The University of Pennsylvania Law School's Center for Technology, Innovation and Competition is dedicated to promoting foundational research that will shape and reshape the way policymakers think about technology-related issues. To do so, CTIC organizes events that explore the full range of scholarly perspectives.

The University of Pennsylvania is uniquely well positioned to support the Center's mission. The Law School is home to many of the nation's leading experts on intellectual property, Internet law, and technology policy. In addition, CTIC is able to draw on the expertise of scholars from across the University, including the Wharton School, the Annenberg School for Communication, the Cinema Studies Program, and the School of Engineering and Applied Science. Philadelphia is home to a vibrant high-tech legal community and many of the world's leading technology companies. CTIC's proximity to New York and Washington, D.C. allows it to enjoy frequent visits from key industry players and policymakers.

For more information and current events at CTIC, visit our website at www.law.upenn.edu/academics/institutes/ctic/
Law and Technology at Penn

2015-2016
The mission of the University of Pennsylvania Law School’s Center for Technology, Innovation and Competition (CTIC) is to create the nation’s foremost program in law and technology through pathbreaking scholarship and innovative educational programs.

Our faculty is generating foundational research that is helping to shape and reshape the way policymakers think about technology-related issues. To accomplish this mission, CTIC delivers programming that explores the full range of scholarly perspectives, engages with technology policy and practice, and produces student programming designed to create the next generation of technology law scholars, policymakers, and practitioners. This scholarship often taps into the vast interdisciplinary expertise both within the Law School and in other parts of Penn, including the Wharton School, the Annenberg School for Communication, and the School of Engineering and Applied Science.

CTIC is also pioneering new joint degree programs designed to create a new type of professional with advanced training in both law and engineering.

For more information and a schedule of current and upcoming events at CTIC, visit our website at www.law.upenn.edu/institutes/ctic.
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A Message from the Directors

This report commemorates the Center for Technology, Innovation and Competition’s ninth year, a year of continued expansion across all of our disciplines and programs.

Our continued growth is marked by three major, multi-year initiatives:

- A three-year project to analyze empirically innovative ways to connect people to the Internet.
- A three-year comparative study of competition law in China, Europe, and the U.S.
- An NSF-funded project to develop privacy and security for technologies such as autonomous vehicles and medical devices.

We continued our tradition of hosting major conferences at Penn Law, including a Copyright Scholarship Roundtable and our Fourth Annual Roundtable on Computer Science and the Law. We also expanded our program of joint degrees in law and engineering.

We congratulate CTIC Faculty Fellows Bryan Choi and Camilla Hrdy for launching their careers as law professors at the Ohio State University and the University of Akron, respectively.

Finally, CTIC is thankful to all of its friends and supporters for bringing their perspectives, experiences, participation, and expertise to our programs. Through their support, we have been able to continue serving as a leading academic center in technology and innovation policy.
The Center for Technology, Innovation and Competition is privileged to draw on cross-disciplinary expertise from across the University of Pennsylvania. In addition to the Law School, CTIC brings together faculty from the top-ranked Wharton School, the University’s School of Engineering and Applied Science, the Cinema Studies Program, and the Annenberg School for Communication.

Research is a core function of the Center for Technology, Innovation and Competition. By providing a forum where faculty can engage with one another across multiple disciplines, the Center seeks to encourage informed, high-quality research that will advance the understanding of technology and innovation policy.
**DAVID ABRAMS**

“My current research involves an empirical study of Non-Practicing Entities or NPEs, sometimes known as ‘patent trolls.’ The concept of the NPE is a bit controversial, but essentially, what all these terms are trying to describe are companies that hold patents, that make their money by using these patents, but that don’t make products that involve those patents.

“Things in reality are a bit more complicated than they are often portrayed, with people arguing out of self-interest or a kind of ideological perspective. I come at this issue from a pretty neutral perspective — just trying to understand what is going on. This work is still preliminary and we’re still trying to make sure that we understand everything right. But one takeaway is that it does look like there is some evidence for the middleman theory — NPEs seem to help reallocate patents to companies where they are most useful.”
David Abrams
Professor of Law, Business Economics, and Public Policy

David Abrams is one of the leading young economists working in empirical law and economics. His work strives to understand and measure how individuals respond to incentives in various legal contexts. His most recent research focuses on the impact of non-practicing entities (NPEs) on incentives to innovate. He is also investigating determinants of pharmaceutical patent value. Other recent work has investigated the expected impact of the America Invents Act, examined the effect of patent duration on innovation, and shown that long-held views on patent value and citations may not hold. Abrams also introduced a new model of innovation to account for the findings. He has done substantial work in criminal justice, including investigating whether longer sentences deter crime, how defendant race impacts judicial decisions, to what extent attorney skill affects case outcomes, and how much individuals value freedom. His interests also include law and health economics, labor economics, and corporate finance.

Expertise:
Law and Economics, Intellectual Property, Criminal Law

Secondary Appointments:
Business Economics and Public Policy Department, Wharton School

Education:
PhD 2006 Massachusetts Institute of Technology
MS 2001 Stanford University
AB 1998 Harvard University

Courses Taught
• Introduction to Intellectual Property Law and Policy
• Analytical Methods in Law
• Law and Economics
• Advanced Topics in Intellectual Property

Representative Publication

Recent Publications
The NPE: Benevolent Middleman or Stick-Up Artist? (working paper) (with Ufuk Akcigit & Gokhan Oz).
SHYAMKRISHNA BALGANESH

“My work explores the analytical complexity of the copyright system and its ability to foster a culture of creativity. My emphasis is on showing that the system works best when it incorporates insights from others areas of the law and enables multiple institutional actors to participate in law- and policy-making. Copyright law has traditionally relied on a one-size-fits-all approach to creativity, which has failed to keep up with the multitude of technological and cultural changes that we see in society. The system would be far better served by a more robust and pluralist approach to the subject.”
Shyamkrishna Balganesh
Professor of Law

Shyamkrishna Balganesh’s scholarship focuses on understanding how intellectual property law and innovation policy can benefit from the use of ideas, concepts, and structures from different areas of the common law, especially private law. His recent work tries to understand authorship in copyright law using ideas and principles from the common law of causation. He is a coauthor on sections relating to the idea-expression dichotomy and the copyrightability of photographs in the leading copyright law treatise, *Nimmer on Copyright*. While at Yale Law School, he was a Student Fellow at the Information Society Project. Prior to law school, he spent two years as a Rhodes Scholar at Balliol College, University of Oxford. Since 2015, Balganesh has served as an Adviser to the American Law Institute (ALI) project on the *Restatement of Copyright Law*.

**Expertise:**
Copyright Law, Property Law, Intellectual Property, Patent Law, Common Law Theory, the Law of India

**Education:**
JD 2007 Yale Law School
MPhil 2005, BCL 2004 University of Oxford
BA, LLB 2003 National Law School of India University

**Courses Taught**
- Copyright Law
- Property Law
- Introduction to Intellectual Property Law
- Copyright Theory
- Law and Innovation Scholarship Colloquium

**Representative Publications**

**Recent Publications**
GIDEON PARCHOMOVSKY

“My current research includes a fresh examination of the doctrine of fair use, one of modern law’s most fascinating and troubling doctrines. It is both amorphous and vague, and notoriously difficult to apply. But at the same time, it is a vitally important doctrine in copyright and perhaps the most frequently raised and litigated issue in the law of intellectual property.

“My work proposes a new view of fair use as a doctrine that aims at calibrating the allocation of uses among authors and the public—part of copyright’s sorting mechanism for granting authors intellectual property rights on the one hand and granting public privileges based on the expected utility of direct allocation on the other.”
Gideon Parchomovsky
Robert G. Fuller, Jr. Professor of Law

Gideon Parchomovsky specializes in intellectual property, property law, and cyberlaw. Parchomovsky has already made significant contributions to the field through his wide-ranging scholarship, having written numerous articles for major law reviews on property and liability rules, insider trading, trademarks, domain names, and patents. Most recently, he has been advocating the need for a comprehensive property theory and the need to introduce a value-oriented theory. He has received the A. Leo Levin Award for Excellence in an Introductory Course, the Harvey Levin Memorial Award for Teaching Excellence, and the Inaugural LLM Award for Teaching Excellence at the University of Pennsylvania Law School.

Expertise:
Intellectual Property, Property Law, Information Law

Education:
JSD 1998 Yale Law School
LLM 1995 University of California, Berkeley
LLB 1993 Hebrew University of Jerusalem

Courses Taught
• Property Law
• Copyright Law
• Trademark Law
• Impact of the Internet on Copyright and Patent Law

Representative Publications
Intellectual Property Defenses, 113 Colum. L. Rev. 1483 (2013) (with Alex Stein).
Partial Patents, 111 Colum. L. Rev. 207 (2011) (with Michael Mattioli).

Recent Publications
Empowering Individual Plaintiffs, 102 Cornell L. Rev. (forthcoming 2016) (with Alex Stein).
Copyright Trust, 100 Cornell L. Rev. 1015 (2015) (with Abraham Bell).
Catalogs, 115 Colum. L. Rev. 165 (2015) (with Alex Stein).
R. POLK WAGNER

“This past year, I created an innovative new online course on intellectual property law and policy, which is designed to help people develop a practical understanding of the core issues facing the innovation economy. This thirteen-week course on the edX platform, was offered for the first time in mid-2016, and is split into two sessions: a six-week session on IP theory and patent laws, and a seven-week session on copyright and trademark laws.

“Participants in this course will develop an understanding of how IP and patent law impacts our lives virtually every day.”
R. Polk Wagner
Professor of Law and Deputy Dean

Polk Wagner focuses his research and teaching on property law and policy, with a special interest in patent law. He has written over twenty articles on topics ranging from an empirical analysis of judicial decisionmaking in patent law to the First Amendment status of software programs. He is a frequent lecturer on intellectual property topics worldwide. Prior to joining the Penn Law faculty in 2000, Wagner served as a clerk to Judge Raymond C. Clevenger III of the U.S. Court of Appeals for the Federal Circuit. He was the 1994-95 Roger M. Jones Fellow at the London School of Economics.

Expertise:

Education:
JD 1998 Stanford Law School
BSE 1993 University of Michigan
BS 1993 College of Charleston

Courses Taught
• Patent Law
• Introduction to Intellectual Property Law and Policy
• Patent Law Appellate Advocacy
• Property Law

Representative Publications
“Part of my current research agenda is a more systematic look at perceptions, and misperceptions, of contracts by the American consumer. Most people entering into consumer contracts are not attorneys, and some topics within modern contract doctrine might startle a large percentage of these nonspecialist consumers.

“My research examines the factors that might account for misperceptions of contract law. Most people enter into numerous legally binding agreements every year, if not every month or week. These are the agreements we make with Amazon, PayPal, Comcast, Apple, AT&T, and Visa, to name a few—in other words, these are the contracts we enter into regularly as consumers. As such, perhaps we should not be surprised that this is what most people think that contract law is. Emerging evidence indicates that most people think contracting means signing the paperwork and that contract law is about the form of consent rather than the content to which parties are consenting. This ‘intuitive formalism’ deserves our empirical and normative attention because it has real implications for how consumers behave in their deals and how they interact with their legal system.”
Tess Wilkinson-Ryan
Professor of Law and Psychology

Tess Wilkinson-Ryan studies the psychology of legal decision-making. Her research addresses the role of moral judgment in legal decision-making, with a particular focus on private contracts and negotiations. She uses experimental methods from psychology and behavioral economics to ask how people draw on their moral intuitions to motivate or inform legal choices. Recent research topics include statutory damages in copyright law, online contracting, and retirement investing. In 2012, Wilkinson-Ryan was awarded the A. Leo Levin Award for Excellence in an Introductory Course, and in 2014 the graduating class chose her as the recipient of the Harvey Levin Memorial Award for Teaching Excellence.

Expertise:
Contracts, Behavioral Economics, Law and Social Sciences

Education:
PhD 2008, MA 2006, JD 2005 University of Pennsylvania
BA 1999 Harvard University

Courses Taught
• Contracts
• Trusts and Estates
• Law, Economics, and Psychology
• Psychological Analysis of Legal Decision-Making

Representative Publications
Judging Similarity, 100 Iowa L. Rev. 267 (2014) (with Shyamkrishna Balganesh & Irina Manta).

Recent Publications
CHRISTOPHER YOO

“A major focus of my research is using modularity theory and principles of software design to understand the growing importance of platforms. The concept of platforms has always struck me as undertheorized. Although platforms have undoubtedly played a critical role in unleashing the wave of innovation associated with the Internet and smartphones, embracing the idea of platforms leaves a large number of critical questions unanswered: How many modules should the architecture include? Where should the interfaces between the modules be located? How should the interfaces between them be designed? And perhaps most importantly, under what circumstances should a platform architecture evolve?

“The answers to these and other related questions can provide key insights into the ways platforms behave and how they should be regulated. The lessons are applicable to a broad range of pressing policy issues, including network neutrality, the transition to IPv6, and the European competition case against Android.”
Christopher Yoo
John H. Chestnut Professor of Law, Communication, and Computer & Information Science

Christopher Yoo has emerged as one of the nation’s leading authorities on law and technology. His research focuses on the insights that the principles of network engineering and imperfect competition provide into the regulation of electronic communications. He is building an innovative integrated interdisciplinary program designed to produce a new generation of professionals with joint degrees in both law and engineering. His major research initiatives include a study of innovative approaches to connecting more of the world’s citizens to the Internet, an exploration of the legal aspects of providing privacy and security for autonomous vehicles and medical devices, and a comparison of competition law in China, Europe, and the U.S. Yoo testifies frequently before Congress, the Federal Communications Commission, and the Federal Trade Commission. Before joining the academy, Yoo clerked for Judge A. Raymond Randolph L’69 of the U.S. Court of Appeals for the D.C. Circuit and for Justice Anthony M. Kennedy of the Supreme Court of the U.S.

Expertise:
Communications Law, Intellectual Property Law, Regulated Industries, Antitrust, Presidential Power

Secondary Appointments:
Annenberg School for Communication
Computer and Information Science Department, School of Engineering and Applied Science

Education:
JD 1995 Northwestern University Pritzker School of Law
MBA 1991 Anderson School at the University of California, Los Angeles
AB 1986 Harvard University

Courses Taught
• Internet Law
• Telecommunications Law
• Privacy
• Antitrust
• Technology and Policy
• Introduction to Intellectual Property
• Copyright Theory

Representative Publications

Recent Publications
Product Differentiation, in RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW (Ben Depoorter & Peter Menell eds., Edward Elgar forthcoming 2017).
When Are Two Networks Better than One?: Toward a Theory of Optimal Fragmentation, in INTERNET FRAGMENTATION (Centre on International Governance Innovation 2016).
REGULATING THE CLOUD: POLICY FOR COMPUTING INFRASTRUCTURE (Christopher S. Yoo & Jean-Francois Blanchette eds., MIT 2015).
Cynthia Laury Dahl
Practice Associate Professor of Law
Director, Detkin Intellectual Property and Technology Legal Clinic

Cynthia Dahl is the Director of the Detkin Intellectual Property and Technology Legal Clinic. She specializes in the business applications of intellectual property and technology. For ten years, before starting at Penn Law, Dahl was Senior IP Counsel for TruePosition, Inc., a Liberty Media-owned international wireless location company, where she grew the company’s extensive patent portfolio, drafted intellectual property agreements, managed litigation and advocated on behalf of the company in front of international standards bodies. Prior to working at TruePosition, Dahl was a litigation associate at Holland and Hart LLP, and Pennie and Edmonds LLP. Before beginning her legal career, she counseled artists at Volunteer Lawyers for the Arts in New York, and held several jobs in policy and the press, including working for Senator Bill Bradley (D-NJ) and Nina Totenberg at National Public Radio. As Detkin Clinic Director, Dahl also works closely with the Penn Center for Innovation.

Expertise:
Intellectual Property, Law and Technology

Education:
JD 1998 Stanford Law School
BA 1991 Yale University

Courses Taught
• Detkin Intellectual Property and Technology Legal Clinic

Bryan Choi
CTIC Faculty Fellow

Bryan Choi’s work focuses on technology law issues relating to the Internet. He has written extensively on the necessary tradeoffs to be made between privacy, innovation, and enforcement in a digital, decentralized environment. He came to the CTIC from New York Law School (NYLS), where he was a Visiting Associate Professor teaching Internet Law, Intellectual Property, and Property. Prior to NYLS, Choi was the Director of Law and Media at the Information Society Project at Yale Law School. In the fall of 2016, he was appointed Assistant Professor at the Moritz College of Law and College of Engineering at the Ohio State University.

Education:
JD 2007, AB 2003 Harvard University

Representative Publications
The Anonymous Internet, 72 Mo. L. Rev. 501 (2012).

Recent Publications
Camilla Hrdy
CTIC Faculty Fellow

Camilla Hrdy's primary research is in intellectual property law, trade secret law, trademark law, patent law, advanced IP issues, state and local government law, civil procedure (due process and federalism), and federal courts. She came to the CTIC from the Information Society Project at Yale Law School, where she was a Resident Fellow. She was also a Thomas Edison Innovation Fellow at George Mason University School of Law. This past spring she co-taught patent law with Professor Wagner. Hrdy recently joined the faculty of the University of Akron School of Law as an Assistant Professor of Law.

Education:
JD 2010 University of California, Berkeley, School of Law
MPhil 2007 University of Cambridge
BA 2005 Harvard University

Representative Publications

Recent Publications

Jeffrey Vagle
Lecturer in Law
Executive Director, Center for Technology, Innovation and Competition

Jeffrey Vagle’s research interests include surveillance law, cryptography and cybersecurity law, electronic privacy, Internet architecture, and networked economies and societies. A particular focus of his work is the study of the societal, political, historical, and economic effects of government surveillance, especially among marginalized or disenfranchised populations. Vagle writes and speaks regularly on privacy, data security, surveillance, and other cyberlaw-related topics and is the author of several law review and technical articles. Prior to law school, Vagle studied algebraic geometry and algebraic number theory at Boston University and was a researcher in cryptographic engineering and artificial intelligence techniques. Vagle is an Affiliate Scholar with the Stanford Law School Center for Internet and Society. He is also a veteran, having served in both the U.S. Marine Corps as an infantry non-commissioned officer and in the U.S. Army as an intelligence officer.

Expertise:
Privacy Law, Law and Technology, Information Law, Cyberlaw, Terrorism and Democracy

Education:
JD 2011 Temple University Beasley School of Law
BA 2001 Boston University

Courses Taught
• Introduction to Technology Law and Ethics
Anita Allen
Henry R. Silverman Professor of Law and Professor of Philosophy
Vice Provost for Faculty

Anita Allen is an internationally renowned expert on privacy law, bioethics, and contemporary values and is recognized for scholarship about legal philosophy, women’s rights, and race relations. In October 2016 she was elected to the National Academy of Medicine, and in 2010 she was appointed by President Obama to the Presidential Commission for the Study of Bioethics. Allen was appointed Penn’s Vice Provost for Faculty in 2013 and chairs the Provost’s Arts Advisory Council. Allen has written five books and more than 100 scholarly articles and book chapters.

Expertise:
Privacy Law, Data Protection, Bioethics, Ethics, Jurisprudence, Torts

Secondary Appointments:
Philosophy Department, School of Arts and Sciences

Education:
JD 1984 Harvard Law School
PhD, MA 1980 University of Michigan
BA 1974 New College of Florida

Courses Taught
• Privacy Law
• Torts
• Introduction to Ethics
• Bioethics and the Law of Mental Health
• African American Philosophy Since 1960
• Bioethics of Reproduction
• Mental Health and Moral Life

Representative Publications
Cary Coglianese
Edward B. Shils Professor of Law and Professor of Political Science
Director, Penn Program on Regulation

Cary Coglianese specializes in the study of regulation and regulatory processes, with a particular emphasis on the empirical evaluation of alternative regulatory strategies and the role of conflict and cooperation in business-government relations. He has recently written on climate change policy, public participation and transparency in federal rulemaking, and voluntary environmental programs. Coglianese was a founding editor of the peer-reviewed journal Regulation & Governance, and he founded and serves as advisor to RegBlog.org.

Expertise:
Administrative Law, Government Regulation, Environmental Law

Secondary Appointments:
Political Science Department, School of Arts and Sciences

Education:
AB 1985 College of Idaho

Courses Taught
• Administrative Law
• Environmental Law
• Policy Analysis
• Regulatory Law and Policy
• Advanced Regulatory Law and Policy

Representative Publications
DOES REGULATION KILL JOBS? (Univ. of Pennsylvania 2013) (ed. with Adam Finkel & Chris Carrigan).
REGULATORY BREAKDOWN: THE CRISIS OF CONFIDENCE IN U.S. REGULATION (Univ. of Pennsylvania 2012) (ed.).
Jonathan Klick
Professor of Law

Jonathan Klick’s work focuses on identifying the causal effects of laws and regulations on individual behavior using cutting-edge econometric tools. Specific topics addressed by Klick’s work include the relationship between abortion access and risky sex, the health behaviors of diabetics, the effect of police on crime, addiction as rational choice, how liability exposure affects the labor market for physicians, as well as a host of other issues. He also contributes to CTIC’s project on comparative antitrust law.

Expertise:
Law and Economics, Health Care Policy and Regulation, Criminal Law, Labor Economics, Mental Health Law, Product Liability Litigation, Regulated Industries

Education:
JD 2003, PhD 2002 George Mason University
MS 1999 University of Maryland
BS 1997 Villanova University

Courses Taught
• Antitrust
• Torts
• Statistics for Lawyers
• Empirical Law and Economics

Representative Publications
Seth Kreimer
Kenneth W. Gemmill Professor of Law

Seth Kreimer’s first article, “Allocational Sanctions: The Problem of Negative Rights in a Positive State,” set the terms for a generation of discussion of unconstitutional conditions on public benefits. His subsequent work has shaped analysis of privacy, abortion regulation, assisted suicide, and same-sex marriage. He has explored the implications of DNA testing in criminal justice, free speech on the Internet, the Freedom of Information Act, and the abuses of the “war on terror.” Professor Kreimer has also represented plaintiffs in an array of constitutional litigation.

Expertise:
Constitutional Law, Civil Rights Law, Constitutional Litigation

Education:
JD 1977, BA 1974 Yale University

Courses Taught
• Constitutional Law
• Constitutional Litigation
• Complex Litigation
• First Amendment
• Individual Rights and Health Care
• Privacy and Disclosure

Representative Publications
Matthew Blaze  
Associate Professor of Computer and Information Science, School of Engineering and Applied Science

Matt Blaze’s research focuses on cryptography and its applications, trust management, human scale security, secure systems design, and networking and distributed computing. He is particularly interested in security technology with bearing on public policy issues, including cryptography policy (key escrow), wiretapping and surveillance, and the security of electronic voting systems.

**Expertise:**
Computer Security, Distributed Systems

**Education:**  
PhD 1993, MA 1989 Princeton University  
MS 1988 Columbia University  
BS 1986 City University of New York (Hunter College)

Peter Decherney  
Professor of Cinema and Media Studies and English, School of Arts and Sciences

Peter Decherney’s research focuses primarily on the law’s impact on film and media, having authored or edited five books on the history of copyright and Hollywood. He is co-editor of the journal *Critical Studies in Media Communication* and has testified before the Copyright Office of the United States and filed amicus briefs in several cases, including the Supreme Court Case of *Golan v. Holder*. Decherney has been an Academy of Motion Picture Arts and Sciences Scholar, a fellow of the American Council of Learned Societies, and a U.S. State Department Arts Envoy to Myanmar. He has won multiple teaching awards and is a Forbes.com contributor.

**Expertise:**
Cinema and Media Studies, Modernism and Modernity

**Secondary Appointments:**  
Annenberg School for Communication

**Education:**  
PhD 2000 New York University  
BA 1993 Vassar College
Gerald Faulhaber
Professor Emeritus of Business Economics and Public Policy, Wharton School

Gerald Faulhaber’s current research includes the wireless market, broadband public policy and markets, spectrum policy, public safety radio, file sharing and music copyright, and network neutrality. He served as Chief Economist at the Federal Communications Commission from July 1, 2000, to June 30, 2001, where he worked on many telecommunications and Internet issues, including the AOL-Time Warner merger.

Expertise:
Applied Microeconomics, Industrial Organization, Network Neutrality for the Internet, File Sharing and Fair Use Copyright, Regulation, Spectrum Policy for Wireless Telecommunications, Telecommunications

Secondary Appointments:
Law School

Education:
PhD 1975, MA 1974 Princeton University
MS 1964 New York University
AB 1962 Haverford College

Michael Kearns
National Center Professor of Management and Technology, Computer and Information Science, School of Engineering and Applied Science

Michael Kearns primary research interests are in machine learning, probabilistic artificial intelligence, algorithmic game theory, and computational finance. He integrates problems from these areas with methods from theoretical computer science and related disciplines. While the majority of his work is mathematical in nature, he has also participated in a variety of systems and experimental work, including spoken dialogue systems, software agents, and most recently, human-subject experiments in strategic and economic interaction.

Expertise:
Machine Learning, Algorithms and Complexity

Secondary Appointments:
Economics Department, School of Arts & Science
Statistics Department and Operations, Information and Decisions Department, Wharton School

Education:
PhD 1989 Harvard University
BS 1985 University of California, Berkeley
Katja Seim
Associate Professor of Business Economics and Public Policy, Wharton School

Katja Seim specializes in applied microeconomics and industrial organization. Her research focuses on two areas. She studies how firms make product introduction and entry decisions, how they assess the competitive implications of different market entry strategies, and how public policies and regulatory interventions shape their choices. A second focus of her research is nonlinear pricing, primarily in the context of communications and information industries. Seim was recently named Chief Economist of the Federal Communications Commission.

Expertise:
- Applied Microeconomics
- Industrial Organization
- Entry
- Information Goods
- Nonlinear Pricing

Education:
- PhD 2001 Yale University
- BA 1995 Franklin & Marshall College

Jonathan Smith
Olga and Alberico Pompa Professor of Engineering and Applied Science, Professor of Computer and Information Science, School of Engineering and Applied Science

Jonathan Smith’s long-term objective is the creation of useful distributed computing systems. The first step towards this objective was design, implementation, and experimentation with high-performance network subsystems, primarily in the AURORA Gigabit Testbed project. The second step was giving distributed applications more control over their network systems, primarily in the Protocol Boosters and SwitchWare projects. The third and current step is using cognitive systems approaches to automate configuration and adaptation to the environment, particularly for mobile systems.

Expertise:
- Computer Networking
- Computer Security

Education:
- PhD 1989, MS 1983 Columbia University
- AB 1981 Boston College
Joseph Turow
Robert Lewis Shayon Professor of Communication and Associate Dean for Graduate Studies, Annenberg School for Communication

Joseph Turow’s research focuses on digital cultural industries, especially at the intersection of the Internet, marketing, and society, as well as database marketing, media and privacy, digital out-of-home media, the process of innovation in the mass media, and the relationship between media and the medical system. His most recent privacy report was covered by the New York Times. Professor Turow is an elected Fellow of the International Communication Association and was presented with a Distinguished Scholar Award by the National Communication Association.

Expertise:
Mass Media Policy, Impact of Advertising and Marketing on Communication, Sociological Theory

Education:
PhD 1976, MA 1973, BA 1971 University of Pennsylvania

Kevin Werbach
Associate Professor of Legal Studies and Business Ethics, Wharton School

Kevin Werbach’s research focuses on the future of telecommunications policy in a converged digital broadband world, definitional and ethical aspects of gamification (digital game design techniques in business) and implications of massive open online courses (MOOCs) as a new form of learning. He is also the founder of the Supernova Group, a technology analysis and consulting firm. He advises companies, writes about emerging trends in communications and information technology, and organizes Supernova, a major annual executive technology conference.

Expertise:
Digital Convergence, Internet Policy, Gamification, Telecommunications Regulation, Online Learning Innovations

Education:
JD 1994 Harvard Law School
BA 1991 University of California, Berkeley
**Thomas Fetzer**  
**Professor of Law and Dean of the Faculty of Law and Economics, University of Mannheim**

Thomas Fetzer holds a Chair of Public Economic Law, Regulation and Taxation at the University of Mannheim Law School, Germany. He is Academic Director of both the Mannheim Centre for Competition and Innovation and the Leibniz ScienceCampus Mannheim Taxation Project. He is also an Adjunct Professor at the Mannheim Business School.

**Education:**  
Habilitation 2009, PhD 2000 University of Mannheim  
LLM 2003 Vanderbilt Law School

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**Osagie Imasogie**  
**Senior Managing Partner, Phoenix IP Ventures**

Osagie Imasogie is the co-founder of Phoenix IP Ventures, an IP-based merchant bank. He has over thirty years of experience in law, finance, business management, healthcare, and the pharmaceutical industry. He is a member of the Board of Overseers of the University of Pennsylvania Law School and a member of the Board of Trustees of the University of Pennsylvania.

**Education:**  
LLM 1985 University of Pennsylvania  
LLM 1984 London School of Economics and Political Science  
BL 1981 Nigeria Law School  
LLB 1980 University of Ife, Nigeria
The Honorable Kent Jordan  
U.S. Court of Appeals for the Third Circuit

In 2006, Kent Jordan was appointed by President George W. Bush to serve as United States Circuit Judge for the Third Circuit. Prior to that appointment, Judge Jordan served as a United States District Judge for the District of Delaware from 2002 to 2006. He was a law clerk for Judge James L. Latchum, United States District Court for the District of Delaware, and an Assistant United States Attorney for the District of Delaware, serving as Civil Chief of that office in 1991 and 1992. Prior to taking the bench, Judge Jordan served as an officer and as a member of the Boards of Directors of privately held businesses and was a partner in a Wilmington, Delaware, law firm, with a practice focused on intellectual property, corporate law, and commercial litigation.

Education:
JD 1984 Georgetown University Law Center  
BA 1981 Brigham Young University

Matthew Pearson  
Partner, Akin Gump Strauss Hauer & Feld LLP

Matthew Pearson’s area of expertise is in patent litigation. He works on cases in a range of technologies, including antibody therapies, pharmaceuticals, chemistry, biotechnology and medical devices. Prior to entering private practice, Pearson clerked for two years for Judge Kent Jordan of the U.S. District Court for the District of Delaware and the U.S. Court of Appeals for the Third Circuit.

Education:
JD 2005 University of Pennsylvania Law School  
PhD 1999 Cornell University  
BS 1993 Michigan State University
Major Conferences

Inaugural Copyright Scholarship Roundtable
The Future of the Internet Ecosystem in a Post-Open Internet Order World
Roundtable on Security and Privacy for Cyber-Physical Systems
Fourth Annual Roundtable on Computer Science and the Law
Conference on Comparative Dimensions of Limitations and Exceptions to Copyright Law
The inaugural Copyright Scholarship Roundtable brought together some of the country’s leading scholars who work in the area of copyright law for a two day discussion of their on-going research in the field. Nine papers were chosen for inclusion in the event, representing a range of methodologies, perspectives, and issues within the field. The Second Copyright Scholarship Roundtable is scheduled to take place on March 24-25, 2017.
Above: Matthew Sag and Zahr Said

Opposite Page, Left to Right: Joseph Fishman and Oren Bracha, Shyamkrishna Balganesh
November 6, 2016

The Copy Process
Joseph Fishman
Assistant Professor of Law, Vanderbilt Law School

Lead Commentator
Guy Rub
Associate Professor of Law, Moritz College of Law, Ohio State University

A Dual Grant Theory of Fair Use
Abraham Bell
Professor of Law, University of San Diego School of Law

Gideon Parchomovsky
Robert G. Fuller, Jr., Professor of Law, University of Pennsylvania Law School

Lead Commentator
Wendy Gordon
William Fairfield Warren Distinguished Professor, Boston University School of Law

A Transactional Theory of the Reader in Copyright Law
Zahr Said
Associate Professor of Law, University of Washington School of Law

Lead Commentator
Pamela Samuelson
Richard M. Sherman Distinguished Professor of Law and Information, University of California, Berkeley

The Questionable Origins of the Copyright Infringement Analysis
Shyamkrishna Balganesh
Professor of Law, University of Pennsylvania Law School

Lead Commentator
Oren Bracha
Howrey LLP and Arnold, White & Durkee Centennial Professor, University of Texas School of Law

Enforcing Against Norms
Ben Depoorter
Professor of Law, University of California Hastings College of Law

Lead Commentator
Matthew Sag
Professor of Law, Loyola University Chicago School of Law

Innovate? Or Copy?: An Experimental Approach to Sequential Innovation in Intellectual Property
Christopher Sprigman
Professor of Law, New York University School of Law

Lead Commentator
R. Polk Wagner
Professor of Law, University of Pennsylvania Law School
November 7, 2016

Rethinking The Idea/Expression Dichotomy: Lessons from Linguistics and Cognitive Science
Christopher Yoo
John H. Chestnut Professor of Law, Communication, and Computer & Information Science, University of Pennsylvania
Lead Commentator
Justin Hughes
Hon. William Matthew Byrne, Jr. Chair, Loyola Law School, Los Angeles

Facilitating Competition by Remedial Regulation
Kristelia García
Associate Professor of Law, University of Colorado Law School
Lead Commentator
Peter DiCola
Professor of Law, Northwestern University Pritzker School of Law

Copyright Accidents
Oren Bracha
Howrey LLP and Arnold, White & Durkee Centennial Professor, University of Texas School of Law
Lead Commentator
Peter Menell
Koret Professor of Law, University of California, Berkeley, School of Law

Top to Bottom:
Pam Samuelson and Kristelia Garcia-Peterson
Gideon Parchomovsky, Guy Rub, and Wendy Gordon
The Future of the Internet Ecosystem in a Post-Open Internet Order World

January 8, 2016

CTIC and the Technology Policy Institute co-hosted a high-level conference in Washington, D.C., that explored possible future directions in network neutrality regulation following the judicial decision upholding the Federal Communications Commission’s 2015 Open Internet Order. The conference featured presentations and discussions of new research by many of the leading academic experts on communications and competition policy, many of whom served as Chief Economists of key regulatory agencies. Robert Kahn, one of the creators of the protocols that have run the Internet since its inception, served as the keynote luncheon speaker for the event. The papers will be published in a forthcoming special issue of the *Review of Industrial Organization*. 
Above: Robert Kahn

Opposite Page, Left to Right: Thomas Lenard and John Mayo, Michael Katz
January 8, 2016

PANEL 1

Wither the Open Internet Order?
Michael Katz
Sarin Chair in Strategy and Leadership, Haas School of Business, University of California, Berkeley

Incentives to Invest in the Debate over Net Neutrality Rules
Roger Noll
Professor of Economics, Emeritus, Stanford University

Discussant
Lawrence White
Robert Kavesh Professorship in Economics, New York University

Moderator
Scott Wallsten
Vice President for Research and Senior Fellow, Technology Policy Institute

PANEL 2

The Post-Internet Order Ecosystem: Lessons from the Pre-Internet Order Experience
Timothy Brennan
Professor of Policy and Economics, University of Maryland, Baltimore County

Law, Social Welfare, and Net Neutrality
Keith Hylton
William Fairfield Warren Distinguished Professor, Boston University School of Law

Discussant
Michelle Connolly
Professor of the Practice of Economics, Duke University

Moderator
David Sappington
Eminent Scholar, University of Florida

KEYNOTE ADDRESS

Introduction
Thomas Lenard
President, Technology Policy Institute

Remarks
Robert Kahn
Chairman, CEO and President, Corporation for National Research Initiatives (CNRI)
PANEL 3

The Evolution of “Competition”: Lessons for 21st Century Telecommunications Policy (with Amanda Delp)

John Mayo
Professor of Economics, Business and Public Policy, Georgetown University

Avoiding the Pitfalls of Net Uniformity: Zero Rating and Nondiscrimination

Christopher Yoo
John H. Chestnut Professor of Law, Communication, and Computer & Information Science, University of Pennsylvania

Discussant
Shane Greenstein
Martin Marshall Professor of Business Administration, Harvard Business School

Moderator
Thomas Lenard
Senior Fellow and President Emeritus, Technology Policy Institute
Roundtable on Security and Privacy for Cyber-Physical Systems

May 23, 2016

One of the most important contemporary technological developments is the growing significance of cyber-physical systems (CPS), a term used to describe the growing number of connected networks and devices that use sensors to collect data from their physical environment. Prominent examples of CPS include self-driving cars and medical device platforms. CTIC convened a roundtable to explore a novel approach that sees security failures as largely inevitable and focuses on fast detection and recovery. This year’s roundtable discussed questions of tort law, products liability, negligence, and causation that arise out of the rapid growth and adoption of CPS, with in-depth and insightful discussions from some of the nation’s leading tort and civil litigation scholars.

This work is supported in part by NSF CNS-1505799 and the Intel-NSF Partnership for Cyber-Physical Systems Security and Privacy.
Negligence And Duty
John Goldberg
Eli Goldston Professor of Law, Harvard Law School
Kyle Logue
Douglas A. Kahn Collegiate Professor of Law, University of Michigan Law School

Products Liability
Mark Geistfeld
Sheila Lubetsky Bimbaum Professor of Civil Litigation, New York University School of Law
Robert Rabin
A. Calder Mackay Professor of Law, Stanford Law School

Causation
Donald Gifford
Jacob A. Franco Professor of Torts, University of Maryland Francis King Carey School of Law
Michael Green
Bess and Walter Williams Distinguished Chair, Wake Forest University School of Law

Federal Preemption
Catherine Sharkey
Crystal Eastman Professor of Law, New York University School of Law
David Vladeck
Professor of Law, Georgetown University Law Center
Fourth Annual Roundtable on Computer Science and the Law

May 24-25, 2016

As part of the broader effort to promote interdisciplinary work bridging law and engineering, CTIC held its Fourth Annual Roundtable on Computer Science and the Law on May 24-25. As in previous years, the event brought together leading legal scholars and computer scientists pursuing interdisciplinary research at the intersection of law and computer science. The presentations and discussions covered a broad range of topics, including measurement of Internet traffic, fintech, online video, the effectiveness of privacy disclosures, quantitative approaches to measuring copyright, and the use of anonymization to protect against political repression. The hope is to promote interdisciplinary work spanning law and computer science and to provide an institutional home to encourage the future generations of scholars.
May 24, 2016

Legal Tutorial
Christopher Yoo
John H. Chestnut Professor of Law, Communication, and Computer & Information Science, University of Pennsylvania

Measuring Internet Interconnection Performance Metrics: An Exercise to Inform Public Policy
kc claffy
Founder and Director, Center for Applied Internet Data Analysis (CAIDA)
David Clark
Senior Research Scientist, Massachusetts Institute of Technology

The Interconnection Measurement Project: An Unprecedented View into Utilization at Internet Interconnection Points
Nick Feamster
Professor of Computer Science, Princeton University

Moderator
Scott Jordan
Professor of Computer Science, University of California, Irvine

Challenged Regulatory Realms: Fintech and the Boundaries of Financial, Communications and Digital Regulatory Authority
Jonathan Liebenau
Associate Professor (Reader) in Technology Management, London School of Economics and Political Science

Would You Like Your Internet With Or Without Entertainment Video?
William Lehr
Research Associate, Massachusetts Institute of Technology

Moderator
Justin (Gus) Hurwitz
Assistant Professor of Law, University of Nebraska-Lincoln College of Law

File Formats as Regulatory Objects: The Case of Pdf, Pdf/A and Pdf/A-3
Jean-François Blanchette
Associate Professor of Information Studies, University of California, Los Angeles

“Proof of Work”: Learning from Computer Scientific Approaches to Desirable Inefficiency
Paul Ohm
Professor of Law, Georgetown University Law Center

Jonathan Frankle
Adjunct Professor, Georgetown University Law Center

Moderator
Jeffrey Vagle
Lecturer in Law, University of Pennsylvania Law School
May 25, 2016

Evaluating Disclosure Effectiveness
Lorrie Faith Cranor
Professor of Computer Science and Engineering and Public Policy, Carnegie Mellon University

Privacy and Security in Cyber-Physical Systems
Bryan Choi
CTIC Faculty Fellow, University of Pennsylvania Law School

Moderator
Steven Bellovin
Professor of Computer Science, Columbia University

Quantifying Copyright
James Grimmelmann
Professor of Law, University of Maryland Francis King Carey School of Law

Tor, What Is It Good For?: Political Repression and the Use of Online Anonymity-Granting Technologies
Eric Jardine
Fellow, Centre for International Governance Innovation

Moderator
Konstantinos Stylianou
Lecturer in Competition Law and Regulation, University of Leeds
Conference on Comparative Dimensions of Limitations and Exceptions to Copyright Law

July 21-22, 2016

Together with the National University of Singapore (NUS) and the University of Hong Kong (HKU), CTIC co-organized an international gathering of copyright experts from around the world to discuss the role and structure of copyright limitations and exceptions in comparative perspective. The event took place over two days at the NUS campus in Singapore.

The issues discussed covered a variety of methodologies, perspectives and jurisdictions. The papers presented at the event will be part of a forthcoming book that CTIC’s Professor Shyamkrishna Balganesh is co-editing with Professors Ng-Loy Wee Loon (NUS) and Haochen Sun (HKU).
Above: Conference Participants

Opposite Page: Haochen Sun, Ng-Loy Wee Loon and Shyamkrishna Balgansh, Ruth Okediji
Welcoming Remarks
Simon Chesterman
Dean, National University of Singapore Faculty of Law

SESSION 1
Copyright Exceptions: A Comparative and Economic Analysis
Ben Depoorter
Professor of Law, University of California Hastings College of the Law

Self-Actualization and the Need to Create as a Limit on Copyright
Christopher Yoo
John H. Chestnut Professor of Law, Communication, and Computer & Information Science, University of Pennsylvania

Fair Use and Its Values
Ruth Okediji
William L. Prosser Professor of Law, University of Minnesota Law School

SESSION 2
Judicial Culture and Copyright Limitations and Exceptions
Shyamkrishna Balganesh
Professor of Law, University of Pennsylvania Law School

The Bureaucratization of Copyright Exceptions: Roles and Resistance
Robert Burrell
Professor of Law, University of Sheffield School of Law

Fair Use as an Advance on Fair Dealing: Which Points of Difference Don’t Matter, and Which Ones Do
Michael Handler
Associate Professor, University of New South Wales

SESSION 3
Fair Dealing, Human Rights, Liability Rules, and the Citizen Journalist
Graeme Austin
Professor of Law, University of Melbourne

Fair Use and the Public Interest: A Tale of Two Digital Library Litigations
Haochen Sun
Associate Professor of Law, University of Hong Kong

A General Fair Use Clause in Civil Law Countries
Tatsuhiro Ueno
Professor of Intellectual Property Law, Waseda University

SESSION 4
Fair Dealing in the Education Sector: The Delhi University Photocopying Litigation
Arpan Banerjee
Assistant Professor, Jindal Global Law School

The Slow-Burn of CCH (or Why Empirical Analysis is Really Really Important for Understanding Copyright Exceptions)
Emily Hudson
Lecturer, King’s College London Dickson Poon School of Law

A Comparative Empirical Analysis of Educational Exceptions in Copyright Legislation Worldwide
Daniel Seng
Associate Professor, National University of Singapore
SESSION 5
Fair But Confusingly Similar: The Potential Impact of Trademark Protection on Copyright Exceptions and Limitations
Irene Calboli
Professor of Law, Texas A&M University School of Law

Security Testing and Its Effects on Copyright Infringement and Fair Use
David Nimmer
Professor from Practice, University of California, Los Angeles

Fair Dealing in Canada: the Role of Normative Anchors and Canadian Pragmatism
Daniel Gervais
Professor of Law, Vanderbilt Law School

SESSION 6
From Fair Dealing to Fair Use to UGC – Three Steps to Copyright Reform or Pseutopia
Alice Lee
Associate Professor of Law, University of Hong Kong

Protection of Remix Works and Remix Right in Copyright Law
Yahong Li
Associate Professor of Law, University of Hong Kong

SESSION 7
Cultural Impacts on Copyright Limitations: Parody in Germany and Japan
Christoph Rademacher
Associate Professor, Waseda University Faculty of Law

Limitations and Exceptions in Copyright Law Across the Taiwan Strait
Kung Chung Liu
Professor, Institutum Iurisprudentiae Academia Sinica

Fair Use Concepts and the Expansion of the Boundary of Fair Dealing in Malaysia
Ida Madieha Abd Ghani Azmi
Professor Doctor, Ahmad Ibrahim Kulliyyah of Laws, International Islamic University Malaysia

SESSION 8
The Case for Mandatory, Global Fair Use
Tanya Aplin
Professor of Intellectual Property Law, King’s College London Dickson Poon School of Law

The Copyright Limitations and Exceptions Treaty – Nightmare or Dream Come True?
Martin Sentfleben
Professor of Intellectual Property, Vrije Universiteit Amsterdam

Permitted Uses in Copyright Law – Need for an International Instrument?
Reto Hilty
Director, Max Planck Institute for Innovation and Competition
Workshops & Events

Scholarship Workshop Series
Career Speaker Series
Scholarship Workshop Series

Every year, CTIC invites scholars to campus to present new work in fields related to CTIC’s research in law and technology. Our workshops were well-attended by both Penn Law faculty and students, who offered constructive comment and critique.
Career Speaker Series

CTIC invites practitioners to campus to share their experience and insights about careers in law and technology with students. The speakers also had the chance to engage in one-on-one discussions with interested students.

Jennifer Fang
Associate, Goodwin Procter LLP

Matthew Karch
CEO, Saber Interactive

Brad Newberg
Partner, McGuire Woods LLP

Bruce Rich
Senior Partner, Weil, Gotshal & Manges LLP
CTIC News

Secure and Privacy-Aware Cyber-Physical Systems
Training for Thailand’s National Broadcasting and Telecommunications Commission
1 World Connected
Comparative Study of Chinese, European, and U.S. Competition Law
Cutting-Edge Joint Degree Programs in Law and Engineering
Inaugural Scholarships in Law and Technology
Appointment of CTIC Faculty as Advisers to the ALI Projects on Copyright and Privacy
New Student-Led Public Interest Organization Focusing on Technology Law
Detkin Intellectual Property and Technology Legal Clinic
CTIC Summer Public Interest Fellowship
IP LawMeet National Champions
CTIC faculty members are engaged in a three-year NSF-funded project to study the security and privacy of cyber-physical systems (CPS), in partnership with faculty from the University of Pennsylvania School of Engineering and Applied Science, the University of Michigan, Duke University, and Intel.

CPS is an umbrella term that describes the multitude of Internet-connected devices that also use sensors to interact closely with their physical environment, including autonomous vehicles and medical devices. The growing number of these devices, along with their ability to perform physical actions, creates a heightened security risk, and their distributed nature raises distinctive problems regarding privacy. CPS devices are often more safety-critical and resource constrained. Because they use sensors to draw data directly from the physical environment, they can also face challenges that are less predictable.

The NSF CPS project is exploring novel approaches to addressing and managing these risks, all starting with the acknowledgement that security failures are inevitable. From this starting point, the project team intends to explore approaches that emphasize fast detection and recovery, which can have a real-world impact in the CPS space.

This work is supported in part by NSF CNS-1505799 and the Intel-NSF Partnership for Cyber-Physical Systems Security and Privacy.
Training for Thailand’s National Broadcasting and Telecommunications Commission

In July 2016, CTIC helped train staff from Thailand’s National Broadcasting and Telecommunications Commission (NBTC) on “Communications and Digital Economy: Conceptual Framework and International Practices.” This one-week program took place at Thammasat University in Bangkok, Thailand, and included key NBTC staff as well as regulators from other agencies, key practitioners, and scholars.

The Thai government launched the new Digital Economy Master Plan in early 2016, which calls for merging responsibility for telecommunications and broadcasting regulation into a single agency. The training was designed to help NBTC grapple with how to oversee these converged industries by examining how they are regulated in the US and the EU. The U.S. components were taught by CTIC Founding Director Christopher Yoo, and the European components were led by Dean Thomas Fetzer of the University of Mannheim Law School and by Professor Konstantinos Stylianou of the University of Leeds.

Through a question and answer approach to the daily agenda, the three professors were able to advance the knowledge of the students in the history of the Internet and the regulation of existing infrastructures and to explore emerging issues such as network neutrality, privacy, spectrum policy, and the application of existing law to over-the-top voice and video services such as Skype and Netflix. The students strongly endorsed the training and are already asking whether the course can be repeated or extended in the future.
CTIC is leading a new research project to gather empirical information about innovative approaches to connecting more of the world’s citizens to the Internet. The Internet has improved people’s lives in many ways, including through increased access to information, greater economic opportunity, expanded educational opportunities, improved health care, and empowerment. Unfortunately, roughly half of the people around the world remain offline. Although many innovative efforts are underway to increase Internet access, most do not undertake any real-world assessment of their effectiveness. Those that do provide some empirical information do not employ consistent metrics that permit comparisons across projects.

A new project from CTIC is attempting to fill this void. 1 World Connected is a three-year, three-phase project to discover which approaches to promoting increased access to the Internet are most effective and efficient. The initiative is supported by a new Dynamic Coalition established under the UN-sponsored Internet Governance Forum, in partnership with NGOs, companies, governments around the world, and newly hired CTIC Fellow Sharada Srinivasan.

“Access to the Internet can be an incredibly powerful tool, but more than half the world’s population remains offline,” said Professor Christopher Yoo, CTIC’s Founding Director. “While there are many noble efforts to increase Internet access to those around the world who need it, the work is being done piecemeal. 1 World Connected will gather and share vital data about the best, most economic methods to provide access.”

CTIC will collect and analyze empirical evidence, such as the number of people who gain Internet access from various initiatives and their cost effectiveness. In the project’s final phase, CTIC will identify the patterns in the data and publish and disseminate the relevant findings to help more people enjoy the benefit of greater connectivity.
Comparative Study of Chinese, European, and U.S. Competition Law

One of the distinctive aspects of technology is its tendency to transcend national borders, both because of the effects of standardization and because of increasing ease with which information can flow around the world. The recent Chinese anti-monopoly case against Qualcomm underscored the need for businesses around the world to gain a better understanding of how antitrust laws and competition policy are likely to be applied. At the same time, China’s most recent five-year plan, announced in December 2015, reflects a marked increase in emphasis on innovation, and the Chinese government has initiated a series of efforts to reform administrative enforcement.

To address this need, CTIC has initiated a three-year research project to compare how key issues of antitrust law are handled in China, Europe, and the U.S. The first year of the project is focused on antitrust enforcement procedures to ensure that they are consistent with due process and the rule of law.

“The response to the program has been overwhelming,” said Professor Christopher Yoo, CTIC’s Founding Director. “It has attracted interest from companies and enforcement authorities in all three jurisdictions, all of which recognize the need for this type of comparative research.”

Professor Yoo is joined in the project by Penn Law Professor Jonathan Klick, Wharton Professor Joseph Harrington, and newly hired CTIC Fellow Hendrik Wendland. Chinese partners include Professor Huang Yong, Director of the Competition Law Research Center at the University of International Business and Economics, and Professor Guobin Cui of the International Intellectual Property Program at Tsinghua University. European expertise is provided by Professor Thomas Fetzer, Director of the Mannheim Center on Competition and Innovation and Dean of the University of Mannheim Law School. The project also has the support of a China Research Engagement Fund provided by Penn Global and key corporate supporters.

The project’s goal is to generate a report each year, debuting the first at a conference in China in 2017. The initial report will be followed by a series of publications and presentations in Europe and the U.S.
Cutting-Edge Joint Degree Programs in Law and Engineering

Penn Law is creating a series of innovative joint degree programs in law and engineering designed to train a new type of professional by providing advanced training in both disciplines.

Future lawyers may choose from two joint-degree programs: The JD/Master of Computing and Information Technology (MCIT) requires no prior engineering or computer science background. The JD/Master of Science in Engineering (MSE) is intended for students with strong undergraduate backgrounds in engineering or the sciences.

For technologists who want a deeper understanding of how the law relates to aspects of their work, Penn Law has recently launched a technology track for its new one-year Master in Law (ML) program. Designed specifically for individuals who do not want to become practicing attorneys, the ML degree program introduces students to the basics of legal thought and explores the relationship between law and technology through specialized courses in several different areas. ML courses offered during the academic year 2015-16 included: Introduction to Technology Law and Ethics, Introduction to Patent Law, Introduction to U.S. Law and Legal Methods, Introduction to General Business Law, Constitutional Law, and Navigating the Regulatory State. The joint degree program is open both to graduate students and undergraduates that submatriculate during their junior year.

Whether a person is a graduate or an undergraduate student or is a future lawyer or a future technologist, Penn Law has a program tailored to fit their interests.
Inaugural Scholarships in Law and Technology

Penn Law and CTIC have awarded CTIC Scholarships to two first-year students at the Law School, Teddi Anne Josephson L'18 and Anna Marion L'18 to help them enter the joint degree program.

The CTIC Scholarship is a competitive scholarship awarded to students pursuing joint degrees in law and technology. The scholarships provide funding to help offset the cost of the additional year of study at the University of Pennsylvania’s School of Engineering and Applied Science needed to complete the joint degree.

Josephson graduated from the University of Pennsylvania in 2012 with a BA in English Literature and is currently pursuing a joint JD/MCIT. Marion received a BS in Astrophysics from Villanova University in 2015 and is pursuing a joint JD/MSE specializing in scientific computing.

“I am so appreciative of this scholarship, which will go towards my time at the Engineering School,” said Josephson. “I am thrilled that Penn Law has created a program that allows me to pursue my interest in law and technology in such an immersive way.”

“Receiving the CTIC Scholarship means that I can devote a full year to advancing my computational research skills through the Scientific Computing program,” said Marion. “I expect the joint degree to prove invaluable to my career goal of contributing data-driven analysis to the interdisciplinary issues facing governments and public interest organizations.”

In addition to the funding provided by the CTIC Scholarship, Josephson and Marion will have the opportunity to work with the CTIC faculty.
Established in 1923, the American Law Institute (ALI) is a body set up to promote the clarification and simplification of U.S. law in different fields. Its members include prominent law professors, attorneys and judges.

The ALI engages in two kinds of projects: Restatements and Principles. ALI’s Restatements aim to provide courts with clear formulations of judge-made law and statutory elements likely to be applied by courts in the future. ALI’s Principles projects are targeted to legislatures, agencies, private actors, or courts and attempt to derive principles for an area of law by blending both current law and reform proposals.

ALI invites a select group of academics, judges, and practitioners, known as “Advisers,” to help the Project Reporters with their work. These experts offer their input on drafts produced by the Reporters, which are then sent to the ALI Council for approval before becoming final.

CTIC faculty members are participating as Advisers to two new ALI projects in the area of law, innovation and technology. Professor Shyamkrishna Balganesh serves as an Adviser for the Restatement of the Law Copyright, which commenced in 2015, while Professors Anita Allen and Christopher Yoo serve as Advisers for the project titled, “Principles of the Law: Data Privacy,” which began in 2012. Both projects are the first ALI efforts in each area.

The ALI’s Restatements and Principles are regularly cited by courts around the country, making them well-recognized sources of law and jurisprudence in any area.
New Student-Led Public Interest Organization Focusing on Technology Law

Penn Law has a longstanding commitment to public interest work, exemplified by the Toll Public Interest Center, public interest scholarships, the longstanding requirement that all students commit to seventy hours of pro bono service in order to graduate, and the fact that Penn was the first law school to receive the ABA's Pro Bono Publica Award.

For Penn Law students interested in technology law, one of the newest pro bono student projects at the Law School is giving them an opportunity to gain hands-on experience in the field. Students for Technological Progress (STP) is a pro bono student project founded by Natalie Punchak L'15 and Ross Slutsky L'16 that works with a wide range of clients on a variety of legal issues at the intersection of law and policy.

"We want to give students exposure to a range of perspectives and to develop the skills to be able to work effectively with clients of very different views," said Slutsky, who is now an associate specializing in privacy and data law at Kelley Drye & Warren LLP in Washington, D.C.

The group focuses on privacy, telecommunications, open Internet issues, and intellectual property — not traditional pro bono areas for law school students. Slutsky credits the Toll Public Interest Center and Professor Christopher Yoo for helping establish and foster the organization's development.

When STP was established in 2014, the organization had one client: the Media Mobilizing Project. Now, STP has three more clients: the Center for Democracy and Technology, TechFreedom, and Public Knowledge. Students have worked on an array of projects, including policy research on tort liability, research on the economics of broadband deployment, and support in the drafting of a brief for a D.C. Circuit case on administrative law and drones.
Detkin Intellectual Property and Technology Legal Clinic

In 2015-2016, Penn Law’s Detkin Intellectual Property and Technology Legal Clinic completed its third full academic year under the direction of CTIC’s Cynthia Dahl. Designed as an upper-level IP course, the Detkin Clinic is part seminar and part IP law firm, during which students take primary responsibility for helping their clients commercialize innovation.

The Detkin Clinic is unique in that it consciously introduces law students to the types of professionals they will meet in practice, especially in business, technology, science and the arts. According to Dahl, changes from the Clinic’s first year include an increase in the number of students and clients involved. One other change of note is that students now have to apply to be accepted. Dahl said about thirty students applied for the ten student spots allowed per semester.

On the client side, there are seventeen clients per semester that the team of ten manages. The majority of clients are from the University of Pennsylvania’s commercialization venture known as the Penn Center for Innovation (PCI). As they did last year, clinic students counsel several Penn laboratories with early stage discoveries, helping them to analyze their legal and business options, and choose their best path to commercialization.
CTIC Summer Public Interest Fellowship

Each year, CTIC funds summer internships with public interest and government organizations doing work relevant to CTIC’s focus on technology policy, intellectual property, cyber law, privacy, and other related fields. These Summer Public Interest Fellowships are open to Penn Law 1Ls and 2Ls and give students the opportunity to gain experience in technology law that might not otherwise be available to them.

The 2016 Summer Public Interest Fellowship was awarded to Griffin Davis, who used it to work at the Cyberlaw Clinic at the Berkman Center for Internet and Society at Harvard University. Griffin worked on a wide range of technology-related projects, including trademark-related projects, drafting end-user license agreements for software providers, working with documentary producers on copyright issues and helping on litigation matter involving a domain name dispute.

Previous CTIC Summer Public Interest Fellows have worked at the International Intellectual Property Institute, White House Office of Science and Technology Policy, American Antitrust Institute, and the Federal Communications Commission.

IP LawMeet National Champions

On November 6, Penn Law students Adam Alperowicz L’17 and Nayha Zubair L’16 were named champions of the fifth annual Intellectual Property LawMeet, along with a team from the University of Missouri-Kansas City School of Law. The national championship round of the LawMeet was held at the Philadelphia offices of BakerHostetler LLP, where the firm hosted six finalist teams from around the country who had advanced from the regional rounds of competition.

During the national championship, the judges — all experienced legal practitioners — acted as the opponents for each negotiating team.

“It could have been an intimidating situation, but the students were well prepared, knew their facts, and kept their composure brilliantly,” said Cynthia Dahl, Practice Associate Professor of Law and Director of the Law School’s Detkin Intellectual Property and Technology Legal Clinic. “I am so proud of how hard they worked this semester and how much they learned in a very short period of time.”

“The national round was challenging. Negotiating against skilled attorneys who not only had years of practice on us, but were also deliberately testing both our patience and our ability to react to adversarial opponents, was hard,” said Alperowicz. “The experience taught us beneficial lessons that I’m sure will pay off in the years to come as we leave law school and enter practice on our own.”

The team’s victory is Penn Law’s second in the past four years. In 2012, the Law School’s first year competing in the LawMeet, Christina Wong L’14 and Lauren Saliel L’14 also took the top prize at the national competition.

“The IP LawMeet does a great service in that it lets the students try out theory in practice and receive real-time, personalized feedback that they can apply immediately,” added Dahl. “I think the method really cements the learning. I am proud that our team won a national title, but there were many talented teams that deserved recognition. I know they all came away with a great experience and valuable lessons.”
CTIC thanks the following supporters:
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Internet Society
Microsoft
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The University of Pennsylvania Law School's Center for Technology, Innovation and Competition is dedicated to promoting foundational research that will shape and reshape the way policymakers think about technology-related issues. To do so, CTIC organizes events that explore the full range of scholarly perspectives.

The University of Pennsylvania is uniquely well positioned to support the Center's mission. The Law School is home to many of the nation's leading experts on intellectual property, Internet law, and technology policy. In addition, CTIC is able to draw on the expertise of scholars from across the University, including the Wharton School, the Annenberg School for Communication, the Cinema Studies Program, and the School of Engineering and Applied Science. Philadelphia is home to a vibrant high-tech legal community and many of the world's leading technology companies. CTIC's proximity to New York and Washington, D.C. allows it to enjoy frequent visits from key industry players and policymakers.

For more information and current events at CTIC, visit our website at www.law.upenn.edu/academics/institutes/ctic.