**Berkman**

The Berkman Center for Internet & Society
at Harvard University

**Annual Report**
Academic Year 2012-2013

# EXECUTIVE SUMMARY

In planning for the 2012-2013 academic year, the Berkman Center team identified a number of institutional activities that exemplify key aspects of our collective efforts and organized them into 'modes of operation'. These modes emphasized consolidation, implementation, leverage, acceleration, and incubation. Under the leadership of Faculty Director William W. Fisher and Executive Director Urs Gasser, the Center has driven and supported significant achievements in each of these arenas over the past year.

**A.      Areas of Consolidation: Events**

Events continue to occupy a vitally important place in the intellectual and social life of the Center. They are an important mode through which we build community, foster new conversations and dialogue, share research findings, explore innovative ideas, and launch new initiatives. We continually aim to experiment with new formats, sizes, venues, and models, applying these novel approaches as we consolidate the volume of activities we host. Beginning in the fall of 2012, we committed ourselves to enhancing the effectiveness of our larger workshops and conferences even further and to complementing them with a broader array of working meetings, roundtables, and informal gatherings. We fine-tuned these efforts in order to learn, road-test, and develop alternative means to engage diverse stakeholders and partners in our work; this allowed us to foster new synergies with research and project activities, present our work in novel ways, and promote network building and community development.

Over the past year, we hosted a number of large events. On October 11-12, 2012, the third major public event of the Digital Public Library of America (DPLA) project took place at the Chicago Public Library and brought together hundreds of librarians, technologists, creators, students, government leaders, and other stakeholders for two days of discussion and presentations. Despite the unfortunate rescheduling of the April 18-19

launch event due to the tragic events during the Boston Marathon, we nevertheless celebrated the important milestone with a smaller gathering of key partners and the DPLA team. We look forward to supporting DPLAfest, scheduled to take place in October 2013.

The launch of our Network of Interdisciplinary Internet & Society Research Centers (NoC) at a December 2012 symposium marked a significant milestone for an area of strategic importance for the Center. Designed to bring together international participants around relevant areas of focus and to inaugurate the NoC, "Internet-Driven Developments: Structural Changes and Tipping Points" convened participants from five continents and 22 countries, including old and new collaborators from the Global South. International co-hosts included: the Alexander von Humboldt Institute for Internet & Society, the Centre for Internet and Society Bangalore, the Center for Technology & Society at the Fundação Getulio Vargas (FGV) Law School, Keio University SFC, the MIT Media Lab, the MIT Center for Civic Media, and the NEXA Center for Internet & Society at Politecnico di Torino.

In addition, the Center supported the convenings of the Federal Communications Commission's Open Internet Advisory Committee (OIAC), which held a series of meetings throughout the fall and spring. Under the leadership of Director Jonathan Zittrain, the Committee's role is to track and evaluate the effects of the FCC's Open Internet rules, and to provide any recommendations to the FCC regarding policies and practices related to preserving the open Internet. With event planning and research help from the Berkman Center team, the Committee tackled a number of key issues relevant in the wake of the FCC's Open Internet Report and Order, including a study of Internet service providers' network management policies, a proposal for an Energy Star-style labeling system for Internet access, and refined criteria for the FCC's definition of a 'specialized service'. The Committee also produced a report on AT&T's restriction of Apple's FaceTime video call service to customers on certain plans. The OIAC convened public meetings at Harvard University, Northeastern University, Stanford University, and at FCC headquarters in Washington, DC, all of which were also webcast live online.

In addition, a number of smaller workshops have helped us to develop new ideas and propel forward ongoing work. Project "show and tells" proved to be a useful event format that allowed us to engage key partners at a critical moment or milestone in the life cycle of any one research project, surface and identify synergies, and establish and strengthen opportunities for collaboration. For example, in April 2013, under the leadership of Director Yochai Benkler and in close partnership with our partners at MIT's Center for Civic Media, the Media Cloud team hosted a half-day meeting with collaborators from Morningside Analytics and Betaworks to discuss data collected and share initial insights from our collaborative research on media coverage of the 2012 California ballot propositions. The Internet Robustness project adopted a similar model for a roundtable discussion in March 2013 that focused on engaging key technical project partners alongside selected Berkman staff, affiliates, and guests to critically review and gather external input on the proposed functional requirements, design, technical alternatives, and components of the Robustness protocol. In May 2013, the team also hosted its USAID

and Department of State grant partners for a day of meetings during which first year updates and key feedback were discussed.

Internally, we employed a similar model for sharing ideas and engaging community members in project developments, open questions, and milestones. Through a series of informal lunches, starting with our DPLA team, we have invited staff, faculty, principal investigators, key partners, and others to come together to workshop, brainstorm, critique, and collaborate around open questions and salient issues. In addition to fostering important buy-in and attention from our community, such gatherings yield creative ideas, solutions, and feedback that can inform and support a project's trajectory. A similar community update from our Geek team surfaced a number of exciting areas for synergy across technical development, research efforts, and project work.

Finally, as in years past, we have continued to host informal talks and closed-door meetings with notable guests from diverse sectors and geographies. For example, in 2012-2013, Berkman Center visitors included: Michael Strautmanis, Deputy Assistant to the President and Counselor for Strategic Engagement to the Senior Advisor; Jon Leibowitz, former Chairman of the Federal Trade Commission; Peter Frensch, Vice President for Research at Humboldt University; Alex MacGillivray, General Counsel of Twitter; Richard Price, CEO and Founder of Academia.edu; Elliot Schrage, VP of Communications and Public Policy at Facebook; Neelie Kroes, VP of the European Commission (EC) and one of the EU leads on digital strategy; Raj De, General Counsel of the National Security Agency; and Brazilian Congressman Alessandro Molon. In addition to offering key actors in government, industry, academia, and elsewhere a closer window into our work, these meetings enable us to hear about their priorities and foster new opportunities for discussion and collaboration.

## B.    Areas of Implementation: Research Projects

2013-2013 also saw the implementation of a number of key research initiatives and other ambitious activities, with a particular emphasis on complex, multi-year projects that have continued to make significant strides towards their central objectives. As signaled in our 2012 report, the following projects have made important headway:

- *DPLA*: In April 2013, as the capstone event of a two-year planning process led by Director John Palfrey, the DPLA successfully launched a beta front-end portal, dp.la, which consists of an open-source metadata platform containing more than 2.4 million records, and an open application programming interface (API). In addition to the third plenary meeting in Chicago in October 2012 and the launch events in April 2013, the DPLA team supported a number of activities and workshops all over the country, including, for example, an "Appfest" hackathon in November 2012 at the Chattanooga Public Library, which brought together nearly 60 technologists, designers, developers, and librarians to envision and code tools using DPLA's open API. Other important milestones include the formation of an inaugural Board of Directors—composed of public and research librarians, technologists, intellectual property scholars, media studies scholars, and business

experts from around the country—and the establishment of the DPLA as an independent 501(c)(3) nonprofit. With the hiring of founding Executive Director Dan Cohen in Spring 2013, along with three initial staff members, the DPLA is well positioned to make progress on its ambitious goals in the coming year. While the Berkman Center team has continued to support and engage the organization in its first start-up year and will do so in the future, our role will evolve towards one of research and learning partnership over the coming years.

- *Internet Robustness*: The Internet Robustness project team, led by Jonathan Zittrain in collaboration with Urs Gasser, completed the first year of this three-year project designed to improve the robustness and resilience of Internet communications in the face of network disruptions. This year, the project team conducted interviews associated with different use cases and carried out an extensive review of technological approaches. These findings were used to define the form and scope of the project to be implemented over the next two years: a set of exemplary practices embodied in code that will promote a distributed approach to mitigating Internet disruptions and leveraging the pro-social impulses of Internet users. The project team concluded that the appropriate shape of this protocol is a version of the promise of Jonathan Zittrain's "Mirror-As-You-Link" proposal, which initially inspired the project. This approach will allow mirrored copies of Internet content to be saved when someone links to another's content. The mirrored content, stored on the server that hosts a mirrorer's website, will then be offered to readers when it is not possible to access the content via the original link. While the first version of the protocol will support individual adopters, the team is aiming to support and encourage prolific use of the protocol and enhance the pro-social benefits for the broader Internet community.

- *Internet Monitor*: Under the leadership of Urs Gasser and Jonathan Zittrain, Internet Monitor (IM) seeks to evaluate, describe, and summarize the means, mechanisms, and extent of Internet content controls around the world. This year, the IM team laid the groundwork for the upcoming launch of its website in addition to the publication of its first annual report on the state of the Internet. The project team has created a detailed technical scope for the IM platform, which will present data interactively to scholars, activists, and policymakers; the website will include access to a broad range of metrics that measure different aspects of Internet access, control and activity. These and other efforts aim will support a future *Internet Health Organization*, which will seek to facilitate and coordinate between the many organizations working to monitor the health of the Internet. In the coming year, Internet Monitor and the Internet Health Organization will aim to act as incubators, catalysts, and aggregators of these and other efforts.

## C.     Areas of Leverage: Collaborations and Partnerships

As noted in the first section, a seminal event for the Berkman Center was the inaugural Network of Interdisciplinary Research Centers (NoC) Symposium, which the Berkman Center team hosted with eight international co-hosts. Led by Urs Gasser with important contributions by Terry Fisher, Charles Nesson and Jonathan Zittrain, the event signified

the culmination of a sustained effort to build a global network of cooperation, drawing upon many years of smaller-scale collaborations among researchers, practitioners, technologists, policy-makers, activists, and others from around the world. The NoC aspires to play a valuable role in encouraging cross-national, cross-disciplinary conversation, research, and policy engagement regarding the most pressing questions around digital technologies, social change, policy, and regulation.

In addition to the substantive sessions, the launch event played an important role in helping partners to identify and crystallize key questions related to participation, activities, modes, and mission of the network. The NoC aims to serve numerous constituencies and interests, including academia, civil society, business actors, policy-makers, and (most importantly) the public, by: addressing and exploring strategic issues with societal impact at the intersection of networked technologies, markets, culture, and law from a genuinely transnational and interdisciplinary perspective; coordinating and leveraging research, teaching, and outreach activities to advance the public interest in these thematic areas; and building capacity and encouraging collaboration across national and organizational barriers, with particular attention to the Global South.

The gathering also yielded a plan for next steps and collaborative projects—synthesized in a roadmap—as well as a set of guiding principles for the Network, which were published by the Steering Committee in Spring 2013. In May 2013, Network participants also convened their first regional event in Istanbul, at which Charles Nesson presented a vision for online civic education; there are plans for similar gatherings in the coming months in venues including Brazil, Europe, and Asia, and plans for a gathering in Africa are also underway. In addition to collaborative events, participants have also begun to scope out and discuss next steps toward comparative research projects, including efforts concerning the role of intermediaries in and national approaches to online privacy. Another focal point is the development of a shared, international, online curriculum, and an associated teaching and learning effort. During the coming years, with the strong support of the Berkman Center, the NoC will continue to build capacity, widen its community, and encourage its participants to engage with the central issues that define both scholarship and practice related to new technologies and the Internet.

## D.      Areas of Acceleration: Innovation and Experimentation in Teaching

The Berkman Center strengthened its support of innovation in teaching and learning throughout 2012-2013. In addition to course offerings by Center faculty, we have continued to invest in and develop open-source online educational resources and materials, including the H2O suite of classroom tools, a Web-based platform to electronically create, edit, organize, consume, and share course materials. H2O has continued to expand through support from the Harvard Law School Library: in addition to being utilized in five HLS classes, it added a number of new features, and in Fall 2012, became publicly available for teachers across the country—and the world—to create free, adaptable classroom materials to remix and share under a Creative Commons license.

Taught by Terry Fisher and offered during Spring 2013 on the edX platform, CopyrightX is emblematic of next-generation, networked approaches to online learning and teaching. A twelve-week networked distance-learning course, the course explored the current law of copyright and the ongoing debates concerning how that law should be reformed through a combination of pre-recorded lectures, live webcasts, and weekly online seminars led by Harvard Law School (HLS) teaching fellows. When designing the course, Fisher and the course team considered ways to improve upon the dominant design features of many emerging massive open online courses ("MOOCs"). In particular, their model utilized innovative features including limited enrollment and small discussion sections; experimental combinations of materials and technologies; and live events attended by the HLS students and the CopyrightX teaching fellows along with the real-time virtual presence of edX students. The course team is still analyzing the rich body of data that the course generated, but all indicators suggest that it was a great success in terms of the utility of small group discussions (which seem to have enhanced learning and retention), and the development of knowledge among both the teaching fellows and the students about the copyright system. Going forward, CopyrightX will act as an important model from which to build and experiment with additional Center-supported online courses, including the second iteration of this course in Spring 2014.

The Berkman Center's efforts to promote innovation in teaching and learning were also supported by two important appointments during the 2012-2013 academic year. In Summer 2012, Jonathan Zittrain accepted a position as HLS's Vice Dean of Library and Information Resources and has taken on a leadership role at the Harvard Law School Library. This spring, Harvard Law School announced the appointment of Urs Gasser as a Professor of Practice, a title given to outstanding individuals whose teaching is informed by extensive expertise from the worlds of law practice, the judiciary, policy, and governance.

**E.      Areas of Incubation: Translating Ideas into Research and Practice**

During the past year, we have incubated and supported a number of projects focused on translating concepts and insights from research into practical interventions and solutions—whether in the form of policy recommendations, practice guides for interested stakeholders, or other concrete actions. Examples in this arena include:

- *Cyberlaw Clinic*: A pillar of our practice-based work is the Berkman Center's Cyberlaw Clinic, which engages HLS students in real-world litigation, licensing, client counseling, advocacy, and legislative projects and cases that cover a broad spectrum of legal issues. During the past year, the Clinic enrolled 53 students, its largest number to date, and expanded its team of supervising attorneys. With the departure of Director Phil Malone, who has expertly led the Clinic for over nine years, the Clinic recently promoted Christopher T. Bavitz to Managing Director of the Cyberlaw Clinic. Director Susan Crawford, who will be a visiting professor at Harvard Law School in 2014, will serve as a senior advisor to the Clinic during that time.

- *Civic Innovation in City Government*. Building upon a series of visitors and workshops examining open data, open government, and civic innovation, and led by Director Susan Crawford, in November 2012, the Berkman Center hosted "Empowering City Innovators: A Meeting on City Innovation" in collaboration with the Harvard Kennedy School, including the Shorenstein Center on the Press, Politics, and Public Policy; the Center for Public Leadership; the Ash Center for Democratic Governance and Innovation; and the Institute of Politics. In addition to identifying opportunities for cross-city action, collaboration, development, and ongoing exchange in areas of urban need, such as education, healthcare, and economic development, participants discussed collaborative projects concerned with capacity building for big data systems, new performance measures for cities, and the creation of a wiki outlining best practices on cities' uses of personal— especially student—data. Other tangible outcomes include an upcoming case study on the Mayor's Office of New Urban Mechanics (MONUM), with a particular focus on the "311" system put forward by Citizens Connect and the transformation of the city's approach to engaging constituents and responding to service requests.

- *Student Privacy Initiative*. A key element of our growing suite of privacy efforts, the Student Privacy Initiative is designed to prompt and sustain a multi-disciplinary, multi-stakeholder conversation on student privacy in the age of cloud computing and connected learning. The project began this spring with a conversation among representatives from industry, academia, policy, and the nonprofit world who are engaging with key questions regarding how privacy issues intersect with existing policy regimes, as well as with emerging developments in educational theory and institutional practices. The conversation surfaced important ideas for next steps, including data-driven and research-based analyses of emerging business models and pressures tied to data collection and 'big data'. The Initiative plans to consider student privacy and 'the cloud' in a holistic way that ultimately hones a shared set of practices designed to support the many potential benefits of cloud-based technologies in educational settings.

- *HOAP and the Office for Scholarly Communication*. In May 2013, Peter Suber, a Berkman Fellow and Director of the Harvard Open Access Project, was appointed as Director of the Office for Scholarly Communication. His new role closely aligns with his academic and research affiliations, with a decided focus on translating those experiences into practice. A key aspect of his work will be in support of a common vision for opening access to cutting-edge research to all who can make use of it. Integrating the two roles into one position will allow the projects to better share strategies, staff, resources and knowledge, and accelerate the progress of open access both within and beyond Harvard.

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# I. REPORT OF ACTIVITIES

## A. Teaching, Practice, and Advocacy

Since the Berkman Center's inception, its top priority has been teaching across the wide range of our areas of inquiry.

### 1. Contributions to Harvard's Teaching Programs

Berkman faculty, staff, and fellows taught a number of courses at Harvard College, Harvard Graduate School of Design, Harvard Law School, Harvard Business School, and the Harvard Kennedy School during the 2012–2013 academic year, including:

*Fall 2012*

- "Communications and Internet Law and Policy", taught by Jack N. and Lillian R. Berkman Professor of Entrepreneurial Legal Studies and Berkman Center Director Yochai Benkler at Harvard Law School;
- "Digital Power, Digital Interpretation, Digital Making", a seminar taught by Professor of Romance Languages and Literatures, Director of the metaLAB (at) Harvard, and Berkman Director Jeffrey Schnapp and Professor of Law and Computer Science and Berkman Center Director Jonathan Zittrain at Harvard Law School, in partnership with Morgan and Helen Chu Dean and Professor of Law Martha Minow and Pellegrino University Professor in History of Science and Physics at Harvard University Peter Galison;
- "Evidence", taught by William F. Weld Professor of Law and Berkman Center Director Charles Nesson at Harvard Law School;
- "Field 1 Foundations", taught by Andreas Andresen Professor of Business Administration, Senior Associate Dean for International Development at Harvard Business School, and Berkman Center Director Felix Oberholzer-Gee at Harvard Business School;
- "First Year Marketing", taught by Harold M. Brierley Professor of Business Administration and Berkman Center Director John Deighton at Harvard Business School
- "Freshman Seminar 43z: Cyberspace in Court: Law of the Internet", taught by Clinical Professor of Law and Berkman Center Cyberlaw Clinic Director Phillip Malone at Harvard College;
- "Information Law and Policy: Advanced Problem Solving Workshop", taught by Stanton Visiting Professor of the First Amendment and Berkman Center Director Susan Crawford at Harvard Law School;
- "Intellectual Property Law: Advanced", taught by WilmerHale Professor of Intellectual Property Law and Berkman Center Faculty Director Terry Fisher at Harvard Law School;
- "International Investment Law", taught by Assistant Professor of Law and Berkman Center Director Mark Wu at Harvard Law School;

- "International Trade", taught by Mark Wu at Harvard Law School;
- "Library Test Kitchen", taught by Jeffrey Schnapp at the Harvard Graduate School of Design;
- "Practical Lawyering in Cyberspace", taught by Phillip Malone at Harvard Law School;
- "Solving Problems Using Technology", taught by Susan Crawford at the Harvard Kennedy School;
- "Trademark", taught by Terry Fisher at Harvard Law School.

*Spring 2013*

- "The American Jury", taught by Charles Nesson at Harvard Law School;
- "Copyright", taught by Terry Fisher at Harvard Law School (offered concurrently through edX—in addition to the Executive Summary, please see Curricula and Materials Development for additional detail on CopyrightX);
- "CS187: Introduction to Computational Linguistics", taught by James O. Welch, Jr. and Virginia B. Welch Professor of Computer Science and Berkman Center Director Stuart Shieber at the Harvard School of Engineering and Applied Sciences;
- "Cybercrime", a seminar taught by Phillip Malone at Harvard Law School;
- "Digital Marketing Strategy", taught by John Deighton at Harvard Business School;
- "Evidence", taught by Charles Nesson at Harvard Law School;
- "Field 2 Field Immersion Experiences for Leadership Development", taught by Felix Oberholzer-Gee at Harvard Business School, in Accra, Ghana
- "Government Lawyer", a clinical program in partnership with the office of the United States Attorney for the District of Massachusetts, taught by Phillip Malone at Harvard Law School;
- "Intellectual Property and Business Strategy (IP)", taught by Felix Oberholzer-Gee as part of Harvard Business School's Executive Education Program;
- "Law and the International Economy", taught by Mark Wu at Harvard Law School;
- "Marketing Strategies for Profitable Growth", taught by John Deighton in China, via the Harvard Business School Executive Education Program
- "Music and Digital Media", a seminar taught by Assistant Clinical Director Christopher Bavitz at Harvard Law School;
- "Online Law and Business in a Globalized Economy", taught by Professor of Practice and Berkman Center Executive Director Urs Gasser at Harvard Law School;
- "Strategy-Building and Sustaining Competitive Advantage (SBSCA)", taught by Felix Oberholzer-Gee as part of Harvard Business School's Executive Education Program; and
- "Torts", taught by Jonathan Zittrain at Harvard Law School.

As part of the Berkman Center's teaching program, HLS students participated in the Center's Cyberlaw Clinic, which not only offered seats to interested students in the Clinic's normal program during the fall, winter, and spring terms, but also spearheaded the "Cybercrime", "Practical Lawyering in Cyberspace", and "Music and Digital Media" courses referenced above.

**2.      The Cyberlaw Clinic**

The Berkman Center's Cyberlaw Clinic engages HLS students in real-world litigation, licensing, client counseling, advocacy, and legislative projects and cases that cover a broad spectrum of legal issues. The Cyberlaw Clinic was the first of its kind, and continues its tradition of innovation today. In recent years, the Clinic has become dramatically more popular due to the breadth and complexity of its projects, the variety of clients it serves, and the sophistication of its pedagogy, as well as the ways in which it allows its students to develop rich connections to theory, doctrine, and practice.

During the 2012-2013 academic year, the Cyberlaw Clinic enrolled 53 students, a 37 percent increase over academic year 2011-2012. These students earned a total of 132 credits over the course of the year, and the Clinic's supervising attorneys managed approximately 8,000 hours of student work. During the summer, the Clinic welcomes students from a diverse range of law schools in order to continue its ongoing work for existing clients and help with intake for the coming year; in 2013, the Clinic hired four law student summer interns.

The Cyberlaw Clinic has had one of the longest student enrollment waitlists of any HLS clinical program. To better meet this tremendous demand, the Clinic hired a full-time Clinical Instructional Fellow and a new full-time Clinical Instructor during the 2012-2013 academic year. This expansion brought the Clinic to four full-time teaching staff attorneys, a number that permits it to increase enrollment significantly, expand its areas of practice, and serve a larger and broader client base.

During the past year, the Clinic served a client base that included individuals, small start-ups, nonprofit organizations, academics, and government entities while continuing to integrate clinical student representation and legal support with Center projects. Clinical students provided representation to the following clients during 2012-2013, among others: the Commonwealth of Massachusetts Information Technology Division; the Digital Media Law Project (DMLP); the Digital Public Library of America (DPLA); H2O; the Massachusetts Trial Court's Special Adviser for Access to Justice Issues; the Mayor of Boston's Office of New Urban Mechanics; the New York Public Library; Public Radio Exchange; Racing Horse Productions (producers of the documentary film, "Code of the West"); Recovers.org; StopBadware, Inc.; WBUR's OpenCourt.us project; WGBH; and the Youth and Media Policy Working Group Initiative.

The Clinic has focused on developing and leveraging the deep ties that link scholarship and theory with legal practice. It has both continued to involve leading practitioners in its field as guests in related classes and maintained its ongoing relationship with Cooley LLP, one of the nation's leading high-tech law firms. This year marked the final year of

Cooley's generous support for one of the Clinic's supervising attorneys. Its gift, paired with ongoing collaborations with the firm, has enabled the Clinic to continue to teach and mentor students on a range of litigation, counseling, and transactional/licensing projects and cases.

Representative Cases and Matters

A few prominent examples of cases and projects handled by clinical students during the past academic year include:

**Litigation.** The Clinic, both directly and working in tandem with law firms located around the United States, has represented individuals and organizations in connection with disputes and litigation concerning a range of issues, including court access, online speech, and intellectual property. Of particular note during the 2012-2013 academic year, the Clinic continued its work as co-counsel representing WBUR's Knight Foundation-funded OpenCourt.us project in connection with litigation before the Massachusetts Supreme Judicial Court (SJC) regarding cameras in the courtroom and the right to gather news at public judicial proceedings. Last year, students researched and drafted legal briefs in support of OpenCourt's arguments to the SJC in Fall 2011, resulting in a March 2012 decision in OpenCourt's favor. In Summer 2012, OpenCourt again came before a single justice of the SJC to argue in support of its plans to cover jury trials in addition to pre-trial proceedings. Students helped brief the case and prepare for oral argument, and Chris Bavitz appeared before Justice Botsford in August 2012 to argue on behalf of OpenCourt. Once again, the SJC ruled in favor of OpenCourt, finding that a lower court acted properly in permitting the project to cover jury trials. OpenCourt's ensuing coverage included the first ever jury trial to be live-streamed online in the Commonwealth of Massachusetts.

**Amicus advocacy** is a core part of the Clinic's practice, and the Clinic regularly contributes to amicus briefs throughout the year. For example:

- In May 2013, the Cyberlaw Clinic filed an amicus brief in *Tuteur v. Crosley-Corcoran*, a case pending in the United States District Court for the District of Massachusetts, on behalf of the Electronic Frontier Foundation (EFF) and the DMLP. In the brief, amici asked the Court to join other courts that have addressed the issue and confirm that copyright owners must consider whether a use is fair before sending a Digital Millennium Copyright Act (DMCA) takedown notice pursuant to section 512(c) of the Copyright Act. The case concerns a section 512(f) misrepresentation claim asserted by a plaintiff who alleged that defendant's 512(c) notice was improper, because plaintiff's use of defendant's photograph constituted fair use. The Court issued an order to show cause, suggesting that it might read section 512(f) very narrowly and require only that those sending takedown notices represent that they own the content at issue. The EFF and the DMLP expressed concerns that this view of section 512(f) might undermine the section's effectiveness in balancing users' rights against those of content owners in the DMCA takedown regime.

- In February 2013, the Cyberlaw Clinic filed an amicus brief in *Seaton v. TripAdvisor*, a case pending in the United States Court of Appeals for the Sixth Circuit, on behalf of the DMLP. In the brief, the Court was asked to make clear that website operators that aggregate citizen reports and rely on that data to draw conclusions cannot be liable for defamation based on those conclusions. The case concerns TripAdvisor's 2011 "Dirtiest Hotels in America" list, which was based on travelers' ratings for cleanliness on TripAdvisor. The proprietor of the hotel identified as the dirtiest in America sued TripAdvisor for defamation and false light, and the US District Court for the Eastern District of Tennessee granted TripAdvisor's motion to dismiss the claim. In support of TripAdvisor on appeal, the DMLP argued that opinions based on disclosed facts are not defamation under Tennessee law and that protecting such opinions is consistent with the goals of the First Amendment. By disclosing the reviews on which it relied, TripAdvisor enabled its readers to independently assess the rankings, subjecting its conclusions to the marketplace of ideas rather than the courts.

- In January 2013, the Cyberlaw Clinic filed an amicus brief in *Commonwealth of Massachusetts v. Rousseau*, a case then before the Massachusetts Supreme Judicial Court, on behalf of the EFF. The brief concerned location privacy and responded to a request from the SJC for amicus input on the question of whether a passenger in a vehicle tracked by GPS has the legal right to challenge the collection of their location data. The brief argued that a passenger does have such standing, primarily because of the passenger's reasonable expectation that the government will not track such movements without a valid warrant. The brief also pointed out that courts must be vigilant in applying traditional legal safeguards against unreasonable searches and seizures in the context of increasingly invasive surveillance technologies. In June 2013, the SJC ruled in a manner consistent with the Clinic's position, holding that a person who seeks to object to GPS tracking of a car in which he was a passenger "has standing because he had a reasonable expectation that his movements would not be subjected to extended electronic surveillance by the government through use of GPS monitoring."

  The Clinic also assisted with research in the preparation of an amicus brief filed in the case of *Verizon v. FCC* before the United States Court of Appeals for the District of Columbia. The brief responded to Verizon's argument that the First Amendment denies Congress the power to protect end users from Verizon's censorship and content-based discrimination and encouraged the court to affirm that information utilities are subject to laws designed to protect consumers and preserve the public discourse needed for a free society.

Courts issued decisions this year in at least two cases in which the Clinic had previously submitted amicus briefs, ruling in a manner consistent with positions advocated by the Clinic:

- In October 2012, the Massachusetts Court of Appeals ruled in *Jenzabar v. Long Bow*, in which the Clinic had submitted a brief on behalf of the DMLP and in support of documentary film production company Long Bow Group, Inc. Long Bow faced claims for trademark infringement based on its use of plaintiff's company name in website metatags on web pages containing commentary critical of the company's founder, and the Clinic's brief argued that the Court should reject the claims without even applying a traditional trademark "likelihood of confusion" analysis because such analysis does not make sense when the defendant is using the plaintiff's trademark to criticize the plaintiff. The Court applied a likelihood of confusion test but nonetheless ruled in Long Bow's favor, holding that, because "Long Bow's site actually contains information about Jenzabar and does not sell goods that compete with Jenzabar, the most natural inference arising from Long Bow's use of the word 'Jenzabar' is not of intent to confuse but rather of intent to accurately describe the page's contents, and to bring it to the attention of Internet users searching for information about Jenzabar, who would find it relevant to their search."

- In March 2013, the US District Court for the Northern District of Illinois approved a fee award in favor of the American Civil Liberties Union in the amount of $645,549 in connection with *ACLU v. Alvarez*. The Cyberlaw Clinic contributed to an amicus brief that the Reporters Committee for Freedom of the Press filed in the *Alvarez* case on behalf of itself, Berkman's Citizen Media Law Project (now the DMLP), and other media and press organizations, arguing in favor of a right to record police officers carrying out their duties in public. The Seventh Circuit ruled in favor of the ACLU in May 2012.

**Media Law and Online Speech.** The Cyberlaw Clinic has been very active in addressing a broad spectrum of legal issues faced by web-based media, including bloggers, website commenters, and other online speakers. The Clinic has provided advice and counsel in matters involving First Amendment issues, defamation claims, immunity under Section 230 of the Communications Decency Act, and anonymous speech online. Most notably, the Clinic continued its long-running collaboration with the DMLP; in addition to the amicus briefs described above, the team also contributed to a legal guide, "Newsgathering in Massachusetts", in May 2013. The guide addresses a number of legal issues relevant to journalists in the Commonwealth of Massachusetts, including questions about open meetings and public records laws, laws governing access to court proceedings, and protections under Massachusetts and relevant federal law for journalists and their sources.

**Intellectual Property.** As noted previously, one of the Clinic's most exciting and high-profile projects of the past year has been its ongoing work with the EFF to identify and submit to the United States Patent and Trademark Office examples of relevant prior art in connection with pending patent applications. This project takes advantage of provisions

of last year's America Invents Act, which permit third parties to file such "pre-issuance submissions". The project harnesses the power of the Internet to crowdsource the identification of relevant prior art in specified technical fields. The initial stages of the project have focused on the three-dimensional printing industry, a field in which significant developments have been made by makers and hobbyists, and the second stage involves patents in the mesh networking space. The Cyberlaw Clinic also addressed a wide range of other intellectual property issues during the past year, including:

- The Clinic's students continued work on a project conducted in collaboration with filmmaker Aimee Corrigan that assesses developments in Nigeria's so-called "Nollywood" film industry. The project seeks to offer input on issues surrounding the funding, distribution, and piracy of movies in Nigeria, as well as a broader host of issues relevant to those who create and disseminate Nigerian films worldwide.

- The Clinic advised a longtime media client on issues relating to content aggregation, including legal questions around negotiating deals with media aggregators.

- For more than one client, the Clinic addressed issues relating to both copyright protection of state and federal government works and the intersection between copyright and freedom of information laws.

**Access to Justice.** Since early 2010, the Clinic has been assisting the Massachusetts Trial Court's Special Adviser for Access to Justice Issues with research, advice, strategic planning, and development of best practices for using technology to pursue access to justice initiatives throughout the Commonwealth. Over the past year, the Clinic's students have worked closely with a Court working group to revamp and modernize the Court's online presence and resources. Students identified specific substantive and design approaches to better serve self-represented parties and the public at large, helped audit self-help content on the Court's current websites, and proposed a plan to develop a robust, accessible set of self-help materials on the new websites. They also continued to analyze other states' electronic filing systems in order to determine best practices for deploying such systems in ways that are open and valuable to the self-represented.

**Innovation and Entrepreneurship.** The Clinic has historically advised and supported small startups, innovators, and entrepreneurs in a variety of contexts. During 2012-2013, Clinical Director and Professor Phil Malone served as the primary HLS liaison to Harvard's university-wide Innovation Lab ("the i-Lab"), assisting with legal workshops and resources and helping organize i-Lab advising sessions offered by a number of law firms along with the HLS Cyberlaw and Transactional Law Clinics. Chris Bavitz was appointed liaison by HLS Dean Martha Minow in 2013, and will continue to serve in this capacity in the coming year.

**Child Protection and Youth Online Safety.** The Cyberlaw Clinic continued to promote youth online safety through a wide range of collaborations, and children's privacy issues

in particular were at the top of the agenda for many of the Clinic's clients. Clinical students provided research and related support to clients on questions relating to the Children's Online Privacy Protection Act and Family Educational Rights and Privacy Act as they pertain to children's private information. With so many projects in this area of practice, the Clinic formed an internal working group that allowed students working on youth and student privacy issues to share information and compare notes.

**Consumer Protection and Regulatory Compliance.** The Cyberlaw Clinic has engaged in an array of activities in the area of consumer protection and regulatory compliance. The Clinic continued its work with StopBadware, an anti-malware consumer protection initiative founded at the Berkman Center that now operates as a fully independent 501(c)(3) nonprofit corporation, and specifically helped counsel StopBadware's Ads Integrity Alliance, a multi-stakeholder initiative that addresses the issue of bad ads on Internet advertising networks.

**Filtering, Surveillance, and Censorship.** Filtering, surveillance, and censorship of online activities are problems in countries worldwide. The Cyberlaw Clinic has worked with a number of entities at the forefront of global efforts to document and respond to these issues. During the past year, the Clinic continued to provide legal support to the Global Network Initiative (GNI), a multi-stakeholder group of companies, civil society organizations (including human rights and press freedom groups), investors, and academics that have each adopted a collaborative approach to protecting and advancing freedom of expression in the information and communications technology sector.

Clinic Events and Outreach

Clinical staff organized and participated in a variety of events and outreach to the HLS community and beyond during the past year. In June 2012, the Clinic programmed and hosted a full-day workshop on "Hot Topics in Cyberlaw" at the annual USENIX Federated Conferences Week. Phil Malone, Christopher Bavitz, and Clinical Instructional Fellow Kit Walsh served on the event's Program Committee, along with Berkman Center colleagues Jeff Hermes, Andy Sellars, and Wendy Seltzer. Chris Bavitz moderated and Phil Malone participated in a panel entitled "Intellectual Property and Innovation", and Kit Walsh moderated a panel on "Technology and Democracy".

The Clinic also co-organized "Filling the News Gap in Cambridge and Beyond: Citizen Journalism and Grassroots Media", presented by Cambridge Community Television at the Cambridge Public Library in May 2013, with MIT's Center for Civic Media. The event explored the quickly expanding world of citizen journalism, investigating issues such as: how technology is fueling its growth; how that growth is changing the way we see our world, enact change, and disseminate the news; and how people in communities around the world are taking the initiative to share stories that are left untold by the mainstream media. At this event, the DMLP and the Clinic participated in a workshop addressing legal issues facing those who gather news.

Other events organized or presented by the Clinic included:

- In April 2013, the Cyberlaw Clinic, along with the *Harvard Journal of Law & Technology* and Cooley LLP, presented a talk by Cooley Partner Heidi Keefe entitled "Patent Litigation: Teaching Technology to Judges and Juries". The talk concerned patent litigation and the challenges of teaching complex technological concepts to judges and juries at trial.
- In February 2013, the Clinic co-sponsored a talk by Dr. Arthur Cosby, the William L. Giles Distinguished Professor at Mississippi State University and Director of Mississippi State University's Social Science Research Center. Dr. Cosby described his work with a team of colleagues to develop software that uses social media as a source of natural disaster tracking data.

### 3.      Participation of Students in Program Activities

The Berkman Center works with students across all areas of the Center's research and programs. In 2012-2013, over 100 students collaborated with the Center through direct research engagement with Berkman projects as interns and research assistants, student fellowships in the Berkman fellowship program, teaching fellowships with edX, participation in Center symposia, and other means of collaboration. The relationships Berkman builds with students seek to supplement students' classroom education with experience in a dynamic research and mission-driven environment, thereby supporting students' growth and development over the course of their academic careers and beyond.

*Interns and Research Assistants*

Students who join the Center as interns and research assistants are exposed to many threads of inquiry, granted the opportunity to engage in deeply substantive exploration and production, and offered mentorship from the Berkman Center's faculty, staff, fellows, and broader community. Moreover, interns and research assistants work very closely with one another to co-produce research and carry out peer teaching activities, and are empowered to explore and develop their own research interests. Students work in part-time capacities during the academic year; in summer, interns participate full-time in a 10-week program. Across the academic year and the summer, nearly three-dozen Harvard students joined as interns and contributed to almost all of the Center's formal research projects. Berkman interns come from a broad range of academic backgrounds, from high school students to law students and PhD candidates, and hail from academic institutions all over the world.

Over the summer, 35 interns came from other US-based schools such as the Massachusetts Institute of Technology (MIT), Northwestern University, Columbia University, Cornell University, Brown University, the University of Michigan, Carnegie Mellon University, and many others, as well as from international institutions, including the Polytechnic of Turin in Italy, the University of St. Gallen in Switzerland, and Keio University in Japan (both in collaboration with Berkman through participation in the Network of Centers initiative, described in greater detail in the Current Projects section), Oxford University and the School of Oriental and African Studies at the University of

London in the United Kingdom, Tsinghua University in China, McGill University in Canada, and the Lund University Faculty of Law in Sweden.

*Student Fellows*

The 2012-2013 Berkman fellow community included four Harvard students as student fellows: Matthew Becker, Phil Hill, and Heather Whitney from Harvard Law School, and Diana Kimball from Harvard Business School. Prior to their fellowships, each had developed connections with the Berkman community and faculty through participation in Berkman community events and other channels; Matthew worked as a research assistant on the Interoperability project and participated in faculty courses; Phil was part of the Cyberlaw Clinic and worked on different initiatives related to the music industry with Berkman colleagues; Heather participated in faculty courses; and Diana both worked as a research assistant during her time as a Harvard College undergrad and, while at HBS, served as a teaching assistant in a Spring 2012 course taught by Jonathan Zittrain and John Palfrey.

Students from outside Harvard also joined the 2012-2013 Berkman fellow community, including Molly Sauter, who initially came to the Center through the summer internship program and then continued to work with Jonathan Zittrain as a research assistant before beginning a graduate program at MIT; Jonathon Penney, a doctoral student at Oxford University; Meg Leta Ambrose, a doctoral candidate at the University of Colorado; and Xinlei Lu, a doctoral candidate at Fudan University in Shanghai.

*edX Teaching Fellowships*

This year, 19 HLS students served as teaching fellows for Terry Fisher's online version of his Copyright course, CopyrightX. Each teaching fellow ran a weekly recitation or section meeting with 25 students from all over the globe and had the freedom to create their own materials or teach from a selection prepared by Professor Fisher. All of the students reported that the teaching greatly improved their understanding of copyright, and most found the experience intensely rewarding. Among the 19 HLS teaching fellows were Phil Hill and Heather Whitney, who also were part of the Berkman fellowship program.

**4.     Curricula and Open Educational Resource Development**

**CopyrightX.** This year's launch of CopyrightX epitomizes the Berkman Center's commitment to innovative pedagogical and teaching models. CopyrightX is a twelve-week networked distance-learning course, taught by Terry Fisher, which was offered during Spring 2013 on the edX platform. The course explored the current law of copyright and the ongoing debates concerning how that law should be reformed. Through a combination of pre-recorded lectures by Terry Fisher, live webcasts, and weekly online seminars led by HLS teaching fellows, participants in the course examined and assessed the ways in which law seeks to stimulate and regulate creative expression. The core course team, which supported Professor Fisher in designing, teaching, and assessing CopyrightX, consisted of Project Manager Nathaniel Levy, Berkman Fellow Kendra

Albert, and Technical Support Specialist Edward Popko. Significant contributions also came from Berkman Fellow Justin Reich and Web Developer Justin Clark, as well as Professor David Karger of MIT. As discussed in the Executive Summary, the many innovative features of the course included: limited enrollment and small discussion sections; experimental combinations of materials and technologies; and live events (attended by both HLS students and the CopyrightX TFs, with live webcasts that allowed the edX students to view and discuss the event in real time with their TF and fellow section members).
[http://cyber.law.harvard.edu/people/tfisher/CopyrightX_Homepage.htm]

**H2O.** As part of its commitment to providing open-source online educational resources and materials, the Berkman Center has continued to expand the suite of H2O classroom tools, with a particular emphasis on free, adaptable digital casebooks and modules. In collaboration with the Harvard Law School Library, Project Manager and Technical Lead Dustin Lewis and the H2O team have helped to create full-length digital casebooks on the H2O platform, which were used in five HLS classes, including "Torts" by Jonathan Zittrain and "Criminal Law" by Jeannie Suk. Student response to H2O has been overwhelmingly positive: when surveyed, nearly 80% of Zittrain and Suk's students preferred H2O to a traditional casebook, and two HLS students published a piece in Bloomberg News stating their hope that H2O becomes the norm. With support from the Harvard Initiative for Learning and Teaching and the Library Lab, in Fall 2012, the platform became publicly available to teachers across the country; in May 2013, H2O unveiled a design overhaul that enhanced the platform's usability. The H2O team has also increased its public communications throughout 2012-2013 by establishing a blog and demonstrating the platform for audiences at schools and conferences across America. In light of these community development initiatives, over a dozen teachers from HLS, other law schools, and universities have indicated that they plan to use H2O to develop their own course materials. [http://h2odev.law.harvard.edu/]

**Network of Interdisciplinary Internet & Society Centers.** As described in the Executive Summary, working closely with international partners, the Berkman Center has been incubating a global Network of interdisciplinary Internet & Society research centers (NoC) that builds upon years of smaller-scale collaborations among researchers, practitioners, technologists, policy makers, activists, and other thought leaders. The NoC aspires to support and foster cross-national, cross-disciplinary conversation, research, and policy engagement around the most pressing questions and challenges involving digital technologies, social change, and law, policy, and regulation. Emerging enthusiastically from the launch event, a newly formed Steering Committee under the leadership of Urs Gasser recently developed a set of guiding principles and a roadmap for activities in the first year, which include proposals to develop policy-relevant collaborative and comparative research, host international events, build capacity, and organize learning calls, in addition to other activities.

This spring, members of the network gathered for a second time in Istanbul for a day-long symposium on ICTs, law, and innovation, hosted by the Information Technology Institute at Bilgi University, and to engage in working meetings about evolving network

activities. Suggestions for collaborative projects include the creation of a global Internet & Society curriculum, research on the relationship between online intermediaries and government control of content through extra-judicial means, and a data-driven inquiry into the economic and social implications of the evolving responsibilities of online intermediaries. The network plans to meet again in Rio de Janeiro later this year at FGV Law School, with additional regional and network gatherings in Europe and Africa to come in 2013-2014.  [http://cyber.law.harvard.edu/research/network_of_centers]

# B.  Research and Scholarship

## 1.  New Projects

**Civic Innovation in City Government.** As described in the Executive Summary, in November 2012, the Center welcomed leaders in civic innovation from government, academia, and civil society for "Empowering City Innovators: A Meeting on City Innovation", hosted in collaboration with several centers at the Harvard Kennedy School, including the Shorenstein Center on the Press, Politics, and Public Policy; the Center for Public Leadership; the Ash Center for Democratic Governance and Innovation; and the Institute of Politics. The meeting was made possible through the generous support of the Open Society and Knight foundations. This summer, the project team, led by Berkman Director Susan Crawford and Project Manager Nathaniel Levy is developing a case study on the Mayor's Office of New Urban Mechanics (MONUM), with a particular focus on the 311 system put forward by Citizens Connect and the transformation of the city's approach to engaging constituents and to managing and responding to service requests.

**Freeing the Law.** As part of its efforts to develop and promote open-access policies and practices, the Berkman Center provided project-management, advisory, strategic, and technical support and guidance to a pilot project led by the Harvard Law School Library to scan, digitize, and make publicly and freely available a selection of reported US state and federal case law. With a view toward ultimately attempting to make all such cases publicly and freely available, the FTL Project is undertaking a first phase, with generous support from the Arcadia Fund, to develop key technology and policy frameworks and to identify stakeholder communities. In close collaboration with the FTL Project's focal points at the Library, the Berkman Center and the Cyberlaw Clinic provided extensive assistance across a range of project domains.

**Harvard Open Access Project.** Led by Berkman Fellow Peter Suber, with support from Project Coordinator Kenny Whitebloom, the Harvard Open Access Project (HOAP) fosters open access (OA) within Harvard and beyond, undertakes research and policy analysis on OA, and provides access to timely and accurate information about OA itself. During the 2012-2013 academic year, HOAP consulted pro bono with more than 50 universities, funding agencies, and publishers developing OA policies. The project also ran the Open Access Tracking Project (OATP), helped maintain the Open Access Directory (OAD), and enlarged a growing catalog of society publishers with open access journals. At Harvard, HOAP supervised research by project assistants, HLS clinical interns, and graduate students. HOAP also published a series of tools and outputs in the

past year, including TagTeam, a versatile, open-source, social-tagging platform undergirding the OATP. HOAP also released the first version of a widely endorsed guide to good practices for university OA policies as well as several new reference pages, including one on how to make one's own research OA and another on the Fair Access to Science and Technology Research (FASTR) Act.

**Nigeria Innovation Network.** In collaboration with Mike Best, a Berkman Faculty Associate and Professor at the Sam Nunn School of International Affairs and the School of Interactive Computing at Georgia Institute of Technology, and Ethan Zuckerman, a member of the Berkman Center's Fellowship Advisory Board and Director of the Center for Civic Media at MIT, Berkman Center Managing Director Colin Maclay led the project team in building upon its work with Nigerian civic actors around youth, technology, elections, civic engagement and democracy, endeavoring to understand the dynamics among existing civic actors and newer ones. Aggie, a powerful social media tracking technology developed earlier in the project based on local need and global expertise, was deployed during elections in Ghana and Kenya (following Nigeria and Liberia), and the team is working to systemically support similar innovations both within traditional Nigerian non-governmental organizations and among new civic actors.

**Privacy Tools for Sharing Research Data.** In Fall 2012, with support from the Secure and Trustworthy Cyberspace program at the National Science Foundation, the Berkman Center kicked off a four-year collaboration with the Center for Research on Computation and Society (CRCS) at the School of Engineering and Applied Sciences (SEAS) and the Institute for Quantitative Social Science (IQSS). Leveraging the expertise that each participating institution brings from the fields of law, policy, applied mathematics, computer science, statistical analysis, and social science, the project seeks to develop tools, methods, and policies to further the tremendous value that can come from collecting, analyzing, and sharing research data while more fully protecting the privacy of individuals involved in such studies. The Berkman Center team, led by Phil Malone and Project Manager David O'Brien in collaboration with Kit Walsh, is leading the legal and policy aspects of the work, with a focus on distilling key definitional issues, exploring new regulatory frameworks, and contributing to the larger project customized legal instruments that take into account the specific needs of researchers while enabling reliable mechanisms for protecting research subjects' privacy, transparency, and accountability.  [http://privacytools.seas.harvard.edu/]

**The Student Privacy Initiative** builds upon the Berkman Center's long-standing interest in, and work on, privacy issues. The project, led by Urs Gasser with support from Project Manager Alicia Solow-Niederman, seeks to surface and evaluate central privacy issues and opportunities that may emerge when educational institutions consider moving to "the cloud." Its mode relies on open dialogue and collaboration with school administrators, academics, industry representatives, and policy officials as well as students, parents, and teachers to develop a shared set of good practices that both respect student privacy and support the many potential benefits of cloud-based technologies across diverse educational contexts.

The project launched in April 2013 with an exploratory workshop on "Student Privacy in the Cloud Computing Ecosystem", focusing on core issues and current practices related to the handling of student information in the cloud. Based on ongoing research and participants' inputs from this workshop, the project team distilled a working road map that offers concrete details regarding research, policymaking, outreach, and engagement around student privacy and cloud computing. The team will continue to work with the Cyberlaw Clinic, the Youth and Media Project, and external partners to develop this resource and foster ongoing dialogue around this timely and important topic. [http://cyber.law.harvard.edu/research/studentprivacy]

## 2.     Ongoing Projects

**Blogging Common** seeks to capture and present the spirit and wisdom of the blogosphere by surveying bloggers around the globe. In 2011-2012, Blogging Common published the results of its November 2011 survey of 2,000 Russian-language bloggers. The survey addressed respondents' blogging habits and experience as well as their motivations for blogging. Building from this work, Research Director Rob Faris and Project Manager Rebekah Heacock have steered the project team in developing four additional short surveys that focus on civic engagement, online threats, politics, and media consumption, and will be issuing these in the coming year. [http://bloggingcommon.org/]

**Broadband Project**. The Broadband Project, led by Yochai Benkler and Rob Faris, conducts policy-relevant research in three areas: spectrum policy, wireline competition, and municipal broadband provision. The spectrum research was punctuated by the Fall 2012 publication of Benkler's paper, "Open Wireless vs. Licensed Spectrum: Evidence from Market Adoption", in the *Harvard Journal of Law and Technology*, which describes the critical and increasing role of open wireless in US communications infrastructure. The Broadband team's municipal broadband provision research has completed in-depth interviews with project planners and operators of municipal fiber-to-the-home projects in the US, which will be incorporated in a paper that describes the current state of play in this dynamic area. The wireline competition research effort, conducted along with HLS Library statisticians Travis Coan and Constantine Boussalis, is drawing upon data from the national broadband map and census data to evaluate the current state of competition in US wireline markets. [http://cyber.law.harvard.edu/research/broadband]

**Chilling Effects.**  Led by Berkman Fellow Advisory Board Member Wendy Seltzer and Project Coordinator Adam Holland, the Chilling Effects Clearinghouse is a comprehensive and transparent online database of cease and desist notices related to online content. The project aims to educate the public about the different kinds of cease and desist letters—both legitimate and questionable—that are being sent to Internet publishers, to provide transparency regarding the ecosystem for such processes, and to allow researchers to investigate the extent to which complaints are being made within the boundaries of existing law. This year, Chilling Effects embarked on a more active program to seek source partners, including planning "best practices" events to discuss harmonizing handling of takedown notices, revising the project's existing code base to

cope with massive increases in the volume of notices received, and adapting to an increase in online entities' publication of transparency reports. In the coming year, the restructured website and database, Chilling Effects 2.0, will ingest a much larger volume of notices from a wider range of sources and thereby more fully and effectively serve its user community. [http://cyber.law.harvard.edu/research/chillingeffects]

**Cloud Computing Initiative.** Under the leadership of Urs Gasser and Project Manager David O'Brien, the Cloud Computing Initiative focuses on developing research on emerging issues, law, policy, and current trends related to cloud computing. This year, the team has been working on the third phase of the project, which commenced in Spring 2012, and aims to comparatively analyze the role of governments across the globe in the development of cloud computing industries and technologies. With the support of collaborating international partners and researchers, this research track centers on how governments are using, regulating, promoting, and engaging with the cloud computing industry as a whole and the technologies and services that the industry offers to consumers and businesses in particular. The team ultimately aims to develop analytical and educational papers and practice guides for policymakers, industry participants, civil society members, and others on specific areas of interest. [http://cyber.law.harvard.edu/node/6082]

**Copyright for Librarians.** Led by Terry Fisher and conducted in collaboration with international nonprofit EIFL.net (Electronic Information for Libraries), the Copyright for Librarians project aims to deliver a distance-learning program on copyright to librarians. Since its March 2010 launch, its wiki-based materials have been periodically updated and translated into Serbian, Chinese, Arabic, Russian, French, and Polish by instructors in each country. The course materials aim to inform librarians about copyright law in general and the aspects of copyright law that most affect libraries, especially those in developing and transitioning countries. The curriculum includes nine modules organized into five different levels that can be used as the basis for a self-taught course, a traditional classroom-based course, or a distance-learning course. In early 2013, *Copyright for Librarians: the essential handbook* was published as a textbook that can be used as a stand-alone resource or as an adjunct to the online version, especially for those with limited connectivity or who simply prefer to study from a textbook. Consortium partners will receive a copy, and it is available on print-on-demand. [http://cyber.law.harvard.edu/copyrightforlibrarians/]

**Cybersecurity**. Under the guidance of Professor Jack Goldsmith, the Cybersecurity project team has continued its research and scholarship this year, with a focus on further refining and building out a wiki-based repository of cybersecurity resources that spans academic and private sector whitepapers, articles, and other literature. In addition, the team is in the process of using the H2O platform to develop a cybersecurity curriculum that can be adapted by professors across multiple academic fields, and which will include diverse modules focused on key technical, legal, policy, and other issues. [http://cyber.law.harvard.edu/research/cybersecurity]

**Digital Media Law Project.** The Digital Media Law Project (DMLP) works to ensure that individuals and organizations involved in online journalism and digital media have

access to the legal resources, education, and assistance that they need to thrive. The DMLP, which launched in May 2007 as the Citizen Media Law Project, focuses on three broad areas: legal education and training, litigation and pro bono legal services, and the collection and analysis of legal threats facing online speakers and publishers. Director Jeff Hermes and Staff Attorney Andy Sellars had a very productive year in connection with the DMLP's various initiatives:

*Online Resources.* The DMLP's Legal Guide, which covers a range of topics relevant to digital media creators and other online publishers, is comprised of almost 700 separate pages and was expanded over the past year to address additional legal issues, including applicable laws in Arizona, Missouri, and Tennessee, as well as Right of Publicity pages for the majority of covered states.

The DMLP's Database of Legal Threats against online speech also remains a core project initiative. The database, to which new lawsuits and other threats are continually added, grew to 980 separate entries in 2012-2013. Each entry consists of a plain-language description of the case or threat and links to blog or press coverage. Most entries also contain the underlying documents, including copies of cease-and-desist letters, lawsuit complaints, legal briefs, and court orders.

In addition, the DMLP has developed successful topic-specific guides to respond to important legal issues affecting citizen and professional journalists, including:

- The DMLP's "Guide to Reporting at the 2012 Republican and Democratic National Conventions", which provided specific information regarding the intersection of First Amendment newsgathering rights with applicable laws and ordinances in Charlotte and Tampa; special rules applicable to events controlled by the US Secret Service; and guidance in dealing with police, public officials, and event organizers. Along with the conventions guide and related materials, the DMLP offered live online chat sessions, produced in partnership with Free Press, in which Andy Sellars responded to journalists' questions about the conventions.

- The DMLP's state-by-state legal resource for those wishing to use photography or videography to document the 2012 national elections, "Documenting the Vote 2012". This resource was widely used and cited during the elections, with over 115,000 unique page views between November 2 and November 7, 2012, more than 60 mentions in local and national media, and referrals on Twitter by a diverse range of popular users (including Michael Moore and MC Hammer). The resource was also cited on Snopes.com as a reference to help dispel urban myths about photographing one's ballot.

*Online Media Legal Network.* The DMLP's attorney referral service, the Online Media Legal Network (OMLN), continues to be very active. In the past year OMLN expanded its network into all 50 states, plus the District of Columbia, and helped 63 new clients with 97 new legal matters, bringing the OMLN's totals up to 287 members

assisting 260 clients with 474 individual matters.

*Advisory Work*.  The DMLP has also been a consultant to various nonprofit entities on the First Amendment and related issues affecting freedom of speech and information. As described in the Clinical section, the DMLP has served as First Amendment counsel to WBUR's OpenCourt project and advised the Boston University Office of the General Counsel with respect to pre-publication review of sensitive documents and content. The DMLP also assisted the Investigative News Network, the Lens–New Orleans, and the Out of Eden Walk in the process of applying for 501(c)(3) tax-exempt status.

*Amicus Briefs*.  As part of its effort to address breaking legal issues for journalism and online speech, the DMLP, with the invaluable assistance of the Cyberlaw Clinic, participated in a wide range of litigation as amicus curiae over the past year. Among the cases in which the DMLP filed briefs was *Seaton v. TripAdvisor*, LLC, No. 12-6122 (6th Cir., filed Feb. 27, 2013), in which the DMLP urged the US Court of Appeals for the Sixth Circuit to affirm a lower court's finding that a "dirtiest hotels" list published by consumer review website TripAdvisor was protected opinion under the First Amendment and Tennessee defamation law. For more information, see the Cyberlaw Clinic section**.**

*Conferences and Speaking Engagements*.  Among other appearances, DMLP Director Jeff Hermes gave guest lectures over the past year at Harvard Law School, Northeastern University, and Lesley University, and was the keynote speaker at the 2013 MCLE Annual Intellectual Property Law Conference. Andy Sellars moderated a panel on the Computer Fraud and Abuse Act at the University of California Hastings College of the Law. The DMLP has been interviewed or mentioned by local, national, and international press outlets more than 150 times in the past year, becoming go-to sources on legal information for reporters with various outlets that include NBCNews.com and the Associated Press. Working with the Cyberlaw Clinic, the DMLP helped to co-produce "Filling the News Gap in Cambridge and Beyond: Citizen Journalism and Grass Roots Media," a celebration of the 25th anniversary of Cambridge Community Television, and to publish "Newsgathering in Massachusetts", an in-depth guide for independent journalists in the Commonwealth.

*Collaborative Efforts*.  In May 2013, the DMLP launched a new working group of media support organizations focused on press credentialing issues that includes Free Press, the Investigative News Network, Journalists' Resource, the Nieman Journalism Lab, and the National Press Photographers Association. This group aims to develop a centralized resource for research and other materials that relate to issues encountered by independent and institutional journalists as they obtain and use press credentials.

*Publishing*. The DMLP regularly updates its community on project activities as well as disseminates information on important issues affecting online speech and independent journalism through its popular twice-weekly blog entries and monthly newsletter. [http://www.dmlp.org/]

**Digital Public Library of America.** The Digital Public Library of America (DPLA) planning initiative, for which the Berkman Center served as Secretariat, was led by Berkman Director John Palfrey and Berkman Fellow Maura Marx in close collaboration with Senior Project Manager Rebekah Heacock, Project Coordinator Kenny Whitebloom, and many members of the Berkman staff. The DPLA brings together the riches of America's libraries, archives, and museums and makes them freely available to the world; it is supported by the Alfred P. Sloan Foundation, the Arcadia Fund, the John S. and James L. Knight Foundation, the National Endowment for the Humanities (NEH), and the Institute of Museum and Library Services (IMLS).

The project's major achievement in 2012-2013 was the successful launch of a beta front-end portal, dp.la, which consists of an open-source metadata platform containing more than 2.4 million records and an open application programming interface (API) launched in April 2013. In addition to the two plenary events described in the Executive Summary, over the past year, the DPLA Secretariat has also worked with its partners to host additional hackathons and workshops around the country. In addition, it kicked off its Digital Hubs Pilot Program, a project designed to establish the foundational data aggregation and service-providing partners in the DPLA's national content infrastructure. In Summer 2012, the DPLA hired its first two employees—Emily Gore and Amy Rudersdorf—to spearhead the program. The DPLA also formed an inaugural Board of Directors composed of librarians, technologists, intellectual property scholars, media studies scholars, and business experts from around the country. The Board successfully established the DPLA as an independent 501(c)(3) nonprofit in time for its April 2013 launch, and in March 2013 it announced the hiring of Dan Cohen, former Director of the Roy Rosenzweig Center for History and New Media at George Mason University, as the DPLA's founding Executive Director. [http://dp.la/]

**Global Network Initiative** is a multi-stakeholder coalition comprised of technology companies, investors, academics, and rights groups focused on advancing and protecting online free expression and privacy in the ICT sector. In 2012-2013, the Global Network Initiative (GNI) has achieved greater organizational stability, including the addition of new participants ranging from academics such as NEXA Centre and Georgetown Law School to companies like Facebook, and a novel collaboration with twelve European telecommunications companies known as the Industry Dialogue. Further, GNI solidified its methods for outside assessment and established itself as a relevant and credible voice in the global debate. GNI's efforts, led by Colin Maclay and Caroline Nolan, have turned to related topics around research and policy change, including developing a primer for tech start-ups on privacy and free expression practices, creating an India-specific case study, exploring the growing practices around company transparency reporting, understanding relevant legal regimes around technology export controls, and responding to the NSA/Prism revelations. Berkman Fellows Ryan Budish and Kit Walsh, along with Clinical Instructor Dalia Topelson, Chris Bavitz and many students from the Cyberlaw Clinic have been inspired drivers of this groundbreaking work, helped by external collaborators who span diverse sectors and organizations.
[http://cyber.law.harvard.edu/research/principles]

**Herdict**, led by Jonathan Zittrain and Berkman Fellow Ryan Budish, is a platform for collecting and disseminating crowdsourced, real-time information about Internet filtering, denial of service attacks, and other Web blockages. In 2012-2013, Herdict realized significant growth, with an emphasis on expanding its user base, enhancing its database, and pursuing partnerships with organizations with information in certain censorship hot spots. Herdict reporting and site traffic both increased substantially as a result, with site traffic more than doubling over the previous year. Targeted work with partners was especially instrumental in this growth: Herdict worked with the EFF, Global Voices, GreatFire.org, ASL 19, the OpenNet Initiative, Reporters Without Borders, Twitter, and the Youth and Media Project to build "queues" of sites that each organization wanted to track, and each of these groups encouraged its members to participate in Herdict reporting. Twitter also included Herdict data in its January 2013 Transparency Report using the data collected through their queue. Herdict subsequently extended its branded queue feature, which allows anyone to create, track, share, and report on a personalized queue of sites of interest. In addition, Herdict began two more extensive partnerships, including a data-sharing agreement with Greatfire.org and a collaboration with ASL 19 to collect data about censorship in Iran just before the Iranian presidential elections, which generated nearly 2,000 reports from Iran in a single week. [http://www.herdict.org/]

**Information Quality.** The Information Quality Research Initiative (IQRI) builds upon numerous Berkman Center publications and aims to develop a theory of information quality that reflects fundamental shifts in the information ecosystem in the age of digital media. Led by Urs Gasser, this research examines the history, contexts, perspectives, intervention tools, coping mechanisms, challenges, and implications of this fundamental shift, paying special attention to the complex interplay of law, norms, technology, and markets. This year the IQRI expanded on work conducted by the Youth and Media Project, with Project Manager Alicia Solow-Niederman helping the team to compile both a set of academic works about information and data quality issues across many disciplines and a collection of news articles that involve information quality issues that may serve as case studies for the project. Drawing from this research, the team is developing a white paper to establish the core principles of the IQRI framework. In the year to come, the team looks forward to continuing this research, honing information quality theory, and developing the works currently in progress.

**Internet Monitor.** Under the leadership of Urs Gasser and Jonathan Zittrain in close collaboration with Rob Faris and Rebekah Heacock, Internet Monitor seeks to evaluate, describe, and summarize the means, mechanisms, and extent of Internet content controls around the world. Over the past year, Internet Monitor has assembled a preliminary dataset containing over 120 indicators in three categories: Infrastructure and Access, State and Corporate Control, and Internet Content and Communities. In September 2012, Internet Monitor hosted a workshop in Cambridge that brought together approximately 30 people representing approximately 20 different organizations working to document and improve the Internet's freedom and health. Participants provided feedback on Internet Monitor's dataset and discussed potential avenues for collaboration. A follow-up working meeting in December 2012 convened key community members to discuss guidelines for data use and sharing. The project team has created a detailed technical

scope for the Internet Monitor platform, which will present this data interactively to scholars, activists, and policymakers, and has begun development of the site, which will be released in the next year. [http://blogs.law.harvard.edu/internetmonitor]

**Internet Robustness**, led by Jonathan Zittrain, Rob Faris, Director of Technology Sebastian Diaz, and Technical Project Manager Jennifer Jubinville, will develop, test, and pilot technologies to deliver on the promise of the URL: that information placed online can remain there, even amidst network or endpoint disruptions. The project's approach is to enable operators of Web servers to preserve content in the face of the failure of any one participant to remain online, thereby ultimately bolstering the resiliency and robustness of the Web in a wide variety of global Internet contexts. In the past year, with expert input, the project team conducted in-depth research into possible alternatives for the proposed technology, drafted use cases describing a range of applicable contexts for the Robustness technology, and defined the technical specifications that each of these contexts requires. The project team also expanded outreach efforts to potential collaborators and relevant stakeholders, with an eye to recruiting partners for future substantive review and piloting of the proposed technology.
**[http://cyber.law.harvard.edu/research/internetrobustness]**

**Interoperability.** Since the June 2012 publication of John Palfrey and Urs Gasser's book *Interop: The Promise and Perils of Highly Interconnected Systems*, the project team has continued to roll out a series of case studies that examine specific topics relevant to interoperability as well as the interplay of law, policy, technology, and economics within these real-world examples. Recent papers focus on the role of interoperability in such topics as 'smart grid' cloud computing, bar codes, intermodal containers, and electronic data interchange (EDI). Urs Gasser and John Palfrey's contributions to the World Trade Institute's NCCR Trade Policy project were also published this year in the form of three in-depth exploratory studies focused on interoperability as an enabler of innovation and creativity in international trade. This growing body of work acts as a dynamic complement to *Interop*, which investigates the relationship between interoperability and innovation in the ICT environment and other contexts, sharpening the theory of interoperability as well as identifying its relevance for consumers, companies, policy-makers, and the public. In addition, Urs Gasser and John Palfrey have given various presentations on interoperability policy in various academic and industry forums in the US and abroad. [http://cyber.law.harvard.edu/research/interoperability]

**Library License.** Initiated by Jeff Goldenson and David Weinberger of the Harvard Library Innovation Lab at HLS, Library License is a collaborative effort between the Berkman Center and the Library Lab to develop a tool that improves public and non-commercial online access to copyrighted material while complementing the activities and goals of authors, publishers, and libraries. Library License offers a method for making additional digital copies of an author's work available for free to libraries once sales of that work have reached a previously agreed-upon trigger point (including but not limited to temporal and/or sales milestones). In 2012-2013, the Library License team, including David O'Brien, Associate Director Caroline Nolan, and Chris Bavitz and Dalia Topelson of the Cyberlaw Clinic developed a prototype license generator and legal language to aid

authors and publishers as they negotiate and customize terms and contract language that would legally enable the free digital lending of books once they have reached this agreed-upon trigger point. The team continues to refine the concept and solicit feedback from key publishers, authors, librarians, and lawyers in order to determine next steps for the project overall.[http://librarylicense.org/]

**Media Cloud**, a joint project spearheaded by Yochai Benkler at the Berkman Center and Ethan Zuckerman at the Center for Civic Media at MIT, is an open source, open data platform that allows researchers to examine what media sources cover which stories, what language different media outlets use in conjunction with different stories, and how stories spread from one media outlet to another. In the 2012-2013 academic year, the Media Cloud team, including Research Director Rob Faris, Project Managers Amar Ashar and Alicia Solow-Niederman, and Berkman Fellows Hal Roberts and Bruce Etling, further developed a Controversy Mapping (CM) system designed to track the evolution of online debates by capturing and mapping the links among online content from a wide variety of digital media sites. In the past year, the project team used Controversy Mapper to analyze the emergence of popular movements to oppose SOPA/PIPA legislation in the United States and around the 2012 Russian election protests. Currently, the team is studying the framing and discussion surrounding the death of Trayvon Martin and the debate around the 2012 California ballot propositions. On the backend, Hal Roberts, Jennifer Jubinville, and David Larochelle led the team in implementing robust multi-language support, adding mainstream media and blog sources to cover almost every country, building a content-streaming API, and upgrading Media Cloud's core crawling systems to support ten times more downloads on the same hardware, which adds up to over a million downloads a day. Media Cloud colleagues at the Center for Civic Media continue to develop Media Meter, a media outlet tendency and bias visualization tool, and Nathan Matias's Open Gender Tracker, which can determine the gender of author and sources in texts, will be fully integrated into Media Cloud in the coming months. [http://mediacloud.org]

**metaLAB (at) Harvard** is a research and teaching unit hosted by the Berkman Center dedicated to exploring and expanding the frontiers of networked culture in the arts and humanities. 2012-2013 saw one of metaLAB's signature incubated projects, Zeega, take wing as an independent initiative: it was selected as an initial participant in Matter, an incubation program for media innovators. In addition to working with Terry Fisher's CopyrightX team to develop a tool for exploring fair-use analysis through media remixes, advising students on digital projects in comparative literature, media arts, and user interface design, and teaching classes in the FAS and the GSD, some notable efforts from the past year include:

- *Library Observatory*. The DPLA Library Observatory enables users to browse the collections of the Digital Public Library of America.
- *Digital Ecologies at the Arnold Arboretum.* metaLAB is collaborating with the Harvard's Arnold Arboretum to bring the full depth and wonder of trees to life for new audiences. From a series of convenings and joint efforts along with metaLAB's own design work, the project is identifying a rich set of affordances to

incorporate into an Arboretum app for citizen science, exploration, and informal learning.

- *Teaching with Things*. Teaching with Things leverages Harvard's unique archival, library, and museum collections in the pursuit of a flexible, scalable approach to representing the material and sensory attributes of three-dimensional objects, to building "artifactual" interfaces, to annotating three-dimensional objects, and to exploring relationships among objects and multimedia data sets. Funded by the Hauser Initiative for Learning and Teaching, the project supports and promotes collections-based teaching, research, and training with categories of objects that are rarely if ever accessible. Teaching with Things was used to support Romance Studies 220, Fragments of a Material History of Literature, being taught in the Faculty of Arts and Sciences by Jeffrey Schnapp and Matthew Battles in Fall 2012, and will be developed in Summer 2013 in connection with the ChinaX course to be taught by Professor Peter Bol.
- *Homeless Paintings at the Villa I Tatti*. With funding from the Kress Foundation and Harvard's de Bosis Fund for Italian Studies, metaLAB is designing a platform to engage a broad community of art and non-art historians with a collection of 16,000 now digitized photographs of Renaissance Italian paintings at Harvard University at Villa I Tatti in Florence. This platform will be used in a Fall 2013 graduate art history seminar at Harvard. [http://metalab.harvard.edu]

**Mindsport Research Network.** Led by Charles Nesson, the Mindsport Research Network (MRN) aims to build multiple experimental frameworks for understanding human strategic thinking in mindsports, such as Chess, Bridge, and Poker. Associated research and activities extend not only to understanding the intuitive thinking process of outstanding competitors, but also to the potential educational, emotional, intellectual, and economic benefits that students can cultivate through mindsport cooperation and competition. During 2012-2013, the project team was delighted to have International Chess Grandmaster Maurice Ashley as a fellow focused on working with MRN to research and develop curricula centering on how games can be used to effectively impact subject learning online, in classrooms and in libraries around the world. In close consultation with the Cyberlaw Clinic, the team also laid the foundation for the establishment of the MRN as an independent 501(c)(3) nonprofit. [https://cyber.law.harvard.edu/research/mindsport]

**New Media Nollywood.** Extending past efforts at the intersection of storytelling, intellectual property, economic development, entrepreneurship and development priorities with digitally networked technologies in Nigeria (one of the world's top film producers), New Media Nollywood (NMN) endeavors to help understand the dynamics and embrace the opportunities presented by the emerging media ecosystem. Coordinated by Colin Maclay with Michael Best, Ethan Zuckerman, and various US- and Nigeria-based partners, NMN aims to help improve new media's capacity for storytelling, to make the industry financially viable, and to explore its potential for social impact, with an eye to ensuring that the values, character and mode of the industry remain Nigerian and true to their core audience. With deep collaboration from the Cyberlaw Clinic, NMN is developing a suite of materials to support learning and decision-making in the industry,

including a global study of innovative value-generation schemes from the creative industries, a guide to marketing and release practices, and more. The team has also participated in the development of policies to encourage cinema development in Nigeria (a key resource for filmmakers and for development ends, among others), conception of a program to leverage dramatic film to engage audience in health issues, and exploration of alternative dispute resolution mechanisms that leverage the guild structure.

**OpenNet Initiative.** The OpenNet Initiative (ONI), supported by the MacArthur Foundation, continues to identify and document Internet filtering and surveillance on a global scale. It has produced a number of special reports this year, including a white paper on the ONI's testing methodology and tool suite over the last decade that has been accepted for publication in a May 2013 special issue of the *IEEE Internet Computing* journal focused on Internet censorship and controls; an investigation of commercial filtering technology in Syrian and Burma; and an analysis of Internet controls in Iran from 2009-2012. The ONI also released Internet Censorship Investigator (ICI), a web-based analysis system for internal use by ONI researchers and technical analysts. ICI is a redesign of earlier ONI systems that has improved the process of analyzing testing data by providing a number of new analytic features as well as a more responsive and functional interface. ONI researchers and principal investigators continue to participate in conferences and research events around the world, including the July 2012 Global Voices Citizen Media Summit in Nairobi, Kenya, and the March 2013 Freedom in Online Communications Day at the University of Boston. Over the past year, ONI research has also featured heavily in the work of the Center's Internet Monitor project. [http://opennet.net/]

**Tools for Digital Firm Formation Project.** Led by Berkman Fellow Oliver Goodenough in collaboration with the Law Lab team, including Project Coordinator Adam Holland, Tools for Digital Firm Formation Project has made progress on a number of key objectives this year. Team members assisted the State of Nevada in its efforts to launch a functional piece of proprietary software, Silverflume, as well as continued to work with businesses and legislators in the State of Delaware as part of an effort to make tools like Silverflume nationally available. The team has also been creating two short PSA-style videos to be released in Summer 2013. The first will detail some of the considerations that founders of a firm must take into account, and why; the second will offer an introduction to digital firm formation tools and their potential, using Silverflume as an example. Looking forward, the Law Lab hopes to convene one or more gatherings to discuss topics and issues surrounding digital firm formation and management.

**Youth and Media.** Led by Urs Gasser and Youth and Media Director Sandra Cortesi in cooperation with John Palfrey and colleagues, Youth and Media (YaM) encompasses an array of research, advocacy, and development initiatives around youth and digital technology. By studying young people's interactions with digital media such as the Internet, cell phones, and video games, this highly collaborative project aims to gain detailed insights into youth practices and digital fluencies, address challenges, harness associated opportunities, and ultimately shape the evolving regulatory and educational framework in a way that advances the public interest. This year, the YaM team engaged

in a broad range of activities and produced a number of high-profile reports. In addition, the team focused on the following three topic areas:

*Information Quality.* Building upon foundational research from the previous year, the YaM team has engaged in two deep dives regarding quality issues around two types of online information that are particularly important from a societal and personal perspective: news ("current events") and health information.

- o **News**. Supported by the McCormick Foundation, the YaM team is engaging in collaborative research to close an important knowledge gap about youths' online news behavior, including news gathering, evaluation practices, and creative re-use of information related to current events. Whereas earlier studies suggest that youth (not unlike adults) prefer online news that is visual in presentation, relevant in topic, and manageable in size, additional research is needed to explore the social and creative elements of online news and, based on this understanding, to optimize curricular and tool development programs. Moving forward, with support from Berkman Faculty Associate Rey Junco, the YaM team is engaging in exploratory research that seeks to understand how individuals find, evaluate, create, and share Internet memes (shareable messages or images proliferated online). This research will explore how Internet memes play a role in how people come to be informed about current events, news, and social commentary online, and will investigate how individuals differ in this regard according to age, gender, and nationality variables.

- o **Health Information.** In close collaboration with Berkman Fellow, Primary Care Physician at Boston Children's Hospital, and Assistant Professor of Pediatrics at Harvard Medical School Dr. Claire McCarthy, the YaM team designed a study to learn how youth search for, evaluate, and share health information online. Research shows that young people are increasingly turning to the Internet as a primary source for health information. This development presents a critical topic for investigation, given that the consequences of misinformation or other forms of low-quality information can be serious in this context. Yet, this space also presents opportunities to inform youth about sensitive health issues that they might have been reluctant to scope out elsewhere. In the next academic year, the research team will conduct a survey and focus groups interviews, and will compare how different personal factors influence how young people engage with health information online.

*Youth in Developing Countries.* This year, the YaM team has deepened its partnership with the UNICEF Digital Citizenship and Safety Project. The joint venture maps both challenges (especially safety issues) and opportunities (such as digital citizenship) presented by the rapidly expanding digital ecosystem for children in developing countries. Ongoing exploratory studies—including literature reviews, focus group interviews, and surveys in collaboration with local research partners as well as

UNICEF country offices—focus on Kenya, Zambia, Vietnam, Indonesia, and Malaysia. Looking ahead, the YaM team seeks to work with its international partners and host a symposium at HLS to map the global state of research on youth and digital media issues, including knowledge gaps, and to discuss ways in which findings from research might inform sound policymaking in the youth and digital media space.

*Privacy*. A long-standing interest of the YaM team is to better understand youths' online information sharing practices and their evolving notions of and attitudes towards privacy, including reputation. This year the YaM team launched a long-term research initiative to gain a more nuanced understanding of youths' conceptions of privacy, how these conceptions may differ from adult perspectives, and how they are reflected in the kinds of activities in which youth engage online. Specifically, the YaM team has entered a strategic partnership with Pew Internet Research to study these questions through mixed methods such as literature reviews, focus groups, and surveys. Three recently published reports, featuring data from a nationally representative survey as well as insights and quotes from focus groups with 156 youth, are the early fruits of this collaboration. The first report, "Parents, Teens, and Online Privacy", investigates parental concerns about their children's online activities; the second report on "Teens and Technology 2013" analyzes teens' Internet use and ownership of technology and takes a closer look at mobile phone adoption and mobile access to the Internet; and a third report entitled "Teens, Social Media and Privacy" presents the most comprehensive data set available around youths' information-sharing, their social media practices, and their confidence in technical and non-technical steps to manage their privacy online. Moving forward, the YaM team plans to engage in several additional research efforts that emphasize personal information and reputation. [http://youthandmedia.org/]


3.      **Selected Independent Scholarship**

**David Ardia** completed his second year as an Assistant Professor of Law at the University of North Carolina (UNC) School of Law, where he also serves as Co-Director of the UNC Center for Media Law and Policy. At UNC, he organized a number of events, including a two-day conference focused on student speech rights and their role in youth civic engagement, and a panel discussion of the Federal Communication Commission's media ownership rules that examined how current FCC rules and proposed rule changes affect local accountability journalism. Ardia also continued to advance his own scholarship in the areas of the First Amendment, media law, and cyberlaw. In May, he was invited to speak at Yale Law School's Freedom of Expression Scholars Conference, where he presented his article "Freedom of Speech, Defamation, and Injunctions." The article, which will be published in the *William and Mary Law Review*, presents the first comprehensive analysis of more than two centuries of case law involving injunctions in defamation cases. He is currently overseeing the completion of a media law casebook entitled *Media and the Law* that he is co-authoring with Lee Levine, David Kohler, Mary-Rose Papandrea, and Dale Cohen; LexisNexis will publish a revised second edition in January 2014.

**danah boyd** completed her manuscript, *It's Complicated: The Social Lives of Networked Teens*, to be published by Yale University Press in February 2014. She, John Palfrey, and many members of the Berkman team continued to support the creation of the Born This Way Foundation. Along with Dena Sacco and John Palfrey, boyd helped edit and produce two research collections under the *Kinder & Braver World Project Research Series*. Throughout the year, boyd co-authored numerous papers on issues related to the commercial sexual exploitation of children, parental concern about online safety issues, teen dating violence, and information poverty.

**Juan Carlos De Martin** has focused his research on three main areas: network neutrality, university in the Internet age, and Internet & democracy. Regarding net neutrality, de Martin has been working to improve the precision and robustness of Neubot, a distributed network measurement tool; the ACM Computer Communication Review will publish some key findings from Neubot in July 2013. de Martin's work has also addressed the future of the university, an ongoing project conducted in collaboration with Prof. Charles Nesson, and he plans to publish the Italian version of a book in early 2014. In addition, Juan Carlos organized three panels on Internet and democracy during the "Biennale Democrazia" held in Torino in April 2013 and has spoken on the topic during public discussions. de Martin has continued to comment, as op-ed contributor, on digital issues for the national newspaper *La Stampa*. The second edition of the interdisciplinary course "Digital Revolution" was held at the Politecnico di Torino between March and June 2013. He looks forward to continuing his work in his new appointment by the Italian Minister of Education and Research as "national point of reference" for open access to the European Commission as well as head of a ministerial commission that will define the Italian open access policy.

**Judith Donath** spent much of this past year completing the manuscript for *The Social Machine: Designs for Living Online*, which she submitted to the MIT Press in Spring 2013. This book shows how to design online social environments that explore the extraordinary possibilities of the digital world while also encouraging cooperative interaction. Two of her activities at the Center reflect ideas from this work: in Summer 2012, she directed a Google Summer of Code project on data portraits, and in Fall 2012, she led a reading group at Berkman on digital identity. Donath also spoke on trust and reliability at the Neo-Journalism conference in October 2012, and digital identity and data portraits at a conference hosted by Eszter Hargittai at Northwestern. In Spring 2013, she began work on a new area of design research that explores how we can reinvent the display of media collections as they become digital; her first project in this area will be an installation of audio portraits of Boston area bookstores. She is also returning to work on her book on honesty and deception.

**Dan Gillmor** contributed a chapter to a new book on journalism ethics, to be published in Summer 2013, and created the first elements of a new online media-literacy program for Arizona State University.

**Eric Gordon** spent the year at Berkman studying how online play and games intersect with governance and civic engagement. One line of his research focuses on how a

particular "engagement game" builds trust and collective efficacy within public participation, and the process by which playing a game becomes institutionalized within government and school districts. Another line of Gordon's research investigates how game mechanics can influence everyday civic habits. This work, conducted in partnership with the Mayor's Office of New Urban Mechanics in Boston, seeks to demonstrate learning and civic outcomes of game-based citizen relationship management systems. Part of this research involves establishing a methodology of design and action research around digital tools that governments and institutions can adopt easily. During his fellowship year, Gordon also served as an advisor to municipal governments in the United States, as well as the United Nations Development Program and the Red Cross / Red Crescent abroad.

**Jérôme Hergueux** has been constructing one of the first online platforms to conduct interactive social experiments over the Internet at a very large scale. He evaluated the validity of this platform by conducting a methodological study that rigorously compared subjects' behavior when they made decisions online as opposed to in a standard university laboratory. This research paper is currently being revised for *Experimental Economics*, a top field economics journal. At the same time, Hergueux successfully completed online social experiments with large samples of open-source software developers and Wikipedia contributors. He is currently in the process of analyzing the experimental data and coupling it with observational data from his subjects' Internet activity. This research holds great promise to bridge the current gap in the social sciences between laboratory and field results.

**Alison Head** continued her research as the director of Project Information Literacy (PIL), an ongoing national study that investigates how college students conduct research and find information for coursework and the demands of their everyday lives. In May, *Library Journal* named PIL one of the "Big Four" research studies about today's library users. Last fall, PIL released "Learning Curve: How College Graduates Solve Information Problems Once They Join the Workplace", a report drawing on interviews with 23 US employers and focus groups with 33 recent graduates from four US colleges and universities. A peer-reviewed article by Dr. Head and the PIL Team entitled "What Information Competencies Matter in Today's Workplace?" then appeared in the UK's *Library and Information Research*'s special issue on workplace information literacy. Head also offered op-ed contributions and podcast interviews that further described this work and its implications. A new PIL study (to be released in early Fall 2013) is now underway with the Berkman Center and the University of Washington's Information School about how today's first-year college students develop research strategies for surviving college. Head, who holds a joint fellowship with the Berkman Center and the Library Innovation Lab, also presented across North America this year, including keynote presentations at three major conferences.

**Rey Junco** expanded his work on the impact of social technologies on learning and student engagement this year. He published four journal articles based on data collected by monitoring student computer use for two months. Former Berkman Fellow Doc Searls helped identify the software used to collect data; the results were presented to the Youth

and Media Team interns and incorporated into Junco's paper, "Comparing actual and self-reported measures of Facebook use". Junco also began work on his next book, *Engaging students through social media: An evidence-based approach for student affairs*, which will be published by Wiley/Jossey-Bass. Junco co-presented at Fellows Hour with Berkman Fellow Meg Leta on the right to be forgotten, and is working with Leta on a manuscript based on their research. In addition, Junco collaborated with the Youth and Media team on various projects, including UNICEF research examining youth media use in developing countries, a memes research project, a youth privacy survey, an online health-seeking behaviors survey, and participated in the Berkman/Microsoft "Student Privacy in the Cloud Computing Ecosystem" workshop. Junco also gave a presentation at the Digital Media and Learning conference, two invited talks at universities, and an invited conference session with Berkman Fellow Eric Gordon. Lastly, Junco was awarded a grant by the National Academic Advising Association to investigate ways to collect trace data from student computers in order to build better predictive learning analytics models.

**Silvio Lemos Meira** spent the majority of the past year developing a book on new, innovative, entrepreneurial growth businesses in Brazil, the final version of which was completed at the Berkman Center between October 2012 and February 2013. The book is now in the final stages of editing and will be published in October 2013.

**Mayo Fuster Morell** worked on two main areas of research during her 2012-2013 Berkman fellowship: developing a comprehensive characterization of the governance of common-based peer production, supported by adapting the Institutional Analysis and Development (IAD) framework of Ostrom's School; and contributing to an analysis of the democratic qualities of the network public sphere as a space for public debate and political participation, in collaboration with the Media Cloud Controversy Mapping work led by Yochai Benkler. Her research has lead to multiple publications in English and in Spanish on the digital commons and collaborative production. Additionally, Mayo is the leader of a research project, "P2Pvalue: Techno-social platform for sustainable models and value generation in commons-based peer production in the Future Internet", funded by the European Commission's 7th Research Program. Mayo is also the principal investigator and funder of an emerging research group on the Internet, politics and commons at the Autonomous University of Barcelona.

**Joseph Reagle** is a Berkman Faculty Associate and Assistant Professor of Communication Studies at Northeastern University. He recently published two articles: "Wikipedia and Encyclopedic Production" (with Jeff Loveland) and "Free as in Sexist?: Free Culture and the Gender Gap". He also drafted a chapter, "Revenge Rating And Tweak Critique At Photo.Net", for a collected volume, as well as completed half the chapters of his new book, *Comment: Likers, Haters, and Manipulators in the Age of the Web*.

**Justin Reich** worked throughout the year with Facing History and Ourselves, a civic education nonprofit aiming to adjust its program strategy to take advantage of new digital platforms. In this capacity, he authored several publications on the role that online spaces

can play in civic education. He also wrote extensively for his EdTechResearcher blog with Education Week. As co-founder of EdTechTeacher, a professional development consultancy, he helped host a pair of national iPad summits that convened over 1,000 educators from around the world to explore the use of tablets in education. Justin also consulted with the Berkman team developing the CopyrightX course on the edX platform, and at the end of the academic year he was appointed as the Richard L. Menschel HarvardX Research Fellow. In addition, Reich gave a variety of invited talks on technology in education at the Oxford Internet Institute, Harvard Law School, Massachusetts Institute of Technology, and Wheelock College, as well as for the Berkman Center Luncheon Series. He was recognized as an Emerging Leader by the International Society for Technology in Education, and appointed to the Massachusetts Digital Learning Advisory Council and the Board of Visitors of the Fay School.

**Nagla Rizk** focused her research over the past year on interdisciplinary projects related to freedom, networks, and innovation, with a particular focus on Egypt. She is building on her previous work with the Berkman Center and beginning a new research phase on the project "Mobilization for Change: The Role of the Networked Public Sphere in Advancing Civic Participation and Collection Action in the Arab Region". She has also been actively involved in the Open African Innovation Research (Open A.I.R.) project as a researcher, member of the steering committee, and North Africa hub director. Rizk submitted a book chapter covering research undertaken within this project to be published in Open A.I.R's upcoming book compiling case studies on African innovation, and also published a number of other works this past year, including a chapter on "Media Concentration in Egypt" in Eli Noam's book *International Media Ownership and Concentration*, forthcoming from Oxford University Press. In addition, Rizk has continued her regional project on free and open-source software (FOSS) in the Arab World, leading a team of researchers spanning eight Arab countries. Rizk's advocacy work included calling for freedom of information and drafting legislation in Egypt; she looks forward to writing the FOSS strategy for Egypt at the request of the Egyptian government.

**Kit Walsh,** a Berkman Center Clinical Instructional Fellow during 2012-13, has supervised approximately thirty students in the Cyberlaw Clinic, providing thousands of hours of pro bono legal services to real-world clients. Some of Kit's many projects have included an amicus brief helping establish a right to location privacy in Massachusetts in the Supreme Judicial Court case *Commonwealth v. Rousseau*; pioneering a new legal procedure to prevent the issuance of overly-broad patents covering three-dimensional printing technology; traveling to Iceland to advise policy makers on constraints imposed by international law and extraterritorial application of US law; and advising startups from Harvard's Innovation Lab and individuals with respect to free speech, privacy, and open business models. Kit is also supervising students and interns working on the Center's "Privacy Tools for Sharing Research Data" project, which aims to create legal tools and cultivate expertise to help researchers share data about human subjects while preserving subjects' privacy.

## 4. Publications

The Berkman Center helped produce a number of major publications this past year, including four books. In chronological order, they are:

- *Open Access*, by Berkman Fellow Peter Suber, explaining what open access is and isn't, how it benefits authors and readers of research, how it is paid for, how it avoids copyright problems, how it has moved from the periphery to the mainstream, and what its future may hold;
- *Captive Audience*: *The Future of Information in America*, by Berkman Director Susan Crawford, exploring how deregulatory changes in policy have created a communications crisis in America;
- *Copyright for Librarians*: *The Essential Handbook*, re-designed as a brand new textbook, can be used as a stand-alone resource or as an adjunct to the online version, which contains additional links and references for students who wish to explore any topic in greater depth; and
- *REWIRE: Digital Cosmopolitans in the Age of Connection*, by Berkman Fellowship Advisory Board Member Ethan Zuckerman, in which he explains why the technological ability to communicate with someone does not inevitably lead to increased human connection.

Among the publications released through the Center's website and other online channels are: three joint reports focused on youth and privacy with the Pew Research Center's Internet & American Life Project and the Berkman Center's Youth and Media Project; a set of publications focused on the role of youth organizations and youth movements for social change as part of the Center's collaboration with the Born This Way Foundation; and a literature review of recent academic literature on youth bullying that seeks to make scholarly work on this important topic more broadly accessible to a concerned public audience, including parents, caregivers, educators, and practitioners.

Each release was promoted over Berkman Center listservs and via social media outlets; in some cases hard copies of the publication were produced.

Other research publications include:

**Interoperability Case Studies**, These case studies are part of an ongoing series developed in support of a larger text on interoperability by John Palfrey and Urs Gasser, *Interop: The Promise and Perils of Highly Interconnected Systems*.

- *The Smart Grid:* The next generation of the grid is the Smart Grid, a grid built up of intelligent, interoperable components. The Smart Grid comes from making individual grid components more self-aware of what they are doing at every moment. These individual components can then be joined in networks that allow each component to make better decisions about how to use and transmit energy. The case study was authored by Research Assistant Paul Kominers.

- *The Bar Code/UPC:* Bar codes provide an example of an interoperable technology that not only resulted in efficiency gains, but also helped facilitate the restructuring of an entire industry. The case study was authored by Research Assistant and 2012-2013 Student Fellow Matthew Becker.
- *Cloud Computing:* Due to the growing ubiquity of cloud computing in the digital world, examining issues of cloud interoperability offers profound insights about the legal, public policy, and technological challenges faced by businesses and other institutions engaged in this field. The case study was authored by Research Assistant and 2012-2013 Student Fellow Matthew Becker.
- *Electronic Data Interchange (EDI):* Electronic data interchange (EDI) provides an excellent context for examining how interoperability at the technological and data level can also produce profound effects at a higher, institutional level. Originally conceived as a way to speed up the delivery of invoices and purchase orders by sending them electronically, EDI resulted in significant shifts in retailer-supplier relations that transcended transaction efficiency. The case study was authored by Research Assistant and 2012-2013 Student Fellow Matthew Becker.

**Open Wireless vs. Licensed Spectrum: Evidence from Market Adoption.** Yochai Benkler reviews licensing strategies in eight wireless markets. He finds that unlicensed wireless strategies are becoming increasingly dominant, and argues that future policy decisions should emphasize unlicensed technologies. The paper was released in issue 26(1) of the *Harvard Journal of Law and Technology* (Fall 2012).

The Center's Youth and Media Project published three reports discussing issues of **youth and privacy** in collaboration with the Pew Research Center's Internet & American Life Project.

- *Parents, Teens, and Online Privacy*: Most parents of teenagers are concerned about what their teenage children do online and how others could monitor their online behavior. As the new survey reports, some parents are taking steps to observe, discuss, and check up on their children's digital footprints. Its authors are Mary Madden, Amanda Lenhart, Maeve Duggan, Sandra Cortesi, and Urs Gasser.
- *Teens and Technology 2013*: Smartphone adoption among American teens has increased substantially and mobile access to the Internet is pervasive. One in four teens are "cell-mostly" Internet users, who say they mostly go online using their phone rather than via some other device, such as a desktop or laptop computer. Its authors are Mary Madden, Amanda Lenhart, Maeve Duggan, Sandra Cortesi, and Urs Gasser.
- *Teens, Social Media, and Privacy*: Teens are sharing more information about themselves on social media sites than they have in the past, but they are also taking a variety of technical and non-technical steps to manage the privacy of that information. Despite taking these privacy-protective actions, teenaged social media users do not express a high level of concern about third parties (such as businesses or advertisers) accessing their data; just 9% say they are "very" concerned. Its authors are Mary Madden, Sandra Cortesi, Urs Gasser, Amanda Lenhart, and Maeve Duggan.

**Kinder & Braver World Project Research Series**. As a part of its collaboration with the Born This Way Foundation, the Berkman Center is publishing a series of papers that synthesize existing peer-reviewed research or equivalent scholarship and provide research-grounded insight to the variety of stakeholders working on issues related to youth empowerment and action towards creating a kinder, braver world. The first set of papers in the series involves topics related to the "Role of Youth Organizations and Youth Movements for Social Change".

- *Bullying in a Networked Era: A Literature Review* by Nathaniel Levy, Sandra Cortesi, Urs Gasser, Edward Crowley, Meredith Beaton, June Casey, and Caroline Nolan. This publication presents an aggregation and summary of recent academic literature on youth bullying and seeks to make scholarly work on this important topic more broadly accessible to a concerned public audience, including parents, caregivers, educators, and practitioners. The document is guided by two questions: "What is bullying?" and "What can be done about bullying?", and focuses on the online and offline contexts in which bullying occurs.
- *The Value of Youth Organizing* by Jerusha Conner: Across the country, adolescents have become deeply involved in struggles for equity and social justice as they work to promote a kinder, braver world. Although youth have long been leaders in social change efforts, youth organizing programs increasingly support today's young people in this work. This paper explains what youth organizing is, identifies four ways that it benefits the young people involved, offers suggestions for mitigating any downsides of participation, and addresses barriers that youth organizing groups may face.
- *Youth and Social Movements: Key Lessons for Allies* by Sasha Costanza-Chock: There is much to learn from young people who are already engaged in mobilizing their peers, families, and communities towards positive social transformation. This paper discusses challenges, and provides recommendations for educators and adult allies of youth movements.
- *Cultivating Young Women's Leadership for a Kinder, Braver World* by Anna Rorem and Dr. Monisha Bajaj: There is not much research exploring leadership development and civic participation among youth, and even less among young women. Policymakers and others seeking to better serve youth in pursuit of a "kinder, braver world" should take into account the research that does exist. This research indicates that youth who engage in service to their communities learn leadership skills through civic action and may be more likely to vote and be civically engaged as adults. Youth who demonstrate leadership skills can, and should, be considered current assets to their communities.
- *How Participatory Action Research Can Promote Social Change and Help Youth Development* by Cara Berg Powers and Erin Allaman: Participatory Action Research (PAR) is a process through which people investigate meaningful social topics, participate in research to understand the root causes of problems that directly impact them, and then take action to influence policies through the dissemination of their findings to policymakers and stakeholders. Like other types of youth organizing, PAR promotes youths' involvement in their communities

and the development of leadership skills. It emphasizes the development of young people's knowledge, skills, and abilities to be experts on issues of importance to them, and to catalyze systemic change in collaboration with their peers and supportive adults.

- *Engaging Youth, Serving Community: Social Change Lessons from a 4-H Rural Youth Development Program* by Donna J. Peterson, Barbara A. Baker, JoAnne Leatherman, Michael E. Newman, and Sally Miske: Social change targeted at empowering youth requires youth and adults to work together as equals. Youth-adult partnerships create a platform to amplify youth voices. To succeed, youth-adult partnerships must be built on open communication and equal voice. Using a case study, this paper shares six broadly applicable lessons learned through the Engaging Youth, Serving Community (ESYC) program. Based on evaluation and understanding of the EYSC experience, it highlights examples of how youth-adult partnerships can promote social change and civic engagement.

- *Youth Organizations and Positive Development: Lessons Learned from a Century of Girl Scouting* by Kamla Modi, Judy Schoenberg, and Kallen Tsikalas of the Girl Scout Research Institute:  Since its inception in 2000, the Girl Scout Research Institute has employed a research-to-action approach so that insights from its work with girls and young women can directly inform Girl Scouts of the USA's program and policy development, as well as impact the larger youth development field. In the last decade, GSRI's research and evaluation work has touched numerous organizations in the public and private spheres, making a practical impact on the lives of youth and providing other organizations with evidence needed to make a case for their own work.

- *Out of the Box: Positive Development & Social Change Through the Arts* by Ping Ho: From early childhood to adolescence, the arts can foster youth movements for social change through positive development. Students who experience high levels of arts enrichment show greater academic performance, enrollment in and graduation from high school and college, civic and community service, news consumption, and engagement in local politics. Moreover, participation in the arts—even as a spectator—predicts increases in civic engagement, tolerance and altruism, regardless of age, race, or education.

- *How to Engage Young People: Lessons from Lowell, MA* by Sopheap Linda C. Sou, Darcie DeAngelo, Masada Jones, and Monica Veth: A youth organization's success depends on young people's participation within the local community. Many of the issues facing young people today reflect a poor engagement with community politics, cultural identity formation, and risk-taking behaviors based on that identity formation. The Teen Block was founded in Lowell, Massachusetts, in 1990 with the goal of addressing these issues. Since that time, it has served over 8,000 young people, integrating social, behavioral, mental, and physical health.

In addition to these formal publications, members of our community very actively produce writing and commentary on blogs and other online spaces. These online writings are aggregated and can be found on the Berkman Center website. [http://cyber.law.harvard.edu/planet/current/].

# C. Communications and Digital Media

The Berkman Center's communications are an important component of its commitment to access to knowledge and support for the public good, as well as a driver of community growth. Increasingly, Berkman research initiatives depend, at least in part, on successful communications with a research community or engagement with a wider audience to realize general success. The Berkman Center communications team has continued to develop an adaptive and modular approach, with the goal of being able to offer a range of facilities and services at relatively low cost and with minimal production time.

The Center's communications continue to generate high attendance at Berkman events and also yield an ever-increasing number of requests for comment from faculty and fellows, who are quoted almost daily in a vast range of news publications. As in past years, Berkman faculty, fellows, and researchers were consulted by and quoted in a wide range of outlets, including the New York Times, *The Economist*, BBC, NPR, the Wall Street Journal, the *Washington Post*, the *Financial Times*, the *Harvard Gazette*, *Ars Technica*, *The Guardian*, *MIT Technology Review*, *Al Jazeera*, *Wired UK*, *The Guardian*, *La Stampa*, *Der Spiegel*, *The India Times*, *El Pais*, the *Toronto Star*, and many others.

Berkman's own media, including its web presences and mailing lists, anchor the Center's communications and community work. Excluding the Center's many project-specific websites, Berkman's main website and its resources are visited approximately 5 million times per year. The weekly *Berkman Buzz* has grown to over 11,000 subscribers, and an additional 10,000+ subscribers receive emails from the Center's outgoing research list. Over 10,000 people receive the Center's weekly *Events and Digital Media Roundup*. Berkman's employment, special events, and *Filter* newsletter mailing lists have also continued to gain subscribers. In addition, the Center maintains substantial and growing beachheads in platforms such as Facebook, YouTube, and Twitter, the latter having served as a key amplifier in recent years.

| Output | 2012-2013 |
|---|---|
| Berkman Buzz | 11,600 subscribers |
| Events and Digital Media Roundup | 10,900 subscribers |
| YouTube<br>*from May 31, 2012 - May 31, 2013* | 6,000 subscribers/130,492 video views<br>1,015,292 video views overall |
| Twitter<br>*as of May 31, 2013* | 26,115 subscribers/6,366 tweets<br>+ 8,000 new subscribers |
| Facebook<br>*as of May 31, 2013, based on Facebook Fan pages* | 8,351 likes<br>+ 3,500 fans |

| Podcasts<br>*as of May 31, 2013, combined FeedBurner statistics from Radio Berkman, Audio, Video, and MediaBerkman subscriptions* | 1,463 subscribers<br>+ 150 new subscribers |
|---|---|
| Radio Berkman<br>*between May 31, 2012 and May 31, 2013* | 97,000 downloads |
| SoundCloud Radio Berkman | 130 followers/1686 listens |

The Berkman Center's digital media outputs have been attracting more and more followers and have improved in quality and strategic focus. The Center continues to improve the quality and delivery of its popular Tuesday lunch series. Nearly all public meetings, presentations, lectures, and other relevant events are webcast live, then archived online in a variety of formats, including open-source codecs and low bandwidth audio-only versions. In addition to webcasting and archiving events-based discussions, the Center produced several unique media packages:

- 25+ short videos about projects created by our partners at the Library Lab at Harvard's Office of Scholarly Communication
- A ten-minute documentary about the Digital Public Library of America featuring interviews with a dozen leading library scholars
- A series of specially produced podcast package stories about digital interventions for humanitarian aid
- 10+ multimedia explainers produced with summer 2012 interns about complex topics in technology
- Several other videos and event recordings/webcasts with the Youth and Media project, Terry Fisher's edX Copyright course, and for the Digital Public Library of America

The communications team has focused on a strategy of synthesizing and summarizing various conversations happening within the Center to better communicate the work of projects to interested audiences and continue the threads of conversation outside of the walls of the Center.

David Weinberger and Digital Media Producer Daniel Jones brought Radio Berkman into its fourth year with several new episodes, many in a new format. The semi-weekly radio-style podcast features highly produced interviews with authors, thinkers, and Center researchers on timely and provocative topics, and infrequent specially produced episodes closer to the style of NPR's "Radio Lab". The Radio Berkman audience has expanded with the help of intern producers, who helped produce special episodes on remote digital coordination for humanitarian intervention.

The Center's digital media stream is syndicated through the MediaBerkman blog, iTunes, SoundCloud, and PRX, and further distributed through YouTube; it is frequently re-

syndicated, embedded by third parties, and widely linked to by outlets such as the online technology journal Ars Technica. Over 1,000 Berkman media pieces are available online.

The communications team plans to become even more aggressive with Radio Berkman and the Center's other digital media outputs in the coming year; expand reach and improve quality with the help of partnerships and sponsorships; produce more dedicated video pieces with projects like DMLP and Herdict; and enhance Berkman's communications capacities with the help of a dedicated designer.

With the help of a Library Lab grant, the team is also conducting research on the design and implementation of an enhanced multimedia portal for web visitors to interact with the terrific video and audio coming out of the Center and throughout Harvard.

# D.    Events

Through discussions, lectures, conferences, workshops, and other gatherings, the Berkman Center convenes diverse groups around a wide range of topics that examine the Internet as a social and political space. The unique interactions generated through these events—both as process and as product—are fundamental elements of the Berkman Center's modus operandi. While research and teaching are the Center's top priorities, these auxiliary connections facilitate the continuous expansion and renewal of Berkman's core network. They also stimulate interactions with other disciplines and institutions so that diverse perspectives—from academics, policy-makers, activists, students, and technologists—can be brought to bear on the complex issues generated by the interaction between technology and society.

## 1.    Ongoing Events and Series

**Luncheon Series**. Every Tuesday for the past eleven years, Berkman has hosted a lunch gathering in the Center's conference room. Each session involves a short presentation by a guest speaker or one of Berkman's community members, who talks about a hard problem or challenge that emerges from his or her current work. These 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. On average, the luncheon reaches about 40 people in person per week. Notably, there were a number of talks this year that received significant attention, some with over 150 people attending in person, with many others following live online and still others tuning in asynchronously. Many important projects and scholarly works have been vetted and influenced early in their trajectory at the Berkman Luncheon Series. This year's luncheons (in chronological order) featured the following conversations:

- **Dries Buytaert**, original creator and project lead of Drupal, shared his experiences on how he grew the Drupal community from just one person to over 800,000 members during the past 10 years.

- **T.L. Taylor**, Center for Computer Games Research, IT University of Copenhagen, presented preliminary inquiries into the emerging intersection of "social media," gaming, and broadcasting.
- **Anya Kamenetz,** senior writer at Fast Company Magazine, discussed "Who Can Learn Online, and How?"
- **Rosemarie Garland-Thomson**, Emory University and fellow at the Radcliffe Institute for Advanced Study at Harvard University, presented the idea of accessible technology to show how the way in which we make our shared world of buildings, technologies, public spaces, practices, laws, and attitudes builds a total environment that welcomes some people—and keeps other people out.
- **Andrés Monroy-Hernández** of Microsoft Research & **Panagiotis "Takis" Metaxas** of Wellesley College presented their paper on "Narcotweets" and the dynamics of reporting on the Mexican drug war using social media.
- **Brad Abruzzi**, a Berkman Center Fellow and author, discussed self-publication, author independence, and the prospects for a literary culture fostered by reader criticism rather than publishers' whims.
- **Brett Frischmann**, Cardozo Law School, shared insights from his most recent publication, *Infrastructure: The Social Value of Shared Resources*.
- **Niva Elkin-Koren**, University of Haifa, shared insights based on the building of a coalition of higher education institutions in Israel and the drafting a code of fair use best practices for education.
- **Alberto Pepe**, a Berkman Center Fellow, argued that the tools that scientists use to write scholarly papers constitute a first major barrier to Open Science, as they lock content, figures, data, and tables in a "coffin", thus preventing reuse and sharing, and demonstrated how a new tool called "Authorea" can address these problems.
- **Madhavi Sunder**, UC Davis School of Law, presented on themes from her book, *From Goods to a Good Life: Intellectual Property and Global Justice.*
- Berkman Fellow **Peter Suber** and faculty member **Stuart Shieber** celebrated Open Access Week by hosting an information and discussion session on "How to Make Your Research Open Access (Whether You're at Harvard or Not)."
- **March Abrahams,** author of *This is Improbable* and host of the annual Ig-Nobel Ceremony at Harvard, performed dramatic readings from bizarre studies discussed in his new book.
- **Meredith Whittaker**, Google Research & **Thomas Gideon**, Open Technology Institute, presented on the Measurement Lab (M-Lab), a collaborative effort founded by Vint Cerf and a large body of network researchers that is dedicated to creating an Internet-scale ecosystem for truly open network measurement.
- **Kyle Parry**, Researcher at metaLAB and PhD student in Film and Visual Studies and Critical Media Practice at Harvard, discussed the metaLAB's collaboration with the Arnold Arboretum.
- **Andrew Lowenthal** of EngageMedia discussed how citizen media and networked publics are shifting the balance of power both in the media and the political landscape.
- **Oluwaseun Odewale**, a Berkman Center Fellow, showcased how several civil society organizations in Nigeria established election monitoring platforms via

SMS, Twitter, websites, blogs, Facebook, and telephone lines, and offered recommendations for more institutionalized adaptation of promoting good governance in Nigeria.

- **David Wertime**, founder of Tea Leaf Nation, presented on using the social web to gauge grassroots sentiment in China.
- **Molly Sauter**, a Berkman Fellow, explored the role of tool design and media coverage in the relative success of Operation Payback and earlier activist Distributed Denial of Service (DDoS) actions.
- **Diana Kimball**, a Berkman Fellow, presented a personal case study in learning to think through code.
- **Jenna Burrell,** Assistant Professor at the School of Information at UC Berkeley, offered a deep dive into her recent book, *Invisible Users: Youth in the Internet Cafes of Urban Ghana*.
- **Ruha Devanesan**, Executive Director of the Internet Bar Organization and a Berkman Fellow, offered her thoughts from the fallout and aftermath of the release of Invisible Children's Kony 2012 video.
- **Jon Penney**, a Berkman Center Fellow, examined some of the international law and politics of censorship resistance activities through three case studies involving past global communications censorship and information conflicts—telegraph cable cutting and suppression, high frequency radio jamming, and direct broadcast satellite blocking—and explored the world community's response to these conflicts.
- **Eric Gordon,** a Berkman Center Fellow, talked about a tool developed by Emerson College's Engagement Game Lab, which created an online game called Community PlanIt to explore how game mechanics and social interaction can move local civic processes beyond transactional participation and towards civic learning and a sustained, reflective mode of civic interaction.
- **Dan Gillmor**, columnist for The Guardian and former Berkman Center Fellow, shared thoughts regarding a book in development that addresses what steps users can take as individuals to be more secure and free online.
- **Anil Dash**, entrepreneur and technologist, explored some of the unexamined costs, both cultural and social, associated with the way the Web has evolved.
- **Derek Khanna**, Visiting Fellow at Yale Law School's Information Society Project, presented a strategy for achieving positive technology policy reforms in Congress.
- Berkman Fellow **Heather Whitney** questioned if employees at high-tech companies should be worried that their trust in their employer, so purposefully cultivated, has been built on promises that are more illusion than enforceable promise.
- **Daniel J. Caron**, Deputy Head and Librarian and Archivist of Canada & **Eric Mechoulan**, Université de Montréal, discussed the design of cultural archives.
- **Justin Reich**, Berkman Center Fellow, explored the different futures for education made possible by digital tools, and examined the political and civic implications of transforming schools and learning with networked technologies.

- **Geoffrey Miller**, Visiting Professor, Business & Society Area, NYU Stern Business School and Associate Professor, Psychology, University of New Mexico, presented on the smartphone revolution in the behavioral sciences.
- **Timothy H. Edgar**, former Director of Privacy and Civil Liberties for the White House National Security Staff, examined the legal powers available to address network and computer insecurity and their impact on privacy, civil liberties, and other fundamental values.
- **Dr. Dorothea Kleine,** Director of the ICT4D Centre, RHUL launched her new book, *Technologies of Choice? – ICTs, development and the capabilities approach.*
- **Laura Amico**, Nieman-Berkman Fellow in Journalism Innovation, presented her preliminary ideas on improvisation theory and jazz in news development, arguing for a journalism framework that builds new culture out of improvisation.
- **Douglas Rushkoff**, author of *Present Shock* and columnist for CNN, discussed his new book with David Weinberger.

## 2.     Conferences and Special Events

The Center's conferences 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 is offered below (for context, please see the Executive Summary):

- The FCC **Open Internet Advisory Committee**, under the leadership of Jonathan Zittrain, tackled a number of key issues relevant in the wake of the Open Internet Report and Order in a series of meetings held in Cambridge, MA, Stanford, CA, Evanston, IL, and Washington, DC.
- **Digital Public Library of America** (DPLA): The DPLA hosted a number of events this past year, including the project's third major public event, which took place on October 11-12, 2012, in Chicago, IL, at the Chicago Public Library and brought together hundreds of librarians, technologists, creators, students, government leaders, and other stakeholders for two days of discussion and presentations. A two-day launch event had been planned for April 18-19, 2013, at the Boston Public Library, but in light of the Boston Marathon bombings on April 15th, it was postponed until Fall 2013.
- **Empowering City Innovators: A Meeting on City Innovation**: On November 8, 2012, a group of leaders in city governments, academia, and the civic engagement and open government fields came together for "Empowering City Innovators: A Meeting on City Innovation". Additional description is provided in the Civic Innovation for City Government project description.
- **Symposium on Internet-Driven Developments: Structural Changes and Tipping Points:** Together with seven international co-hosts, on December 6-8, 2012, the Berkman Center for Internet & Society convened an international "Symposium on Internet-Driven Developments: Structural Changes and Tipping Points (SCTP)". The gathering brought together representatives from Internet and society research centers located in 22 countries across five continents. This highly

collaborative and participatory event marked the launch of a nascent global network of interdisciplinary centers (NoC) with a focus on Internet and society. In May 2013, the Berkman Center and Istanbul Bilgi University hosted a regional NoC event on issues of "ICT, Law, and Innovation: Recent Developments, Challenges, and Lessons Learned", and additional events are planned in Rio de Janeiro later this year.

- **The Intention Economy: When Customers Take Charge**: Doc Searls shared themes from his new book, which were developed while he was a fellow at the Berkman Center leading ProjectVRM.
- **Certificate Authority Collapse**: Nico A.N.M. van Eijk & Axel Arnbak, Institute for Information Law, discussed research that finds that the EU eSignatures proposal lacks an integral vision on the HTTPS value chain and a coherent normative assessment of the underlying values of HTTPS governance.
- **Open Access Book Launch**: Berkman Fellow Peter Suber launched his latest book from MIT Press, *Open Access*, which offers a concise introduction to the topic.
- **Regulation of the Internet and Online Music in China**: T.K. Chang, Partner, Ivy Law Group LLC, considered the labyrinth of Chinese regulations and bureaucracies governing the Internet in China along with recent developments in online music resulting from the US victory over China at the WTO.
- **Rethink Music Licensing Workshop**: One topic that came up repeatedly during the Rethink Music conference in 2010 and 2011 was the need for an easier licensing process for those seeking to use musical compositions and sound recordings, and the potential that a centralized repository or registry of ownership information pertaining to copyrighted works might facilitate the licensing process. On November 3-4, 2011, Berkman and Berklee convened the Rethink Music Rights Registry Workshop at Harvard Law School to address registry issues. Berkman and the Berklee College of Music organized a 2012 meeting that aimed to identify concrete solutions to ease the licensing process and make it more efficient.
- **Configuring the Networked Self**: Julie E. Cohen, Georgetown Law, discussed her new book, which attempts to develop a unified framework for conceptualizing the social and cultural effects of legal and technical regimes that govern information access and use.
- **The growing trade in software security exploits: free speech or cyber-weapons in need of regulation?**: Christopher Soghoian, Principal Technologist & Senior Policy Analyst, American Civil Liberties Union, posed the question "What should be done, if anything, about this part of the security industry?"
- **At the Corner of Hollywood and Web**: The Berkman Center hosted a screening of "We Made this Movie" with director Rob Burnett, a five-time Emmy Award-winning executive producer of The Late Show with David Letterman. Elaine McMillion, a local independent documentary filmmaker, and author David Weinberger.
- **Captive Audience: The Future of Information in America**: Susan Crawford celebrated the release of her new book, *Captive Audience: The Telecom Industry and Monopoly Power in the New Gilded Age*.

- **Is School Enough?** The Berkman Center hosted a screening and conversation about youth and informal learning with digital media with producer Stephen Brown, President and Executive Producer at Mobile Digital Arts; Sierra Goldstein, 15-year-old participant in the PBS special; Urs Gasser; Sandra Cortesi; Rey Junco; and moderator Eric Gordon.
- **Play Nice! The Science of Player Behavior in Online Games**: The Berkman Center co-sponsored an event with the MIT Game Lab that focused on how psychological insights can create greater civility in a networked world.
- **Big Data—and its Dark Side**: Co-authors Professor Viktor Mayer-Schönberger, OII, and Kenneth Neil Cukier, *The Economist*, explored big data's power, the dangers it poses, and how to address these opportunities and challenges in their new book.
- **Patent Litigation: Teaching Technology to Judges and Juries**: Heidi Keefe, Partner at Cooley LLP, who tried Facebook's first patent dispute in July 2011 in Delaware and has continued to represent Facebook—including in its recent dispute with Yahoo—led a discussion co-sponsored by the Cyberlaw Clinic and the HLS Journal of Law and Technology.
- **Library License Workshop:** A joint effort between the Harvard Library Innovation Lab and the Berkman Center for Internet & Society, the Library License Project held a workshop at the Berkman Center to discuss how to develop a contractual framework and distribution mechanism that increases the availability of in-copyright e-book titles in libraries in a manner advantageous to both publishers and authors.
- **Workshop on Student Privacy in the Cloud Computing Ecosystem**: The Berkman Center convened a highly participatory and interactive event that brought together a small group of experts from education, government, business, nonprofit organizations, and academia to map, analyze, and discuss both the opportunities and challenges educational institutions face as they contemplate moving to "the cloud". Specifically, the workshop aimed to surface, identify, and evaluate central privacy issues that may emerge when adopting cloud-computing technologies in educational settings. Based on a set of use cases, the workshop sought to understand and begin to bridge the often-siloed perspectives of educational institutions, students, parents, and administrators as well as cloud service providers and policy makers.
- **IT, Security, and Power**: Bruce Schneier and Jonathan Zittrain led a conversation focused on salient Internet issues and power.
- **Filling the News Gap in Cambridge and Beyond: Citizen Journalism and Grassroots Media**: The Cyberlaw Clinic, in collaboration with Cambridge Community Television, hosted a half-day public-facing event at the Cambridge Public Library that investigated the quickly-expanding world of citizen journalism, exploring: how technology is fueling its growth; how that growth is changing the way we see our world, enact change, and disseminate the news; and how people in communities around the world are taking the initiative to share stories that are left untold by the mainstream media.
- **CGA Annual Conference: Creating the Policy and Legal Framework for a Location–Enabled Society**: The Berkman Center co-sponsored the annual CGA

conference and organized a session, "The Role of Government in a Location-Enabled Society", with Urs Gasser; MIT Professor Sandy Pentland; BSR Director at Yahoo! Ebele Okobi; HKS Professor Stephen Goldsmith; and Boston Office of New Urban Mechanics Director Nigel Jacob.

- **First International Conference on Internet Science**: This conference included contributions from Berkman Center faculty and fellows. The event was co-chaired by Faculty Fellow Juan Carlos de Martin and organized by the Network of Excellence in Internet Science, which includes over 30 research institutions across Europe and aims to strengthen scientific and technological excellence and address the fragmentation of European research in this area. Berkman Center Executive Director Urs Gasser delivered a keynote on the interplay between Internet science and Internet policy-making. Berkman Fellows Sandra Cortesi and Jérôme Hergueux served on the technical program committee, and Mayo Fuster Morell participated in a number of conference sessions.

- **REWIRE: Digital Cosmopolitans in the Age of Connection:** Written during his fellowship at the Berkman Center, media scholar and activist Ethan Zuckerman launched his new book, *Rewire*, in which he explains why the technological ability to communicate with someone does not inevitably lead to increased human connection.

## 3. Working Groups

**Cyberscholar Working Group**. The working group is a monthly forum for students, fellows, and affiliates of Harvard's Berkman Center, Yale Law School's Information Society Project, the Comparative Media Studies Department/Future for Civic Media at MIT, and Columbia University. During the Network of Centers launch event and Symposium in December 2012, the Cyberscholars working group invited international guests to participate in their gathering and to present and discuss current research.

**Digital Identity Working Group**: A set of Berkman Center fellows met regularly to discuss issues related to pseudonymity, real names policies, reputation anonymity and law identity performance online, technologies of identification and authentication, data portraits, benefits of anonymity (such as creativity, youth psychological development, and mistakes), and the right to be forgotten.

**Networked Cultures Working Group**: In the fall of 2011, Berkman Fellow Dalida María Benfield and Jesse Shapins of metaLAB(at)Harvard initiated a series of artist-fellows meetings, now called the Networked Cultures Working Group, for all involved in digital art, music, writing, and other forms of cultural production at the Berkman Center. The group has met monthly throughout the year, and has proven to be an important think tank for the development of art, writing, and pedagogical projects, a venue to receive feedback on works in progress, and an opportunity for reflection on a myriad of legal and ethical issues related to cultural production. The group also collectively produced an artwork on Zeega, in beta form, entitled "Revolutions: A Work in Progress", presented at the Museum of Fine Arts, Boston as part of the "Histories of Now" symposium in March 2012. The group will continue to meet in the coming year and foresees even greater involvement from the Berkman community and beyond, offering an important central

node for open-ended digital cultural production that incorporates key values of the Berkman Center.

**4.    Visitors and Delegations**

The Berkman Center hosted a series of delegation and visitors this past year. A selection includes:

- **Emancipation Proclamation Sesquicentennial Delegation**: The Underground Railway Theater, a resident theater company of Central Square Theater of Cambridge, MA, produced a cultural program at Tremont Temple that focused on the importance of the Haitian Revolution and its iconic leader, Toussaint L'Ouverture, to those who struggled to end slavery in the US prior to and during the Civil War. The Berkman Center advised a group that included production organizers;
- A delegation of leading German internet policy experts from the **Heinrich Böll Foundation**, a think tank that fosters transatlantic dialogue in environmental, political and social issues, joined us for a roundtable at the Berkman Center;
- **Boston Ruby Workshop**: The Berkman Center and the Boston Ruby Group hosted a free 1.5 day course that helped attendees learn how to create that software with Ruby and Ruby on Rails;
- **Irish e-Governance Delegation**: A group of 10 Irish and Northern Irish political leaders from a number of different government institutions, civil organizations, development bodies, and public corporations, joined us to discuss issues related to e-Governance;
- A delegation from **Iceland**, including a member of Parliament, the president of Reykjavik University, representatives from the Icelandic startup and business communities, and a small group representing similar interests in the US (from Google, Union Square Ventures, the Internet Infrastructure Coalition, Yale, the University of Toronto, and the Open Technology Institute) joined us to discuss a case study around Iceland and the creation of "Internet Enterprise Zones";
- **Open Data Impact: Identifying Key Perspectives For Research**: With IDRC and the Web Foundation, the Berkman Center brought together faculty, fellows, and other researchers in the academic and open data communities to explore questions around the emerging impacts of open data and building a network of researchers and institutions that are considering or already studying these and related issues.

A number of special guests visited the Berkman Center this past year; a selection is included in the Executive Summary of this report.

# E.  Technical Infrastructure and Software Development

"The Geeks"—as the technical staff at the Center are affectionately called—work to sustain two broad (and overlapping) mandates. At the core of the Center's operations, the Geeks build, support, and maintain the hardware and core services on which the Center

relies to conduct its day-to-day work; toward the edges, the Geeks develop software solutions, frequently in collaboration with teams working elsewhere within HLS or within the wider University, to meet the needs of the Center's various projects.

All software at the Berkman Center, whether developed in-house or through outside collaboration, passes through the development group; likewise, all hardware deployed at the Center—from workstations and mobile devices to enterprise-grade servers—is specified, provisioned, and maintained by the technical infrastructure support group. The Geek team currently consists of Justin Clark, Sebastian Diaz, Jennifer Jubinville, David LaRochelle, Isaac Meister, Edward Popko, and Ryan Westphal.

In the past year, the Geeks' development team has liaised with dozens of projects within and outside the Center, producing novel solutions with an impressive array of applications. These include, but are by no means limited to:

- AppTracker, a job application management system originally built for the Center's internal use, refined and adapted for use of the CopyrightX team as a MOOC application intake tool, developed by Anita Patel;
- The Emily Dickinson Archive, the result of a unique collaboration among institutions within and outside of Harvard University, that will make available high-resolution images of manuscripts of Dickinson's poetry and letters available in open access, along with transcriptions and annotations from historical and scholarly editions;
- Cohort, a contact management system built to manage various Center-related contacts and communications that allows for tagging and grouping of contacts and provides a suite of collaboration tools based around contact data;
- a novel way of extracting and visualizing significant events from raw web traffic data, developed by Justin Clark on behalf of the Herdict project;
- a new website for the Cyberlaw Clinic, cyberlawclinic.berkman.harvard.edu, developed using the Drupal content management system with custom theming provided by Justin Clark;
- UTurn, an extension to MediaWiki designed to purging spam, user accounts, uploaded files, and other unwanted content by reverting some or all of a wiki to an earlier state, developed by Tomas Reimers for the Center's internal use, and to be released to the public under an open-source license.

In addition to providing direct development support, the Geeks have continued to provide guidance and expertise to Center projects that blur the boundaries between software development and backend infrastructure support. For instance, the Geeks have provided technical background and project management support for the redevelopment and expansion of the database backing the Chilling Effects clearinghouse of DMCA takedown notices; for the DPLA project, the Geeks helped marshal and organize outside contractors tasked with the building of the dp.la portal, as well as the open API it exposes; provided project management and technical consulting services to the Internet Robustness project as it works towards technical specifications for a mirroring protocol; provided graphic and interface design services to the Internet Monitor project; and

headed up the expansion of the hardware and software services backing the Media Cloud project.

The Geeks have been heavily involved in development and coordination work for the Library Lab, a collaboration among the Harvard University Library, the Office of Scholarly Communication, and Harvard University IT Library Technology Services that aims to produce useful tools for librarians, instructors, researchers, and the broader scholarly community. Projects for which the Geeks have provided extensive development and support work include:

- TagTeam, a 'middleware' aggregation platform sitting between tagging platforms (e.g., Zotero, Delicious, etc.) to harness the power of social tagging for research, which reached its version 1.0 milestone in September 2012;
- Collection Shift, designed to assist library staff with determining the linear feet required for a given call number range and visualizing shifts in call number locations in situ;
- Class Request Tool, designed to allow instructors to request the use of space, staff time, and assistance at Harvard's archives and special collections; and
- Zone 1, a prototype 'rescue' repository developed for the use of Harvard library staff to receive data at imminent risk of deletion and for which no other appropriate digital repository is available, which released an export tool in November 2012.

This extensive development work is undergirded by the hardware and software platforms maintained by the infrastructure support group. As of June 2013, the team oversees over 40 servers with over 160 processing cores and more than 400 GB of RAM, attached to over 20 terabytes of networked storage. These systems run everything from directory services and e-mail to development and production environments for the vast majority of Center projects and collaborations, with 24/7 monitoring and on-call response.

Over the past year, the Geeks also continued to deliver critical infrastructure and technical support to the Center's community of staff, faculty, and fellows out of its 23 Everett Street home base. The infrastructure support group manages a deployed base of over 30 Windows, OS X, and Linux workstations, in addition to a pool of laptops and mobile devices, a multimedia conference room, and a full-service media production setup. The group also provides support at all Center-sponsored events, both local and remote.

The Geeks have always collaborated with teams outside of Berkman and shared understandings regarding how to navigate through technology. To this end, the Center hosts blogs, wikis, content management systems, and custom applications for use not only by Berkman affiliates, but also by various other Harvard departments and individuals. In addition, the Geeks continually keep up with the latest technological trends and expertise, speaking on topics in which they have expertise at both Harvard and non-Harvard events as well as playing a technical advisory role in a variety of initiatives within the Harvard community and beyond.

# II.  LOOKING AHEAD

A primary organizational focus for the Berkman Center in 2013-2014 will be a capital campaign designed to strengthen our core funding and ensure the sustainability of the Center in the years ahead. This strategic process provides an opportunity for us to build upon the strong foundation—of scholarship, community, and impact—that has animated our work over the past 15 years, and to consider what those achievements mean for the coming year and beyond. In the process, we will consider, evaluate, and refine the focal points and modes that define our work in order to sharpen our view of the next decade. The rearticulation of our research priorities and modes of engagement – tentatively organized in the three clusters described below – is shaped in important ways by our vibrant community, representing the diverse interests, tools, areas of activities, and groups with which we engage.

We will continue to *explore the relationship between new technologies and civic activity, public discourse, democratic practice, and advocacy efforts*. This cluster will expand our efforts to understand, document, and make accessible information about the state of Internet openness and health, encompassing not only the status of information controls but also of access, infrastructure, and online activity. The Center will confront these issues in innovative ways, seeking to leverage and build upon recent investments in data gathering and new methods for exploring the state of the Internet ecosystem, including the status of information controls, access, infrastructure, and online activity, with projects such as Herdict, Internet Monitor, and Internet Robustness acting as important test beds. As noted previously in the report, the convergence of these efforts will ultimately support a larger, international, and decentralized "Internet Health Organization" (or perhaps more accurately Internet Health Network) to deal with long-term challenges and seek solutions to the most pressing problems in the online environment.

Second, we are deeply invested in *ICT and the future of learning*, with particular attention to pedagogy and teaching, and opportunities to leverage the promise of online tools to enhance or complement in-person and hybrid learning experiences. This cluster captures our desire to further rethink pedagogy and teaching in practice and across formal and informal educational settings. Our interests extend to the enabling ecosystem that makes innovation in education possible, including appropriate policies, standards, and open educational resources (OER). Several educational initiatives to be carried out in the coming year exemplify our work in this area, including a second iteration of Terry Fisher's innovative CopyrightX course. In addition, working closely with our Network of Centers partners, we will seek to replicate this model via a series of courses aimed at creating a shared, collaborative, and global online Internet and society curriculum. At the University level, this cluster of activities includes a pilot Digital Problem Solving Initiative, which we are launching this fall in collaboration with Dean Minow and other partners. The pilot will seek to engage Harvard students in team-based, practical digital problem solving around the University. In addition to actually 'solving' issues and implementing solutions, the pilot will consider how the program might be refined and expanded in the future.

Finally, as the use and impact of technology increasingly becomes a fundamental consideration across and within institutional, sectoral, geographic, and other boundaries, we are committed to examining *the nexus of—and dynamic interplay between—online and offline spaces* in ways that support the public interest. Underscoring this cross-cutting commitment to the application of key learnings from the study of Internet & society issues to large-scale societal problems—from governance to health, security, and energy—in ways that support innovative, scalable, and sustainable solutions, with real world impact. Topics are varied, from the transition of traditional institutions (e.g. libraries) from "analog" to "digital", such as with the Digital Public Library of America or New Media Nollywood, to using Media Cloud to track the interaction of the networked public sphere and offline events, and understanding emergent models for civic engagement and community building with online and offline elements. As the distinction between the two continues to blur, this is in certain respects our most open and emergent area of inquiry.

Our themes, methods, and mode of work are inextricably and productively tied to a diverse, rich, and committed community of collaborators; the responsibility to realize such ambitious undertakings on a daily basis rests with our incredible staff. Over the course of 15 years, we have consciously broadened that circle, extending our perspectives along geographic, disciplinary, and other lines. Fellows came from a just a handful of countries in 2007, while fellows and faculty associates joined us from 28 countries in 2012-2013. Our modest summer internship program has grown from perhaps a dozen US-based law students a decade ago, to over three times that number, spanning disciplines, levels of study, and national backgrounds. The Center's Board of Directors has evolved from a few HLS faculty to representatives from across the University, and is now in its second iteration since becoming a University-wide center. While each of these individuals and groups is essential, our extended network powers, informs, and extends Berkman. From institutional partners, to alumni, to unaffiliated collaborators, our work is not limited by formal delineation, and is characterized by shared interests, complementarity approaches, and deep commitment.

# III.   ADDITIONAL INFORMATION: TEAM

The Berkman Center owes its accomplishments to its exceptional and committed team of faculty, staff, fellows, students and affiliates.

## A.  Board of Directors

*The Board of Directors comprises:*

Yochai Benkler
Susan Crawford
John Deighton
William Fisher (Chair)
Urs Gasser
Phillip Malone
Charles Nesson
Felix Oberholzer-Gee
John G. Palfrey
Jeffrey T. Schnapp
Stuart Shieber
Mark Wu
Jonathan Zittrain

## B.  Staff

Berkman's Executive Director Urs Gasser leads the Center's full-time staff, which consists of a growing team of project managers and coordinators, technical developers and administrators, financial and administrative support specialists, managers of media and communications, and event and community architects. Over the course of the 2012-2013 fiscal year, the following individuals contributed to Berkman as full-time staff members:

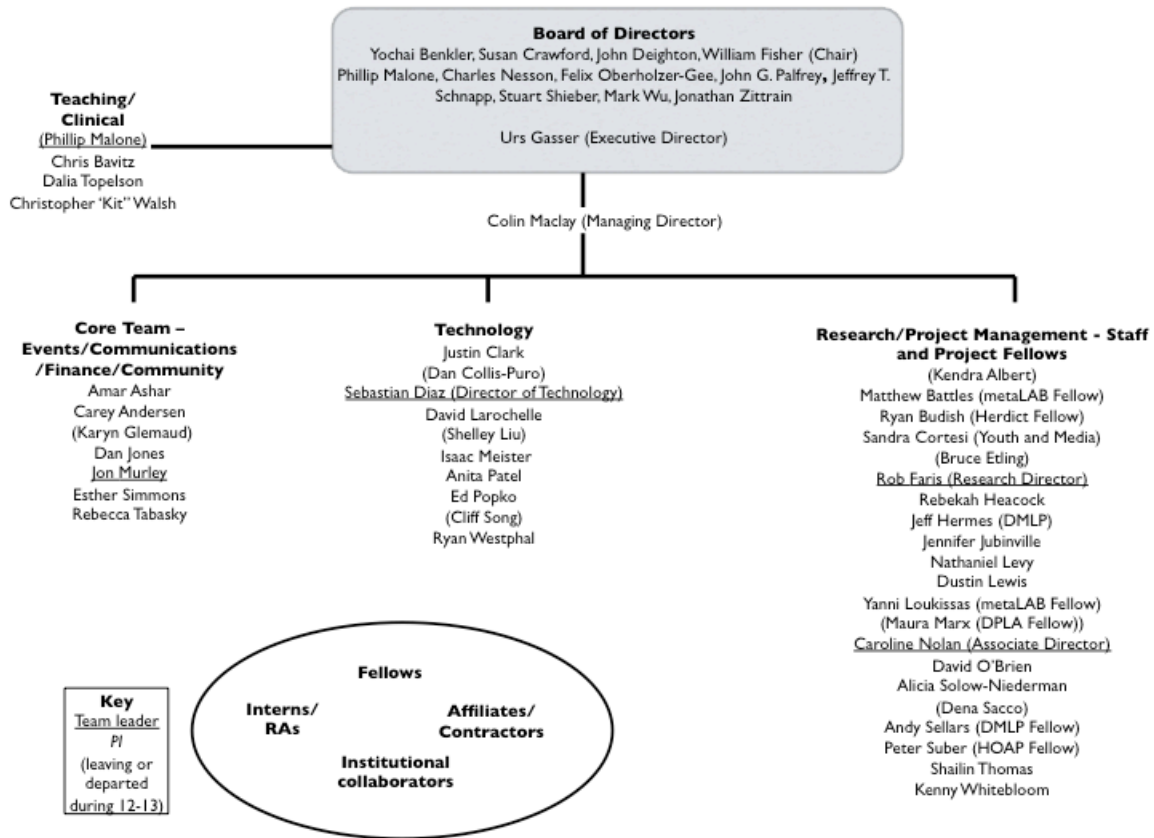Executive Director: Urs Gasser
Managing Director: Colin Maclay
Research Director: Rob Faris
Clinical Program Director: Phil Malone
Associate Director: Caroline Nolan
Director of Technology: Sebastian Diaz
Research Associate: Kendra Albert
Office Manager: Carey Andersen
General Manager of Special Initiatives: Amar Ashar
Clinical Program Assistant Director and Clinical Instructor: Christopher Bavitz

Junior Systems Administrator: Justin Clark
Systems Administrator: Dan Collis-Puro
Project Manager: Bruce Etling
Financial Associate: Karyn Glemaud
Project Manager: Rebekah Heacock
Project Manager: Jeff Hermes
Project Coordinator: Adam Holland
Digital Media Producer: Dan Jones
Project Manager: Jennifer Jubinville
Lead Engineer: David Larochelle
Project Manager: Nathaniel Levy
Project Manager: Dustin Lewis
System Architect: Shelley Liu
Systems Administrator and Platform Architect: Isaac Meister
Financial Manager: Jon Murley
Project Coordinator: David O'Brien
Junior Web Developer: Anita Patel
Technical Support Specialist: Ed Popko
Senior Researcher: Dena Sacco
Staff Assistant: Esther Simmons
Project Manager: Alicia Solow-Niederman
Junior Web Developer: Cliff Song
Manager of Community Programs: Rebecca Tabasky
Research Associate: Shailin Thomas
Clinical Instructor: Dalia Topelson
Web Developer: Ryan Westphal
Project Coordinator: Kenneth Whitebloom

Tremendous contributions were made by a number of key project fellows, including:
metaLAB (at) Harvard: Matthew Battles and Yanni Loukissas
Herdict: Ryan Budish
Youth and Media: Sandra Cortesi (Director)
Cooperation Group: Benjamin Mako Hill
Digital Public Library of America: Maura Marx
Digital Media Law Project: Andy Sellars
Harvard Open Access Project: Peter Suber
Clinical Instructional Fellow: Christopher "Kit" Walsh

Finally, a number of key part-time staffers provided invaluable support to the Center's research agenda:
Meredith Beaton
Momin Malik
Mary McCrossan

## C. Berkman Center Organizational Chart

**Board of Directors**
Yochai Benkler, Susan Crawford, John Deighton, William Fisher (Chair)
Phillip Malone, Charles Nesson, Felix Oberholzer-Gee, John G. Palfrey, Jeffrey T. Schnapp, Stuart Shieber, Mark Wu, Jonathan Zittrain

Urs Gasser (Executive Director)

**Teaching/Clinical**
(Phillip Malone)
Chris Bavitz
Dalia Topelson
Christopher 'Kit" Walsh

Colin Maclay (Managing Director)

**Core Team – Events/Communications/Finance/Community**
Amar Ashar
Carey Andersen
(Karyn Glemaud)
Dan Jones
Jon Murley
Esther Simmons
Rebecca Tabasky

**Technology**
Justin Clark
(Dan Collis-Puro)
Sebastian Diaz (Director of Technology)
David Larochelle
(Shelley Liu)
Isaac Meister
Anita Patel
Ed Popko
(Cliff Song)
Ryan Westphal

**Research/Project Management - Staff and Project Fellows**
(Kendra Albert)
Matthew Battles (metaLAB Fellow)
Ryan Budish (Herdict Fellow)
Sandra Cortesi (Youth and Media)
(Bruce Etling)
Rob Faris (Research Director)
Rebekah Heacock
Jeff Hermes (DMLP)
Jennifer Jubinville
Nathaniel Levy
Dustin Lewis
Yanni Loukissas (metaLAB Fellow)
(Maura Marx (DPLA Fellow))
Caroline Nolan (Associate Director)
David O'Brien
Alicia Solow-Niederman
(Dena Sacco)
Andy Sellars (DMLP Fellow)
Peter Suber (HOAP Fellow)
Shailin Thomas
Kenny Whitebloom

**Key**
Team leader
PI
(leaving or departed during 12-13)

**Fellows**
Interns/RAs
Affiliates/Contractors
Institutional collaborators

## D. Fellowship Program

The Berkman Center fellows are central to the Berkman Center's success, and provide a continuous source of energy, inspiration, and inquiry as they spend time at the Berkman Center.

Each Berkman fellowship carries a unique set of opportunities, responsibilities and expectations. All fellows engage issues related to the fairly limitless expanse of 'Internet and Society' issues, and all are committed to the intellectual life of the Center and to fellowship program activities. Some fellows work directly as researchers on Berkman Center projects. Other fellowships consist of independent work, such as the research and writing of a manuscript or series of papers, the planning and execution of an event, the development and implementation of a project, or a study on issues related to the Berkman Center's areas of inquiry.

As a group, fellows actively participate in exchanges through a weekly fellows hour, working groups run by fellows, and a wide range of events and interactions. Along with Berkman faculty, students, staff, and other affiliates, fellows help to develop and advance Berkman Center projects as well as learn and teach through courses, curricula, and

gatherings. The community of fellows represents a diversity of disciplines, career stages, opinions, cultures, and approaches to work and outputs. Many Berkman fellows, while deeply rooted in a particular discipline, simultaneously exist at the boundary of that discipline, pushing forward to investigate how its approach can relate to Berkman Center studies and permit unique intersections across additional areas. The Center works to select fellows who are generous with their energy and time, and are able to work effectively as part of an intellectual community. Practitioners as well as theoreticians make up the Berkman fellowship community, which helps to highlight applications outside of academia.

Individuals from two other distinct classes of affiliation—Fellowship Advisory Board members and Faculty Associates—also actively participate in fellows' program activities. The Fellowship Advisory Board was established for exceptional former fellows who have sustained their bright and sharp contributions to the Center over many years across new projects, technologies, and people. Faculty Associates are colleagues who have a faculty position and with whom the Center is committed to building or maintaining a relationship. This category of affiliation allows Berkman to explore opportunities for continued and future collaboration and provides one avenue through which to build relationships across institutions.

Highlights of the accomplishments of many of the Berkman Center's 2012-2013 Fellows, Fellows Advisory Board Members, and Faculty Associates can be found in the Independent Scholarship section.

**2012-2013 Berkman Fellows:**
Kendra Albert
Meg Leta Ambrose
Laura Amico
Maurice Ashley
Bodo Balazs
Matthew  Battles
Matthew Becker
Dalida Maria Benfield
danah boyd
Ryan Budish
Herbert Burkert
Sandra Cortesi
Juan Carlos de Martin
Jacques De Werra
Ruha Devanesan
Judith Donath
Borja Echeverria
Bruce Etling
Mayo Fuster Morell
Oliver Goodenough
Eric Gordon

Eszter Hargittai
Alison Head
Jérôme Hergueux
Phil Hill
Benjamin Mako Hill
Diana Kimball
Rosemary Leith
Ching-Yi Liu
Maria Loeblich
Xinlei Lu
Jerry Lu
Catharina Maracke
Maura Marx
Claire McCarthy
Silvio Meira
Oluwaseun Odewale
John Palfrey
Jonathon Penney
Alberto Pepe
Intisar Rabb
Justin Reich
Hal Roberts
Molly Sauter
Andy Sellars
Aaron Shaw
Elisabeth Staksrud
Peter Suber
Alexander Trechsel
Jessica Valenti
Kevin Wallen
Chris Walsh
Heather Whitney

**2012-2013 Berkman Fellowship Advisory Board:**
Wendy Seltzer
Jake Shapiro
David Weinberger
Ethan Zuckerman

**2012-2013 Berkman Faculty Associates:**
Mike Ananny
David Ardia
Fernando Bermejo
Jim Bessen
Michael Best
Beth Coleman

Sasha Costanza-Chock
Dan Gillmor
Matt Hindman
Jeffrey Huang
Lewis Hyde
Rey Junco
Beth Kolko
Karim Lakhani
Kevin Lewis
Harry Lewis
Wayne Marshall
Miriam Meckel
Carlos Osorio
Mica Pollock
Joseph Reagle
Nagla Rizk
Geanne Rosenberg
Christian Sandvig
Clay Shirky
Zeynep Tufekci
Eric Von Hippel
Dennis Yi Tenen
Dorothy Zinberg

In addition to working with Berkman fellows each year, the Center's staff spends a considerable amount of time conducting outreach, reviewing applications, interviewing candidates, and making difficult selection decisions for the year to come. The fellowship community is comprised of some returning fellows and some new fellows, which helps establish continuity and provide ongoing support for community members while also providing room for fresh ideas and new relationships. The review process for 2013-2014 fellows involved hundreds of strong candidates drawn from an annual open call for applications and calls for specific project fellowships. The pool represented 42 countries and 25 primary disciplines.

**New 2013-2014 Berkman Fellows:**
Osman Tolga Aricak
Axel Arnbak
Marguerite Avery
Allen Bargfrede
Gerrit Beger
Yang Cao
Dan Cohen
Aimee Corrigan
Kate Darling
Tim Davies
Primavera De Filippi

Ana Enriquez
Camille François
Shane Greenstein
Peter Hirtle
Chunyang Hu
Malavika Jayaram
Amy Johnson
Samuel Klein
Sonia Livingstone
Andrew Lowenthal
Venancio Simao Massingue
J. Nathan Matias
Dalia Othman
Helen Partridge
Bruce Schneier
Hasit Shah
Ivan Sigal
Dino Sossi
Tricia Wang
Sara M. Watson
Alexandra Wood
Tsui-Fang Wu
Jeffrey R. Young