a Supreme Court amicus brief on cross-border electronic searches, provide legal advice to a scientific data preservation nonprofit, and launch a Harvard-Stanford collaboration that provides policy advice on responsible procurement of police technologies, among many other projects. One notable project led to Kortz and a 2L law student being invited to participate in a policy drafting conference in Rome, Italy in early 2018. For another project, students drafted advice on the privacy implications of municipal data sharing that was disseminated to hospitals, social service providers, and local officials throughout the Greater Boston Area. Outside of his supervisory role, Kortz has been working on academic papers regarding the law and governance of algorithms and artificial intelligence. These include a short article, co-authored with Jessica Fjeld, in the

Harvard JOLT Digest on AIs, art, and copyright, and a paper written with the BKC Interpretability Working Group about algorithms and explanations, currently available as a pre-publication draft. Kortz has also had the good fortune to be invited to speak at a number of venues, including the University of Montreal's Cyberjustice Lab, Massachusetts Continuing Legal Education's Estate Planning Symposium, and the Maine State Bar Association's annual conference.

Vasilis Kostakis, an affiliate, has explored how digital commons are converging with affordable digital and analog fabrication technologies. He has been coordinating a pilot-driven project that builds infrastructures which allow geographically isolated communities to become technologically sovereign. Benefiting from the interaction with Professor Yochai Benkler and the Cooperation Group, he submitted a 1-million-euro research proposal at the prestigious European Research Council personal grant scheme, which has now proceeded to step 2 (~20%). Alongside his affiliation, Kostakis worked with metaLAB in a mini-exhibition titled "The Materiality of the Immaterial." He also continued publishing research papers and op-eds at top-ranked journals (e.g. *Annual Review of Environment and Resources*, *Organization*) and popular media venues (e.g. *Harvard Business Review*, *Aeon*).

Andres Lombana-Bermudez, a fellow, supported several initiatives in Berkman Klein Center's Youth and Media project, including research on digital economy, digital citizenship, and artificial intelligence; design of open access learning resources; and organizing national and international workshops and symposia. Together with other fellows and affiliates, Lombana-Bermudez helped to plan and facilitate the Misinformation and Speculative Fiction working groups weekly sessions. He co-edited and published the book "Youth, digital transformation, and forms of inclusion in Latin America," and co-wrote two chapters for the forthcoming book *Young People's Journeys into Creative Work: Hustle and Grow*, about alternative career pathways in the music and video game industries. Lombana-Bermudez continued to mentor a weekly youth radio show (America Unificacion) at Zumix Radio in East Boston, and to collaborate in several projects in Latin America such as Clubes de Ciencia-Colombia, Conectados al Sur, and the Educational Technology Winter School in Uruguay. Moreover, he helped to start the first Center for Internet and Society in Colombia, at the Universidad del Rosario, and has been working in capacity building and setting up collaborative projects with the other members of the Network of Centers.

Yvonne MacPherson, a fellow, couples her day job as US director of BBC Media Action (the international organization of the BBC created to use media for development) with teaching and research. This year she guest lectured at Columbia University Mailman School of Public Health on innovation in global health communication, and was a guest lecturer three times at Emerson College, Department of Communication Studies, on communication for social change and civic engagement. She is now designing her own full course curriculum on communication for development. She also participated on panels, including at Swissnex Boston on Technology and Humanitarian Action. MacPherson continues to pursue her interest in understanding how communication technologies shape behavior, attitudes and social norms. Specifically, she is examining how global chat apps are being used in international development and humanitarian response strategies, building on the work of BBC Media Action's use of WhatsApp during the West African Ebola crisis.

Catharina Maracke, a faculty associate, has been focusing on Free and Open Source Software licensing and governance structures. She worked on a study analyzing possible tensions between some of the most

prominent Free and Open Source Software licenses and their interaction with Fair, Reasonable and Non-Discriminatory (FRAND) based patent licenses (forthcoming in the *Journal of World Intellectual Property*). She also helped launch the [OpenChain initiative](#), a collaborative project run by the Linux Foundation to build trust and consistency in today's software supply chain. Maracke continued to teach classes on IT Policy (co-taught with Professor Jun Murai) and Legal Thinking at Keio University in Tokyo, and on International Business Law and Ethics at the Kühne Logistics University in Hamburg.

James Mickens, a faculty associate, focused his research on the security and performance of large-scale distributed systems during the past year. For example, his work on the Veil framework (published at NDSS 2018) demonstrated how web developers can reduce the amount of sensitive information that leaks outside of a browser when a user visits a site on a shared computer, e.g., at a library. Mickens also investigated techniques for quarantining IoT devices that are running unpatched or insecure software. Mickens was an advisor for Berkman Klein's AI Assembly program, and he was also an advisor for Harvard Business School's Digital Initiative program. Mickens also taught Harvard's CS 263, a graduate-level cybersecurity class which exposes students to state-of-the-art techniques for attacking and defending computational devices.

Mary Minow, a fellow, is evangelizing the role libraries offer to help people evaluate online news. She has spoken to librarians and others on the topic, and co-authored a *Chicago Sun Times* op-ed, "Think it might be fake news? Ask a librarian to help you suss it out." She served on the planning committee for "Know News: Engaging with Mis- and Disinformation" (Spring 2018) that brought librarians, journalists, and technologists together at Simmons College School of Library and Information Science. This resulted in a grant application to fund a project to solicit user questions to news outlets, social media etc., and connect them to librarians. Minow was able to secure a generous donation from Springshare to power the backend. Also, she published a chapter on copyright with Elizabeth Hamilton in *Information Services Today: An Introduction* (ed. by Sandy Hirsh, 2018), and signed a book contract to coauthor a new book on libraries and legal issues.

John Nay is the CEO of Skopos Labs, a technology company based in NYC, a postdoctoral fellow at NYU, and an affiliate at the Berkman Klein Center. John has been building A.I.-powered software tools to better predict and understand complex systems. John's research this year has explored automated methods for explaining the "reasoning" behind predictions of complex machine learning models in a way that is meaningful for end-users (policy-makers, the public, other automated systems). He has also applied his computational research to policy applications, including natural language processing of legal and regulatory texts, and forecasting of policy-making outcomes.

Sarah Newman, a fellow, has explored the social effects of artificial intelligence through art, research, and teaching. She led metaLAB's efforts in AI + Art, which resulted in exhibitions at Harvard Art Museums and Rainbow Unicorn Studio in Berlin. The works produced through this initiative were presented in gallery talks, panels, and received substantial press coverage. Her work "The Future of Secrets," which deals with how humans relate to non-human systems, was exhibited at South by Southwest in Austin. Newman gave talks and presentations at Harvard, MIT, Vassar College, SXSW in Austin, and HIIG in Berlin. In Fall 2017, she was chosen as an AI Grant fellow for her work on "Moral Labyrinth," exploring the Value Alignment Problem in AI. In January, she joined the Berkman Klein

Center-MIT Media Lab 2018 Assembly Cohort, with work that culminated in a paper, “The Dataset Nutrition Label Project,” that will be published later this year. She additionally designed and led several workshops on AI + Art, aimed at using design thinking methods to give researchers new tools and insights into their research problems related to AI and society.

Juan Ortiz Freuler, a fellow, has been supporting Tim Berners-Lee’s advocacy efforts for strong net neutrality protections, including meetings with members of Congress, regulators and journalists. He has also been engaging with the G20 to promote a digital agenda that places people at the center. Freuler has also been researching the effect IoT, blockchain and algorithms are having on the ongoing process of centralization of the web, topic on which he published a series of op-eds. He co-authored a report on Facebook’s NewsFeed algorithm, which explores a method to audit the content curation taking place on the platform, and a sketch of how Facebook could offer users more control over their information diets. Freuler also co-authored a report on how artificial intelligence techniques are being leveraged by entrepreneurs in Africa, and developed a standardized format to assess government implementations of artificial intelligence techniques, which he applied to cases from Latin America.

Desmond Patton, a fellow, continues to explore how qualitative analysis, domain expertise and AI can be used to reduce aggression and threats on social media among youth in communities with high rates of violence. Patton published a paper in *Nature–Digital Medicine* which found responses to trauma and loss predicted aggressive comments on Twitter among gang-involved youth within a two-day window. He also first authored a commentary in *Pediatrics* which outlined ways in which mental health practitioners can utilize social media for violence prevention. With colleagues from the University of Michigan, he first authored a conceptual paper examining digital racism and social media as the new stop and frisk, published in *Social Media + Society*. He also created a new tech incubator, SIMED, which hires formerly incarcerated individuals to create immersive VR experiences for youth and adults to drive more ethical and pro social usage of social media. His research was cited in the *New York Times*, *Chicago Tribune*, *VICE*, and the *Washington Post*. Patton was recently awarded a Collaboratory Fellows grant at Columbia University to create a new course on data science for social good for social work students.

Kathy Pham, a fellow, co-led the Ethical Tech Working Group at the Berkman Klein Center, and hosted the Honoring All Expertise: Social Responsibility and Ethics in Tech talk alongside other fellows and affiliates. She was also part of the Ethics and Governance of AI Assembly program, where her team focused on community and AI, founding ai-in-the-loop, an organization devoted to building better AI systems by keeping the community at the forefront. In her focus on the intersection of policy and tech, she hosted a trip for Berkman fellows to visit the United States Digital Service (where she was a founding product and engineering member). Pham served on the advisory board of Make the Breastpump Not Suck, an ongoing initiative culminating in a hackathon at the MIT Media Lab in April 2018. Additionally, she also hosted an Ignite talk series highlighting the unique background and passions of many Berkman Klein Center community members. Read more about her Berkman Klein Center contributions [here](#).

Leah Plunkett, a fellow, worked with the Youth & Media team with a focus on youth digital privacy, as well as equity and autonomy concerns. Her book, whose working title is *Sharethood: How Adults Are Digitally Disrupting Childhood*, was accepted by the MIT Press Ideas series, so much of her time this year was spent writing and presenting her work-- including at the Berkman Klein Center’s

Fellows Hour and faculty workshops at law schools. She also collaborated on curricular materials, a chapter on student digital privacy for a new Oxford Handbook of Education Law, and other outputs. Plunkett enjoyed discussing digital privacy and youth-related issues several times on the New Hampshire Public Radio program, The Exchange, as well in other fora (including a Boston Ed Tech meet-up and the Advanced Studies Program at St. Paul's School). Plunkett returned to Internet Law Summer School at University of Geneva to teach a class on youth and digital life.

Keith Porcaro, a fellow, has worked on applications of data trusts for protecting and governing public interest data and technology projects. A platform based on this work, Causeway, will launch in 2018. In addition, Porcaro taught a course at Georgetown Law on Criminal Justice Technology, Policy, and Law, and started developing a curriculum of simulations to teach law students technical skills. Porcaro has appeared on a panel at CogX and given talks at Legal Services Corporation's Innovations in Technology Conference, Suffolk's Clinical Innovation Conference, and as part of SAGE's OCEAN Talks series.

Justin Reich, a faculty associate, started his first year as a faculty member in Comparative Media Studies at MIT, where he is the director of the Teaching Systems Lab. With a team of learning scientists, instructional designers, software engineers, and educational researchers, Reich is researching and designing the future of teacher learning. Project highlights include a series of Massive Open Online Courses for edX, along with new online "practice spaces" for K-12 teachers, inspired by games and simulations that let teachers rehearse for and reflect upon important decisions in teaching. To support student activism in the wake of the Parkland shooting, Reich worked with colleagues at the Harvard Graduate School of Education to stand up youthinfront.org, an online resource where student activists answer questions that youth have about civic activism.

Carla Reyes, a faculty associate, sought to advance understanding of the intersection of law, policy, and blockchain technology this past year. Reyes sought to expand an interdisciplinary dialogue among legal scholars, technologists, and policymakers by speaking at several conferences and working with other Berkman Klein faculty associates and affiliates to host a conference at Stetson University College of Law and a roundtable at the Berkman Klein Center. Reyes also used her year as a faculty associate to research the application of business entity law to decentralized businesses, placing the article "If Rockefeller Were a Coder" with the *George Washington Law Review* for publication in the winter of 2018.

Colin Rhinesmith, a faculty associate, received a research grant from the US Institute of Museum and Library Services (#LG-71-18-0110-18) with New America's Open Technology Institute and Internet2 to develop a broadband measurement platform for public libraries across the country. Last fall, he was invited to present his research with Dr. Bianca Reisdorf (Michigan State University) at a Capitol Hill Briefing in Washington, D.C., which was part of a pre-conference event during the 45th Research Conference on Communications, Information and Internet Policy (TPRC). Rhinesmith co-organized a refereed panel session, titled "Community Informatics and Science and Technology Studies," with Dr. David Nemer (University of Kentucky) for the 2017 Society for Social Studies of Science Annual Meeting in Boston. In the spring, Rhinesmith gave a talk with Luke Swarhout (New York Public Library) at an event titled "Digital Equity, the 2020 Census, and the Role of Public Libraries" at the Harvard Kennedy School.

Nagla Rizk is founding director of the Access to Knowledge for Development Center (A2K4D) and Professor of Economics at the American University in Cairo (AUC). Over the past year Rizk's research on knowledge, technology, data and development, has expanded to include open data, artificial intelligence and development in the Global South. In November 2017, Rizk gave a keynote at the AI and Inclusion Symposium, in Rio De Janeiro hosted by the Institute for Technology and Society on behalf of the Network of Internet and Society Centers. She also participated as a panelist at the Artificial Intelligence for Good Summit in Geneva this May 2018. Rizk taught an affiliate version of CopyrightX at AUC for the fifth time during Spring 2018. As part of the Open African Innovation Research Partnership, Rizk leads research on alternate metrics of innovation in Africa. This year, she published the working paper, "Towards an Alternative Assessment of Innovation in Africa." Rizk also wrote a book chapter, "Egypt's Independent Music Industry: A Realm of Sharing and Creativity," which is featured in the *Research Handbook on Intellectual Property and Creative Industries*, from Edward Elgar Publishing. She is currently engaged in research on gender in the sharing economy, focusing on female drivers' experience with ride sharing in Egypt. This builds on her earlier research on Uber drivers in Egypt. Rizk also leads research at A2K4D on data and development. This year, the center launched a Solar Data Platform, an open database for solar sector data in Egypt. Additionally, A2K4D was selected to be the Open Data for Development (OD4D) node for the MENA region. OD4D is a global network that looks to scale innovation, strengthen initiatives and facilitate coordination between actors and projects working in open data. Rizk received the 2018 Excellence in Research and Creative Endeavours Award from the American University in Cairo in June 2018.

Alvin Salehi, an affiliate, has explored the impact of open-source software on code security, economic efficiency, and technological innovation across the federal government. As the co-founder of Code.gov, Salehi continues to oversee the government's primary platform for sharing and improving federal software. Over the past year, he has helped it grow from 45 projects to nearly 4,000. He gave the opening keynote for the Code and Programming track at South by Southwest, where he highlighted innovative projects that agencies like NASA and the Pentagon have shared with the public. At Berkman Klein, he worked closely with the Cyberlaw Clinic to explore a framework for open source licensing across federal agencies. He is concurrently working with Harvard's Kennedy School to assess the economic impact of sharing and reusing government code across the country.

Boaz Sender, an affiliate, has deconstructed the implicit and explicit values of open-source software, along with a critique of how open-source software deepens structural inequality while providing a language for celebrating it. This work has been developed alongside the Ethics Working Group at Berkman Klein, where it will be included as a chapter in the group's forthcoming book on technology ethics. Sender also continued his work as the CEO of a software company that worked this year to expand the web platform's standards development process to include testing, and supported the upcoming release of Scratch, a visual programming language for kids.

Suchana Seth, a fellow, published an article titled "Machine Learning and Artificial Intelligence: Interactions with the Right to Privacy" in the *Economic and Political Weekly* on how AI impacts the right to privacy in the light of the Indian Supreme Court's recent judgement on privacy as a fundamental right. In collaboration with Berkman Klein fellow Dean Jansen, she arranged a small group session between Berkman Klein fellows and fellows at Data & Society Research Institute in New York to strengthen

connections in areas of common interest and spark future collaborations. She contributed to the workshop titled “The Right to the Smart City: Designing for Public Value and Civic Participation” at the Berkman Klein Center. Seth also contributed to various working groups in collaboration with other Berkman Klein fellows—such as the Ethical Tech working group, and the Tech Through Speculative Fiction working group. In addition, Seth is a member of the IEEE working group on standards against algorithmic bias, and also participated in the FAT* conference.

Aaron Shaw, a faculty associate, pursued new research on the organization of online collaboration during a fellowship at the Center for Advanced Study in the Behavioral Sciences at Stanford University.

Luke Stark, a fellow and Dartmouth College postdoctoral scholar, published "Algorithmic Psychometrics and the Scalable Subject" in *Social Studies of Science*, and wrote op-eds for *Slate*, the *New York Daily News*, and *The Conversation* in the wake of the Cambridge Analytica scandal. Other notable milestones from this past year included publishing four other articles in venues, including First Monday and History of the Human Sciences, invited talks at York University, Boston University, and the University of San Francisco, and an appearance on National Public Radio’s flagship morning show 1A. Stark is especially proud of the work of the Berkman Klein Center’s Ethical Tech working group, of which he is a member. The group’s activities this year have included weekly meetings, a Berkman Klein public luncheon, two forthcoming summer workshops, and an edited volume of work from core group members.

Arun Vishwanath, a faculty associate, came in to the 2017 Berkman cohort as a cybersecurity researcher focused on human cyber vulnerability, and by the end became a technologist studying topics ranging from fake news to the economic impacts of AI. While at Berkman Klein he published two peer-reviewed articles on social media-based phishing and half a dozen opinion pieces on IT security, the Russian influence on US elections, and the likely impacts of AI on news and politics, which appeared in CNN and other leading media outlets. Vishwanath also gave invited presentations on his research twice at the United States Senate, twice at the major cybersecurity conference Blackhat (Las Vegas 2017, webinar in 2018), and at leading outlets such as the University of Illinois’s School of Engineering and the Anti Phishing Work Group’s (APWG) eCrime researchers symposium in San Diego. Vishwanath also continued his research collaborations with federal government agencies in the US and Singapore and is presently helping a Michigan-based public-private partnership develop a cyber-911 victim-support system.

Soroush Vosoughi, a fellow, continued his work on the spread of rumors and misinformation online. He co-founded the misinformation working group at the Berkman Klein Center, bringing together people from various backgrounds interested in studying and addressing misinformation. Also, he, alongside two co-authors at MIT, published a paper on the spread of false news online in the journal *Science* (making the cover of the journal). For that project, he received widespread international attention, including articles in the *New York Times*, the *Washington Post*, the *Atlantic*, and the BBC. Vosoughi also wrapped up his postdoctoral work at MIT and received and accepted an offer to join the computer science faculty at Dartmouth College in the spring of 2019.

James Wahutu, a fellow, published two articles in academic journals and submitted for publication two book chapter manuscripts to be published in 2019. He also submitted two other articles for publication on questions around data privacy in sub-Saharan Africa, and the nexus of misinformation and journalistic sourcing and framing cultures in SSA. Wahutu is currently working on a paper that argues for the studying of Silicon Valley as a colonial metropole with regard to how it relates to consumers in SSA. This paper will be presented at the 2018 Nordic Africa Institute conference in September and has been submitted for presentation at the International communication Conference in Accra Ghana in November.

Sara M. Watson, an affiliate, continued research on data, personalization, and artificial intelligence. She published tech criticism work in the *Washington Post*, *Wired UK*, *NiemanLab*, and *Columbia Journalism Review*. She presented at public events as a speaker and moderator at South by Southwest, re:publica, Facets, WBUR's Radio Boston, Fast Company, and MIT Communications Forum. Watson returned to Singapore and is continuing research on international data regimes and is experimenting with alternative media and forms for technology criticism to reach different audiences.

Sarah West, an affiliate researcher, successfully defended her doctoral dissertation, "Cryptographic Imaginaries and Networked Publics: A Cultural History of Cryptography, 1967–2017". She also published research on social media content moderation in *New Media & Society* and the *International Communication Gazette*, and began a new project studying the history of journalists' security practices. In the fall, she will join the AI Now Institute as a postdoctoral associate.

3. Contributions to HLS Teaching Program

Fall 2017

- "Technology and Inequality," a course taught by Yochai Benkler, the Berkman Professor of Entrepreneurial Legal Studies at Harvard Law School and Faculty Co-Director of the Berkman Klein Center
- "Patent Law," a course taught by William Fisher, the WilmerHale Professor of Intellectual Property Law at Harvard Law School and Faculty Director at the Berkman Klein Center
- "Intellectual Property Law: Advanced," a course taught by William Fisher
- "Human and Community Rights: Pursuing Justice for Indigenous People," a course taught by Charles Nesson, founder and Director of the Berkman Klein Center and the William F. Weld Professor of Law at Harvard Law School
- "Cyberlaw Clinic Seminar," a course taught by Christopher Bavitz, Clinical Professor of Law at Harvard Law School and Managing Director of Harvard Law School's Cyberlaw Clinic at the Berkman Klein Center
- "Cyberlaw Clinic," a course taught by Christopher Bavitz
- "Counseling and Legal Strategy in the Digital Age," a course taught by Christopher Bavitz and Vivek Krishnamurthy, a clinical instructor in Harvard Law School's Cyberlaw Clinic at the Berkman Klein Center
- "Compliance and Computation Overview," a course taught by John DeLong, a fellow at the Berkman Klein Center

- “Advanced International Trade Law,” a course taught by Mark Wu, Assistant Professor of law at Harvard Law School and a Director at the Berkman Klein Center

Spring 2018

- “Teaching Copyright,” a course taught by William Fisher
- “Music and Digital Media,” a course taught by Christopher Bavitz
- “International Trade Law,” a course taught by Mark Wu
- “Fair Trial,” a course taught by Charles Nesson
- “Cyberlaw Clinic Seminar,” a course taught by Christopher Bavitz
- “Cyberlaw Clinic,” a course taught by Christopher Bavitz
- “Copyright,” a course taught by William Fisher
- “Comparative Digital Privacy,” a course taught by Urs Gasser, Executive Director of the Berkman Klein Center and professor of practice at Harvard Law School
- “Advanced Topics in Evidence,” a course taught by Charles Nesson

Winter 2018

- “JuryX Workshop,” a class taught by Charles Nesson
- “Communications and Internet Law and Policy,” a course taught by Yochai Benkler

4. Participation of Harvard Law School Students in Program Activities

HLS students have been involved in activities across the Center’s programs throughout the past year. They are invited to all of the Center’s public events and are specifically sought out through promotional efforts to attend the ones that might be most relevant to them. In the past year the Center co-hosted two public events with HLS student organizations, both of which drew a large student crowd. The first, “[The ‘Monkey Selfie’ Case: Can Non-Humans Hold Copyrights?](#)” was co-sponsored by the Harvard Law School Animal Law and Policy Program and the Harvard Law School Student Animal Legal Defense Fund and featured a panel of experts in cyberlaw, copyright, and intermediary liability. The second, “[Net Neutrality in the United States](#),” was co-sponsored with the *Harvard Journal of Law & Technology*. While much of the Center’s student engagement occurs within the Cyberlaw Clinic, the Center also hires students as research assistants and interns to work alongside staff, faculty, and fellows on a variety of projects including, in the past year, the Berklett Cybersecurity project, the Responsive Communities initiative, and the Privacy Tools project. The spring 2018 Assembly course, a joint HLS-MIT endeavor taught by Jonathan Zittrain and Joi Ito that covered emerging problems in the artificial intelligence and governance space included students from HLS and MIT, and members of the Assembly program. HLS students have also contributed to Berkman Klein’s involvement in the GNI this year, most notably through their work on developing the GNI’s new Assessment Toolkit, as well as the preparation of research memos for GNI staff on a number of emerging legal issues, as well as working on the Caselaw Access Project, Perma.cc, and H2O in a variety of ways. Both the Berklett Cybersecurity project and metaLAB have provided opportunities for HLS students to join discussions and learn about the projects’ ongoing work.

5. Faculty Participation

While the research and projects conducted at Berkman Klein are deeply collaborative, the faculty directors are central to both the intellectual community and innovative research directions pursued by the Center. As principal investigators of each project at the Berkman Klein Center, the faculty has expertise that has been critical to the impact of the Center's work in the past and will continue to spur the creation of new projects and initiatives as we face emerging challenges in the field.

This past year, for example, Berkman Klein Center Faculty Co-Director and Harvard Law School Clinical Professor Christopher Bavitz led an AGTech Forum, which fostered a collaborative space for state attorneys general and tech creators and developers to discuss the intersection of technology and policy. Professor Jeffrey Schnapp and metaLAB revealed the early stages of Curricule, a curriculum-mapping experiment that will give Harvard students the ability to visualize data and explore analytics for browsing and selecting courses. The project was commissioned by Harvard's Faculty of Arts and Sciences and offers a unique lens into advising at Harvard.

The Assembly program, the brainchild of Jonathan Zittrain that brings developers, managers, and tech industry representatives together to learn about Internet policy while completing hands-on projects, hosted its second successful cohort of students. Zittrain also co-taught this year's Assembly class "Ethics and Governance in Artificial Intelligence" with MIT Media Lab Director and faculty affiliate Joi Ito, and continues as principal investigator on a number of other projects.

Susan Crawford continues to lead the Responsive Communities project at the Berkman Klein Center, and also taught Harvard Law School's Responsive Communities Lab, a cross-listed course for law, design, policy, and business students across the university, for the second year. Stuart Shieber continued as PI for the Harvard Open Access Project. Mark Wu, William Fisher, and Ruth Okediji led the Global Access in Action project, which this year expanded its pilot project to develop a legal framework to address the sustainability of low-cost medicine supply. Executive Director Urs Gasser was involved in a broad range of events hosted by the Center, both nationally and internationally, in addition to serving as PI on various research efforts.

6. Other Contributions to the HLS Community

The Ethics and Governance of Artificial Intelligence Initiative organized an alumni panel on AI and the Law at the Harvard Law School bicentennial celebrations, as part of the "HLS in the Community" events. The panel was hosted and moderated by Urs Gasser, with members from the Center community including Aida Joaquin Acosta, Kathy Pham, Ryan Budish, and Jessica Fjeld, who contributed lightning talks about specific topics related to autonomous vehicles, intellectual property and creativity, governance, and ethical technologies.

Youth and Media team members presented their work on several occasions at Harvard: In November 2017, the team presented on artificial intelligence and education during an (Un)Colloquium, a series of interdisciplinary and interactive discussions engaging members of the Berkman Klein/Harvard Law School and MIT Media Lab communities. In April 2018, Youth and Media Director Sandra Cortesi

presented research as a guest lecturer during the “Comparative Online Privacy” course at Harvard Law School.

metaLAB is helping to envision a maker-space for the HLS community, propositionally in the works for Lewis Hall. This maker-space would be a resource for extracurricular activity but would have productive clinical, pedagogical, and communications contributions to make to the law school as well. The Harvard Law School Library’s Caselaw Access Project affords comprehensive bulk access to US case law to all members of the Harvard community. Perma, an open-source user-directed solution to link rot developed by the Harvard Law School Library, benefits nearly every HLS law journal and the scholarship of several HLS faculty members; it prevents “link rot”, or the process by which online hyperlinks become invalid or return errors over time.

In April 2018, Professor Chris Bavitz and Nikki Bourassa, with participation from Professors Jonathan Zittrain and Charles Nesson, convened a diverse group of experts and Harvard Law School alumni for a “hackathon” on issues at the intersection of speech, technology, and online discourse. With backgrounds in industry, academia, and civil society and specialties ranging from countering violent extremism to platform governance to civil liberties, experts shared lightning talks and advised participants as they worked through challenges including online harassment, disinformation, and violent extremism. The talks will be turned into a series of case studies in the fall of 2018.

Chris Bavitz served as a mentor for the HLS Emerging Leaders program. Faculty Chair Jonathan Zittrain hosts semi-regular lunch gatherings with HLS faculty interested in tech issues and also served on the Search Advisory Committee for the HLS Dean (2017).

7. Law Reform and Advocacy

The Berkman Klein Center pursued a number of law reform and advocacy projects this year, primarily through the Cyberlaw Clinic. The Clinic regularly represents clients in *amicus* and other policy advocacy projects. For example, the Clinic was involved in the preparation of a letter from Harvard and MIT-based faculty to members of the Massachusetts legislature about the use of risk assessment tools in the criminal justice system. Similarly, the Center, in collaboration with the Stanford Criminal Justice Center, created a forum for police chiefs, government officials, academics, and civil liberties watchdogs to discuss police technology. As a result of the meeting, Clinic students created a pocket guide to responsible procurement of technology, which will be disseminated to police departments around the United States. Also, this year the Clinic advised an international media advocacy organization on the potential impact of proposed legislation in several Caribbean countries on press freedom. These provide only a brief glimpse into the Cyberlaw Clinic projects; additional activities can be viewed in the Cyberlaw Clinic section of this report.

8. Connections to the Profession

The Berkman Klein Center’s activities reach a wide range of experts and practitioners across a breadth of sectors. As a multidisciplinary center, we seek to engage decision makers and key stakeholders from the private sector, public sector, civil society, and advocacy communities through our research, teaching, outreach, and community-building efforts. In addition to producing rigorous scholarship, we connect it to

practice by engaging professionals through a variety of modes, formats, channels, and innovative programs. Through global initiatives such as the Global Network of Internet & Society Centers and DigitallyConnected, our work extends internationally and is a forum through which insights from global scholarship are translated across disciplines, geographies, and also inform policy and practice.

Research

Formal research publications, articles, blog posts, and presentations from the dozens of research projects hosted by the Center served as vehicles to connect our scholarship with practice. Below is a list of selected research publications that offer insights and perspectives relevant to the law. As part of the Berkman Klein Center Open-Access Policy adopted in 2014, we provide access to our research as a core practice by sharing publications authored by Center staff and faculty directors on open-access repositories, including the Social Science Research Network (SSRN) and Digital Access to Scholarship at Harvard (DASH).

Encryption Policy and Its International Impacts: A Framework for Understanding Extraterritorial Ripple Effects, by Ryan Budish, Herbert Burkert, and Urs Gasser

Big Data, Health Law, and Bioethics, edited by I. Glenn Cohen, Holly Fernandez Lynch, Effy Vayena, and Urs Gasser

Practical Approaches to Big Data Privacy over Time, by Micah Altman, Alexandra Wood, David O'Brien, and Urs Gasser

Accountability of AI Under the Law: The Role of Explanation, by Finale Doshi-Velez and Mason Kortz
A Layered Model for AI Governance, by Urs Gasser and Virgilio Almeida

Zero Rating & Internet Adoption, Workshop Paper & Research Agenda, by Samantha Bates, Christopher Bavitz, and Kira Hessekiel

Cross-Border Data Access Reform, A Primer on the Proposed U.S.-U.K. Agreement, by Tiffany Lin and Mailyn Fidler

Coming in from the Cold: A Safe Harbor from the CFAA and DMCA §1201, by Daniel Etcovitch and Thyla van der Merwe

The Future of Digital Privacy

Berkman Klein thought-leaders are often called upon to both comment on and offer expert advice about current events and breaking stories. This is particularly true when their research topics graze the headlines of major newspapers for months on end. Early 2018 saw major scandals involving Facebook and Cambridge Analytica, a political consulting firm, which thrust issues of digital privacy into the spotlight. Then, in May 2018, the EU implemented General Data Protection Regulations, forcing companies to reflect on their terms and conditions, and users to reflect on their rights online. These events set the stage for Professor and Executive Director Urs Gasser's new book, *The Future of Digital Privacy: A*

Navigation Aid for Decision-Makers, which will be published by MIT Press later this year as part of its Information Policy Series. The book is based on Gasser’s “Comparative Online Privacy” seminar taught at Harvard Law School, and was reviewed by dozens of former Harvard Law School students. The book contributes advice and insights into today’s most pressing privacy issues and the future of privacy. *The Future of Digital Privacy* is also rooted in work from the Berkman Klein Center; it relies on the successful work of the Berkman Klein Center’s Privacy Tools Project, which was made possible by the National Science Foundation.

AGTech Forum

Chris Bavitz and Kira Hessekiel, collaborating with James Tierney from Harvard Law School’s State Attorney General Clinic, organized a new series of workshops called the AGTech Forum. The first two events brought together state attorneys general and staff from across the country with academics and technologists from the Berkman Klein Center and beyond to discuss emerging issues in technology and how they will impact the work of the state attorneys general. The first workshop, in December 2017, focused on privacy and cybersecurity, and the second, in May 2018, concentrated on artificial intelligence.

Assembly

Assembly, a joint project between the Berkman Klein Center and the MIT Media Lab, gathers developers, policymakers, and project managers for a rigorous spring term course and a 12-week collaborative development period to explore hard problems with running code. In 2018, the program’s second iteration, Assemblers tackled the challenges of artificial intelligence and its governance as part of the Center’s broader work on Ethics and Governance of Artificial Intelligence. The 2018 Assembly cohort had 19 members, including developers, design thinkers, machine learning experts, project managers, and public policy experts. The cohort participated in a class, a week-long design-thinking exercise, and a 12-week development sprint. During the development period, the cohort split into groups, creating projects that solve problems related to ethics in artificial intelligence. The six final projects included a playbook for cities looking to buy or build AI technology, a nutrition label for datasets to encourage higher data standards before developing AI models, and a tool to prevent AI-powered facial recognition in online photos. The full set of 2018 project descriptions can be found at <http://bkmla.org/2018/projects.html>.

Berkman on the Hill

In November 2017, the Center conducted a senate workshop in Washington, D.C., focused on informing and educating policymakers about the state of cyber issues, hosted by senators Brian Schatz (D-HI) and Cory Gardner (R-CO). A bipartisan group of senators and staffers attended the session, which covered topics such as vulnerabilities equities policy, zero-days legislation, regulating platform advertising, election ballot security, the insecurity of the “Internet of Things,” offensive cyber capabilities and use, liability for data breaches, and security for devices used by government officials.

CopyrightX

CopyrightX is a networked course offered under the auspices of the Berkman Klein Center, Harvard Law School, and HarvardX. William Fisher led the course's seventh offering during the spring of 2018, with support from head teaching fellows Evan Mann and Sara Leiman, technical support specialist Ellen Popko, and Geek Cave denizens Justin Clark and Sebastian Diaz. CopyrightX participants included the students in online sections, affiliated courses, and the Harvard Law School "Copyright" course taught by Fisher. Harvard Law School students served as teaching fellows for the online sections, and led their students in weekly real-time seminars and discussion in online forums throughout the 12-week course. In 2018, CopyrightX fielded 15 online sections and 21 domestic and foreign affiliates. Affiliates included universities and organizations in Australia, Brazil, Bulgaria, China, Egypt, Georgia, Germany, India, Italy, Japan, Kenya, Nigeria, the Netherlands, Palestine, South Africa, Uganda, and the UK. This year introduced CopyrightX's first-ever affiliate course with a subject-matter focus; the MIT Libraries affiliate course offered material tailored to the copyright interests of and concerns surrounding libraries and cultural institutions. Final tallies for the number of online section and affiliate graduates of the course, assessed on a combination of attendance and a final exam score, remain under way. A highlight of the semester was a virtual CopyrightX Summit on May 14, which brought together current and former instructors from every continent except Antarctica for presentations on current issues in copyright law, pedagogical interchange, and community-building. [<http://copyx.org>]

Luncheon Series and Public Forums

For over a decade, the Center has hosted our Luncheon Series, a flagship seminar and discussion series. These presentations, which are free and open to the public, attract a loyal following among students, faculty, and others from Harvard and beyond, are webcast live, and are made available as a podcast series. Many important projects and scholarly works have been vetted and influenced early in their trajectory at the Berkman Luncheon Series. This year the Center hosted 26 Luncheon Series seminars and invited notable speakers from Facebook, the Wikimedia Foundation, a number of peer institutions, and the Berkman Klein community itself.

In spring 2018, the Center began hosting a Digital Health Luncheon Series as a part of the Tuesday Luncheon Series. This series is co-hosted with the Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics; the Global Access in Action Project; and the Harvard Global Health Institute.

Workshops, Visitors, and Expert Roundtables

The Berkman Klein Center hosted a number of special guests and visitors over the course of the year. Notable guests included a group of students led by Phillipa Gill, Berkman Klein faculty associate from UMass Amherst ICLab, for a half-day event; a German delegation focused on "Artificial Smartness"; Xianhong Hu, a representative from UNESCO's Division of Freedom of Expression and Development; Rebecca Wexler, who discussed the use of trade secret law to prevent the examination of AI risk score systems in the criminal justice system; Mélanie Joly, Minister of Canadian Heritage; Cathy O'Neil, who presented in our ThursdAI forum; a delegation from the German Graduate School of Management and Law; SwissCom; staff from the Thailand Office of Strategic Electronic Transactions Development

Agency; Bridgit Mendler, who discussed experimenting with the Twitter API to encourage community-building among her millions of followers; the Spanish Secretary of State of Transport and Infrastructure; Colin MacDonald, the New Zealand government’s chief digital officer; and representatives from the Gates Foundation and its civic engagements team.

Digital Media

Our online presence is one path for the Berkman Klein Center to connect outside our community. The Center’s own media, including its websites and mailing lists, anchor its communications and community work. The Center’s primary email lists—for sharing information about new events, videos, research, and conversations in the Berkman community—have grown to reach thousands of people each week. The Center maintains a substantial presence on a growing number of platforms, including Facebook, YouTube, SoundCloud, Instagram, Medium, and Twitter.

Output	2017–2018
www.cyber.harvard.edu	438K user sessions, 855K pageviews
Newsletters	17,544 subscribers
YouTube	13,656 subscribers
Twitter	52,000 followers
Facebook	20,488 followers
LinkedIn	2,472 followers
Instagram	542 followers
Medium	824 followers
Podcasts	28,618 listeners

Nearly all public meetings, presentations, book talks, lectures, and other relevant events are webcast live and archived online in a variety of formats, and continue to attract unique and growing audiences.

In addition to content from our events, we experimented with short-form, easy-to-produce social video, creating bite-size video interviews with fellows and experts working on our projects. A total of 31 videos were shot, edited, captioned, and shared on YouTube (4,763 views) and Twitter (24,100 views). Sharing these on Twitter engages our audience where they are and offers a small taste of the work of our community and the innovative ideas that drive us.

9. Collaborations with Other Schools and Departments at Harvard University

In 2017–2018, the Berkman Klein Center for Internet & Society facilitated collaboration and engagement across Harvard University schools and departments.

One central initiative involved scoping and launching the cross-university working group on Teaching Ethics and Governance of Digital Tech, which convenes key faculty members from within the Harvard community to discuss pedagogical visions for addressing the urgent social, legal, political, and ethical implications of emerging digital technologies. The working group is thinking strategically about how Harvard should engage with these issues and builds on many initiatives and programs across campus. In the fall of 2018, the group convened a cross-disciplinary working group, led by Harvard computer science Professor Finale Doshi-Velez along with Cyberlaw Clinic instructional fellow Mason Kortz, and included Harvard faculty members as well as fellows and researchers from the Berkman Klein Center. The diverse group published a foundational resource on the relationship between interpretability and the law, “Accountability of AI Under the Law: The Role of Explanation.” Also, the Ethics and Governance of Artificial Intelligence initiative hosted “Information Disorder, New Media Ecosystems and Democracy: From Dysfunction to Resilience,” an invitation-only symposium co-hosted by the Berkman Klein Center, USC AnnLab, the Shorenstein Center, Data & Society, and MIT’s Center for Civic Media. The initiative also hosted an alumni panel titled “AI and the Law” at the Harvard Law School bicentennial celebrations, as part of the “HLS in the Community” events.

Other collaborations across Harvard included:

Youth and Media collaborated with Harvard Kennedy School’s Shorenstein Center on Media, Politics and Public Policy to develop learning resources for youth on information verification and quality.

Global Access in Action (GAiA) continued its partnership with the Petrie-Flom Center as part of Digital Health @ Harvard, collaborating on the convening of a conference in fall 2017.

Meetings held by Berklett Cybersecurity were joined by Harvard Law School and John F. Kennedy School of Government faculty, in addition to community involvement as part of Belfer Center for Science and International Affairs work in cybersecurity.

metaLAB developed exhibitions for the Harvard Art Museums, and collaborated on installations in the Science Center and Houghton Library. metaLAB teaches courses and works with students in the Graduate School of Design, and employs undergraduates through the SHARP research fellowship program. Finally, metaLAB is working with the Geek Cave to design a new course-selection platform for the university. The Responsive Communities Lab brought together a range of students from schools across Harvard University, including the Graduate School of Design, the John F. Kennedy School of Government, and the Faculty of Arts and Sciences.

Assembly convened John A. Paulson School of Engineering and Applied Sciences professors James Mickens, Margo Seltzer, and Barbara Grosz, and John F. Kennedy School of Government adjunct lecturer Bruce Schneier.

Through the Privacy Tools Project, the Berkman Klein Center collaborated with Harvard's Center for Research on Computation and Society, the Institute for Quantitative Social Science, and the Data Privacy Lab to develop new computational and legal tools for sharing sensitive research data while protecting the privacy of the individuals in the data. Members of the Privacy Tools team also presented at and participated in events hosted by research centers and programs within the Harvard community, including the Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics and the Graduate Student Council.

The Caselaw Access Project collaborated with the John A. Paulson School of Engineering and Applied Sciences.

Professor Urs Gasser served on the University's Data Science Planning Committee.

Faculty Chair Jonathan Zittrain served on the search committee for the director of Harvard University Press (2017) and the search advisory committee for a new vice president of the Harvard Library (2018). To support the distribution of research outputs produced by the Center, Harvard Open Access Project (HOAP) staff coordinated the deposit of Berkman Klein Center research in Harvard University's institutional repository, Digital Access to Scholarship at Harvard (DASH), and the Social Science Research Network (SSRN), in collaboration with the Harvard Library Office for Scholarly Communication and Harvard Law School Library.

B. Plans for Academic Year 2018–2019

1. Executive Summary

The next academic year will build upon the research, community-building, and managerial efforts we focused on in 2017–2018 and work to enhance our external communication and outreach activities. While we're pleased with our recent accomplishments and have made substantial progress on a number of fronts, we are excited about the opportunity to take our ongoing efforts further in 2018–2019 and to open up new areas of focus.

On the research front, we're looking ahead to Year Two of the Ethics and Governance of Artificial Intelligence initiative, which, building upon the foundational work of this past year, will focus on how automated technologies are reshaping foundational power dynamics in three areas: the relationship between the state and its citizens, the relationship between platforms and society at large, and the increasingly important role of the university.

Across these focus areas, our efforts will include research and data analysis, including the creation of playbooks for regulators and policymakers that include guidance on how to apply existing tools as well as develop new responsive policy instruments and frameworks; and tool-building, including the development of a risk assessment tool database that will help researchers, journalists, and public interest organizations—in addition to municipalities and state legislatures—evaluate procurement options and

legislative actions, as well as mitigate power imbalances and treatment disparities. We'll continue to invest in convenings and other opportunities for idea exchange such as our Challenges Forum, as well as educational efforts such as case studies, learning materials for varied audiences, and courses. We look forward to welcoming our third cohort of "Assemblers," a diverse group of developers and other practitioners who will join us in the spring for a rigorous course and then a 12-week development period when they work together in small groups to solve difficult problems related to the ethics and governance of AI. We're also excited to be engaging students across Harvard with a new effort, TechTopia, which aims to bring together a community of faculty and students to define the role of higher education in preparing students to grapple with the complex social, ethical, political, and legal issues of emerging digital technologies.

In 2018–2019, we will deepen our community-building efforts by continuing to examine and address management and capacity at the Center, guided with the expertise of an outside consultant who has already helped us to develop an action plan for improving internal communications, building management, and leadership skills across the staff and focusing our vision for upcoming senior hires. We will also reaffirm our commitment to diversity and inclusion at the Center, continuing to be mindful of and to celebrate the range of experiences, perspectives, and backgrounds we're privileged to bring together. Building upon efforts of the past year (including establishing new indicators that will help us measure future applicant pools across different diversity metrics and increasing the frequency of discussions of race and diversity in our yearly internal and external program) we'll embed race and diversity even further into the culture of our institution and more actively build relationships with diverse groups external to the Center. We plan to leverage the extended Berkman Klein community to recruit a more diverse application pool by encouraging them to share the application with their communities and networks, and we will extend language within the fellow stipend application regarding lived experience to all future fellow applications.

We also plan to undertake a series of alumni engagement activities in the coming year, as part of a broader emphasis on outreach as part of a multipronged approach toward increasing the Center's visibility. Related efforts will include enhanced media outreach, a greater investment in communications planning embedded with research and project scoping and process, and creating opportunities, such as our AGTech Forum, for researchers to engage with policymakers at the state, national, and international levels.

2. Research, Scholarship and Project Activities

In the coming academic year, research at the Berkman Klein Center will continue along a path that has been developed over the past several years. As in the past, research efforts at the Center will seek to expand in theoretical areas, develop new methods to conduct rigorous empirical analysis, address emerging issues at the nexus of Internet and society, and engage with the broader community of scholars in the field.

Along with collaborators at MIT's Media Lab, the center will continue its work on the ethics and governance of artificial intelligence in 2018–2019 with a focus on how automated technologies are

reshaping foundational power dynamics in three areas: the relationship between the state and its citizens, the relationship between platforms and society at large, and the role of the university.

Autonomy and the State: As government institutions are rapidly adopting artificial-intelligence, algorithms, and machine-learning technologies, accelerating a shift from traditional decision making to automated decision making, we will help to fill a vacuum that currently exists for policymakers, developing best practices, model legislation, empirical research, and informational resources necessary for informed decision making. Building off our work on criminal justice, we will continue our exploration of actuarial risk assessments, which are frequently touted as a neutral way to counteract implicit bias and increase the fairness of decisions made at almost every juncture of the criminal justice system, from pretrial release to sentencing, parole, and probation. We are also developing a risk assessment tool database to help researchers, journalists, and public interest organizations—in addition to municipalities and state legislatures—evaluate procurement options and legislative actions, as well as mitigate power imbalances and treatment disparities. Beyond the criminal justice context, we are engaging directly with policymakers, state governments, and community organizations to provide them with the resources they need to more carefully evaluate the state’s use of AI. This effort builds upon existing work convening state attorneys general and advising the UN’s Chief Executives Board and International Telecommunication Union.

Autonomy and the Platform: A handful of companies increasingly find themselves able to algorithmically influence billions of users in powerful and subtle ways, accelerating a shift from a state-citizen relationship to a platform-consumer one. We believe that protecting individual autonomy in such an environment requires grounding the public debate in rigorous empirical research, developing proving grounds for testing alternatives to existing algorithmic systems, and initiating collaborations that shape the incentives of the platforms over time. This work will build on our exploration of information quality in the last year. Through the Media Cloud research platform, we have already produced a significant study advancing our understanding of the online media ecosystem around the 2016 US elections. We will further extend the impact of the Media Cloud platform by offering our findings and tools to researchers around the world, as well as connecting leading experts to share their insights on cutting-edge questions pertaining to disinformation and harmful speech online. Our own research agenda will continue to incorporate the foundation of open web and social media data collected through Media Cloud to add to the evidence base and help shape our understanding of the networked public sphere. To bolster Media Cloud’s data, we will be integrating work from the Laboratory for Social Machines which will complement our picture of the online social ecosystem with data drawn from still-influential incumbent media sources such as radio.

The University—A Countervailing Force: Given the powerful forces operating through the state and platforms, the importance of the university as a place for both positive assessment and normative judgment has never been clearer. Looking ahead, we will leverage our unique position within an academic environment to develop human capacity in a way that strengthens human autonomy, building safeguards against the challenges to human autonomy that the state and platforms pose. Specifically, we will focus on both education and convening. On the education front, we will develop new pedagogical resources and academic programs that translate between legal and technical theories and support the development of ethics education across disciplines.

We will also use our trusted position as a neutral convener to build bridges across sectors and build an inclusive AI community such as by way of the Challenges Forum, a space where organizations can explore difficult challenges alongside interdisciplinary experts drawn from our community and ultimately generate a set of educational resources (e.g., case studies or input for policy briefings) that will help others grappling with similar challenges. We have already initiated the Challenges Forum with the *New York Times* and will soon be hosting additional sessions with other companies and public-interest organizations, as well as convening a connected course focused on ethical challenges during the coming academic year at HLS.

Building upon the groundbreaking work of Jonathan Zittrain and Jack Balkin, we will continue to develop the “information fiduciaries” concept as a way of describing a new set of responsibilities that platforms, and anyone with whom the platforms share user information, have to the platforms’ users. Drawing on strong interest among congressional staff of both parties to advance legislation, we will continue to pursue this both as an idea grounded in solid theory and as a practical way forward after years of stalemate in the privacy—and, as we see it, autonomy—space.

The Assembly program at the Center will convene complementary experts and continue to bridge an important gap between the academic environment and the realm of industry, further establishing Cambridge as a hub for discussions about AI ethics and governance. Reinforcing the role of universities to address some of the problematic dynamics that have been identified across the field—such as a lack of ethical training, siloed knowledge across sectors and disciplines, gaps in technical knowledge, and challenges of bias and inclusion—will position our initiative to serve as a model for others, helping academic institutions to advance the public interest as AI-based systems shift societal norms and behaviors.

Another area of particular emphasis in the coming year will be the development and integration of data science into the research and work of the Center. Two data scientists, recent graduates of doctoral programs in computer science and computational social science, will contribute to a range of projects across the Center, including the study of information quality and media manipulation and the propagation of harmful speech online. The data science team is actively collaborating with the developers and researchers who work on the Media Cloud project to better leverage the large-scale data applicable to the study of public discourse, media, and democracy. Additional areas of potential integration include our work on youth and media and in the area of social and criminal justice. The Center is also actively collaborating with the Harvard Data Science Initiative, participating in workshops, identifying fruitful areas for research, and more generally building out the structures and mechanisms to best draw upon emerging data analysis methods and tools in conducting rigorous empirically driven research.

The Center has several ongoing and new projects in the area of privacy and cybersecurity that will continue in the coming year. Since 2015 the Berklett Cybersecurity project has convened experts and policymakers to rethink and evaluate the role of foreign intelligence agencies in promoting cybersecurity. This year, the Berklett project team is contemplating ways to build trust in intelligence and cybersecurity, given the shifts in technologies and capabilities we are likely to see in the near term. Also, the team will explore the need for new frameworks for governing surveillance in the 21st century to account for the

expanding array of sources and techniques used by government, including Internet of Things sensors and "lawful hacking."

For the last six years, the Privacy Tools suite of projects has explored privacy models and emerging computer science approaches, like differential privacy, for preserving privacy in data sharing arrangements. The project continues to work on a number of exciting research tracks. Among them are a collaboration with the US Census Bureau exploring the use of new techniques in official government statistics and a collaboration with our computer science colleagues aimed at bridging legal and computer scientists' approaches to privacy.

The AGTech Forum will enter its second year after a successful pilot in 2017. The project will host a workshop during the upcoming year that will bring together technologists and academics with lawyers from state attorneys general offices around the country for an educational workshop on security and privacy issues in consumer protection.

The Internet Monitor project, which has been studying and documenting Internet activity for the past six years, will complete the development and implementation of a platform for identifying and documenting Internet censorship globally with collaborators at the University of Massachusetts, Princeton University, the International Computer Science Institute, the Open Observatory of Network Interference, and the Open Technology Institute at New America.

3. Contributions to HLS Teaching Program

Fall 2018

- "Counseling and Legal Strategy in the Digital Age," a course taught by Christopher Bavitz, Managing Director of Harvard Law School's Cyberlaw Clinic, based at the Berkman Klein Center for Internet & Society, and clinical professor of law at HLS
- "Cyberlaw Clinic," a course taught by Christopher Bavitz
- "Cyberlaw Clinic Seminar," a course taught by Christopher Bavitz
- "Advanced Topics in Evidence," a course taught by Charles Nesson, Professor of Law, Harvard Law School; founder and Director, Berkman Klein Center for Internet & Society
- "Fair Trial," a course taught by Charles Nesson
- "Introduction to Intellectual Property Law," a course taught by Ruth L. Okediji, Professor of Law, Harvard Law School; Director, Berkman Klein Center for Internet & Society
- "Who Is a Fascist? Culture and Politics on the Radical Right," a course taught by Jeffrey Schnapp, Professor of Romance Languages and Literature, Harvard Graduate School of Design; Director, metaLAB (at) Harvard; and Director, Berkman Klein Center for Internet & Society
- "Questions of Theory," a course taught by Jeffrey Schnapp
- "Italian Literature: Supervised Reading and Research," a course taught by Jeffrey Schnapp
- "Direction of Doctoral Dissertations," a course taught by Jeffrey Schnapp
- "Databases, Operating Systems, and Software Design," a course taught by Margo I. Seltzer, Herchel Smith Professor of Computer Science, Harvard John A. Paulson School of Engineering

and Applied Sciences; Faculty Director, Center for Research on Computation and Society; and Director, Berkman Klein Center for Internet & Society

- “Human-Computer Communication through Natural, Graphical, and Artificial Languages,” a course taught by Stuart Shieber, James O. Welch, Jr. and Virginia B. Welch Professor of Computer Science, Harvard School of Engineering and Applied Sciences; and Director, Berkman Klein Center for Internet & Society

Winter 2019

- “Communications and Internet Law and Policy,” a course taught by Yochai Benkler, Berkman Professor of Entrepreneurial Legal Studies at Harvard, and Faculty Co-Director, Berkman Klein Center for Internet and Society
- “Patent Law,” a course taught by William Fisher, Harvard Law School; and Director, Berkman Klein Center for Internet & Society

Spring 2019

- “Cyberlaw Clinic,” a course taught by Christopher Bavitz
- “Cyberlaw Clinic Seminar,” a course taught by Christopher Bavitz
- “Music and Digital Media,” a course taught by Christopher Bavitz
- “Copyright,” a course taught by William Fisher
- “Teaching Copyright,” a course taught by William Fisher
- “Comparative Digital Privacy,” a course taught by Urs Gasser, Executive Director of the Berkman Klein Center for Internet & Society; and Professor of practice at Harvard Law School
- “Fifteen Things (A Secret History of Italian Design),” a course taught by Jeffrey Schnapp
- “Italian Literature: Supervised Reading and Research” a course taught by Jeffrey Schnapp
- “Direction of Doctoral Dissertations,” a course taught by Jeffrey Schnapp
- “Futurisms (a comparative history),” a course taught by Jeffrey Schnapp
- “Databases, Operating Systems, and Software Design” a course taught by Margo I. Seltzer
- “Human-Computer Communication through Natural, Graphical, and Artificial Languages,” a course taught by Stuart Shieber
- “Introduction to Computer Science II,” a course taught by Stuart Shieber
- “Advertising Law” a course taught by Rebecca Tushnet, Frank Stanton Professor of the First Amendment, Harvard Law School and Director, Berkman Klein Center for Internet & Society
- “Trademark and Unfair Competition” a course taught by Rebecca Tushnet
- “Applied Ethical and Governance Challenges in AI,” a course taught by Jonathan Zittrain, George Bemis Professor of International Law, Harvard Law School; Harvard Kennedy School of Government, Professor of Computer Science, Harvard School of Engineering and Applied Sciences; and Co-Founder, Director, and Faculty Chair, Berkman Klein Center for Internet & Society
- “Internet & Society: The Technologies and Politics of Control,” a course taught by Jonathan Zittrain

4. Participation of Harvard Law School Students in Program Activities

In addition to working closely with HLS students through the Cyberlaw Clinic, the Berkman Klein Center will continue to look for opportunities to involve students in our work. Students are invited to all of our public events, and we take special steps to publicize ones we think might hold special interest for students. The Center will continue to hire students as research assistants and to look for opportunities to co-sponsor events with student organizations.

In the coming year, we hope HLS students will play a central role in a new initiative, TechTopia, which aims to bring together a community of faculty and students to define the role of higher education in preparing students to grapple with the complex social, ethical, political, and legal issues of emerging digital technologies and in supporting research in this area that responds to pressing public concerns.

5. Faculty Participation

The Berkman Klein faculty directors will continue to provide intellectual leadership and be involved in a broad range of activities, including research, community programs, outreach, and fundraising over the next academic year, in addition to being involved in the Center's governance.

6. Other Contributions to the Harvard Law School Community

Berkman Klein Center Executive Director Urs Gasser and Co-Director Chris Bavitz both hosted faculty 1L reading groups over the past year and plan to do so again in 2018–2019.

7. Law Reform and Advocacy

The work of the Cyberlaw Clinic will continue to support law reform projects as they arise.

8. Connections to the Profession

AGTech Forum

The AGTech Forum provides state attorneys general with opportunities to engage with a diverse cohort of the innovators who are involved in developing new technologies, and it offers tech developers a chance to understand the how policymakers and enforcers approach their responsibilities. The Berkman Klein Center brings insights from academic and other constituencies to ensure that all sides benefit from dialogue on neutral ground. Through convenings and other events geared toward facilitating dialogue and promoting efficient and effective public-private engagement on cutting-edge technologies, the Forum tackles issues relating to privacy, cybersecurity, and—as part of [the Center's efforts with respect to Ethics and Governance of Artificial Intelligence](#)—AI and algorithms. The first workshop, in December 2017, focused on privacy and cybersecurity, and the second, in May 2018, concentrated on artificial intelligence.

Assembly

Assembly, a joint project between the Berkman Klein Center and the MIT Media Lab, gathers developers, policymakers, and project managers for a rigorous spring-term course and a 12-week collaborative development period to explore hard problems with running code. Each year, the cohort divides into teams to create actionable projects that address real-world problems, either related to ongoing [Ethics and Governance of Artificial Intelligence Initiative](#) work or as part of a new Assembly project. Assemblers are supported by Berkman Klein Center and MIT Media Lab staff and are advised by a board of academics, tech industry professionals, and artificial intelligence experts.

CopyrightX

CopyrightX is a 12-week networked course, offered from January to May each year under the auspices of Harvard Law School, the HarvardX distance-learning initiative, and the Berkman Klein Center for Internet & Society. The course explores the current law of copyright; the impact of that law on art, entertainment, and industry; and the ongoing debates concerning how the law should be reformed. Through a combination of recorded lectures, assigned readings, weekly seminars, live interactive webcasts, and online discussions, participants in the course examine and assess the ways in which the copyright system seeks to stimulate and regulate creative expression. Three types of courses make up the CopyrightX Community: a residential course on “Copyright Law,” taught by Professor William Fisher to approximately 100 HLS students; an online course divided into sections of 25 students, each section taught by a Harvard teaching fellow; and a set of affiliated courses based in countries other than the United States, each taught by an expert in copyright law.

Challenges Forum

As part of the Ethics and Governance of Artificial Intelligence Initiative, we are bringing together industry representatives with experts from across the Center and Media Lab communities to explore emerging ethical, technical, and policy challenges associated with the increased proliferation of AI systems and related technologies. Through interviews and working sessions, we aim to bridge knowledge and trust gaps, as well as create resources such as case studies that engineers, policymakers, students, and others could use to navigate similar situations.

9. Collaborations with Other Schools and Departments at Harvard University

The Center will continue to collaborate with other schools and departments at Harvard in a number of ways, including through co-sponsored events such as the Digital Health Luncheon Series, which is co-hosted with the Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics; the Global Access in Action Project; and the Harvard Global Health Institute.

As in years past, Assembly will convene professors and lecturers from the John A. Paulson School of Engineering and Applied Sciences and John F. Kennedy School of Government, and through the Privacy Tools Project, the Berkman Klein Center will continue to collaborate with Harvard’s Center for Research on Computation and Society, the Institute for Quantitative Social Science, and the Data Privacy Lab to develop new computational and legal tools for sharing sensitive research data while protecting the privacy of the individuals in the data.

metaLAB regularly works with the Provost and the Faculty of Arts and Sciences Dean of Humanities on various projects. One such effort is the development of the course-selection platform [Curricule](#). Curricule will serve as a complement to Harvard's online course catalog, with the goal of using data visualization and other dynamic tools to encourage discovery and interdisciplinary study. A public release and testing are scheduled for the coming year.

The Ethics and Governance of Artificial Intelligence initiative has a number of collaborations across the university, including the Working Group on Explanation and the Law, which includes members from the John A. Paulson School of Engineering and Applied Sciences and the Department of Psychology and Center for Brain Science, as well as the Berkman Klein Center and Harvard Law School. Additionally, the Media and Information Quality track has ongoing conversations with the Shorenstein Center, which have in the past resulted in co-sponsored events and will likely result in a workshop this fall. Another collaborative project of the initiative is TechTopia, which aims to bring together a community of faculty and students to define the role of higher education in preparing students to grapple with the complex social, ethical, political, and legal issues of emerging digital technologies and in supporting research in this area that responds to pressing public concerns. Primary components of the program currently include piloting student programming through the creation of an interdisciplinary cohort of students with diverse backgrounds and skill sets; mapping the current curricular space at Harvard; facilitating interdisciplinary curriculum development at the intersection of digital technology, ethics, law, and policy; and bringing faculty, academic personnel, and students into conversation with one another around pertinent research questions.

The Center is also actively collaborating with the Harvard Data Science Initiative, participating in workshops, identifying fruitful areas for research, and more generally building out the structures and mechanisms to best draw upon emerging data analysis methods and tools in conducting rigorous empirically driven research.