



Law and Technology at Penn

2016 – 2017



Center for Technology, Innovation and Competition



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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/ctic.

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Shyamkrishna Balganesh, Christopher Yoo, Polk Wagner, David Abrams, Gideon Parchomovsky, Umberto Izzo

A Message from the Directors

This report commemorates another successful year for the Center for Technology, Innovation and Competition.

Our continued growth is marked not only by three major, multi-year research projects noted below, but by the addition of two new faculty members, Herbert Hovenkamp and Allison Hoffman.

- A three-year project to analyze 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 grant to develop privacy and security for technologies such as autonomous vehicles and medical devices.

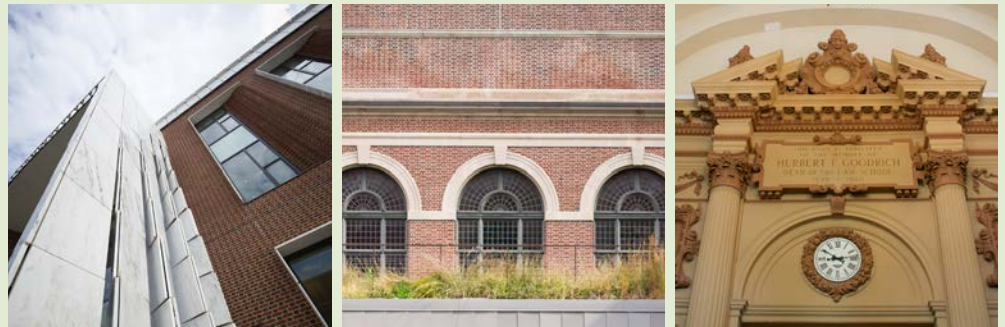
For the second time in three years, a team from Penn Law was crowned national champions in the Giles S. Rich Patent Moot Court Competition.

We look forward to celebrating CTIC's 10-year Anniversary in 2017-2018.

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.



Center for Technology, Innovation and Competition



CTIC Faculty

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
- Economics and Law
- Patents
- Advanced Topics in Intellectual Property

Representative Publications

Poisoning the Next Apple: How the America Invents Act Harms Inventors, 65 STAN. L. REV. 517 (2013) (with R. Polk Wagner).

Did TRIPS Spur Innovation? An Analysis of Patent Duration and Incentives to Innovate, 157 U. PA. L. REV. 1613 (2009).

Exclusion Limits on the Wimp-Nucleon Cross Section from the Cryogenic Dark Matter Search, 66 PHYS. REV. D 122003-1-35 (2002) (with D. Akerib, et al).

Deployment of the First CDMS II ZIP Detectors at the Stanford Underground Facility, 110 NUCLEAR PHYS. B PROC. SUPP. 100 (2002) (with T. Saab, et al).

Recent Publications

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

Patent Value and Citations: Creative Destruction or Strategic Disruption, (Penn Inst. for Econ. Res. Working Paper No. 13-065 2013) (with Ufuk Akcigit & Jillian Popadak).



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 Balganesesh

Professor of Law

Shyamkrishna Balganesesh'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 copyright ability 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, Balganesesh 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

Copyright Infringement Markets, 113 COLUM. L. REV. 2277 (2013).

The Normativity of Copying In Copyright Law, 62 DUKE L.J. 203 (2012).

The Obligatory Structure of Copyright Law: Unbundling the Wrong of Copying, 125 HARV. L. REV. 1664 (2012).

"Hot News": The Enduring Myth of Property in News, 111 COLUM. L. REV. 419 (2011).

Foreseeability and Copyright Incentives, 122 HARV. L. REV. 1569 (2009).

Recent Publications

THE PRIVATE LAW OF INDIA (Oxford forthcoming 2018) (with Neel Maitra).

The Immanent Rationality of Copyright Law, 115 MICH. L. REV. 1047 (2017).

Causing Copyright, 117 COLUM. L. REV. 1 (2017).

The "Common Law" in Intellectual Property, in 1 RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW (Ben Depoorter & Peter Menell eds., Edward Elgar forthcoming 2017).

Copyright and Good Faith Purchasers, 104 CALIF. L. REV. 269 (2016).

Debunking the Myth of the Copyright Troll Apocalypse, 101 IOWA L. REV. ONLINE 43 (2016) (with Jonah B. Gelbach).

The Folklore and Symbolism of Authorship in American Copyright Law, 54 HOUS. L. REV. 403 (2016).

Questionable Origins of Copyright Infringement Analysis, 68 STAN. L. REV. 791 (2016).



DAVID HOFFMAN

“Contracting over the web has both exposed and exacerbated long-standing tensions in contract doctrine about the nature of assent and the limits of private ordering. My work illuminates these cracks in contract law’s foundation by exploring the lay psychology of contracting, with a particular emphasis on individual differences in behavior. I am currently at work on a qualitative project that uncovers and tries to explain innovations in the look and function of the user agreements of platform economy firms.”

David Hoffman

Professor of Law

An expert in contracts, law and psychology, and empirical legal studies, David Hoffman joined the Penn Law faculty in January 2017. Hoffman's scholarship uses observational and experimental data to explore individuals' behavior relating to legal rules. His recent work on contract, for example, investigated whether millennials have developed a distinctive set of views about their experiences with online commercial transactions. In other papers—written jointly with a multidisciplinary team based at Yale Law School—he has shown how the perceived benefits and risks of political demonstrations are contingent on people's values and such deeply rooted perceptions influence judgments of fact in civil rights cases. Before joining the legal academy, Hoffman was a litigation associate at Cravath, Swaine & Moore LLP in New York City and a law clerk for Judge Norma L. Shapiro of the Eastern District of Pennsylvania.

Expertise

Contracts, Social Science and the Law, Law and Economics, Behavioral Economics, Corporate and Financial Law, Legal Process and Dispute Resolution

Education

JD 2001 Harvard Law School
BA 1998 Yale University

Courses Taught

- Contracts
- Advanced Topics in Contracts
- Corporations

Representative Publications

Empirical Analysis of Data Breach Litigation, 11 J. EMPIRICAL LEG. STUD. 74 (2014) (with Acquisti, and Romanosky).

Building a Taxonomy of Civil Litigation: Clusters of Causes of Action in Federal Complaints, 171 J. EMPIRICAL LEG. STUD. 253 (2013) (with Christina L. Boyd, Kosta Ritovski, Zoran Obradovic).

The Psychology of Contract Precautions, 80 U. CHI. L. REV. 395 (2013) (with Tess Wilkinson-Ryan).

Whose Eyes Are You Going to Believe? Scott v. Harris and the Perils of Cognitive Illiberalism, 122 HARV. L. REV. 837 (2009) (with Dan M. Kahan and Donald Braman).

Recent Publications

Contract Consideration and Behavior, 85 GEO. WASH. L. REV. 351 (2017) (with Zev J. Eigen).

From Promise to Form: How Contracting Online Changes Consumers, 91 N.Y.U. L. REV. 1595 (2016).

CONTRACT AND RELATED OBLIGATION: THEORY, DOCTRINE, AND PRACTICE (7th ed. West 2016) (with Robert S. Summers & Robert A. Hillman).

"Ideology" or "Situation Sense"? An Experimental Investigation of Motivated Reasoning and Professional Judgment, 164 U. PA. L. REV. 349 (2016) (with Dan M. Kahan et al.).



GIDEON PARCHOMOVSKY

“One new area of my research is exploring ways to deal with the aftermath of the Supreme Court decision in *Matal v. Tam* holding that refusing to register trademarks that disparage members of a racial or ethnic group violates the First Amendment. One idea is to create a special kind of trademark that people can register to make sure that no one else can use it. This would require rethinking trademark law’s traditional hostility towards warehousing marks, embodied in the requirement limiting registration to marks that are actually being used.

“Another project being conducted with fellow CTIC faculty member Tess Wilkinson-Ryan explores the impact of the demand letters that lawyers send to alleged copyright infringers. We find that citing the highest possible statutory damages can be counterproductive, possibly because doing so may make the recipient regard the letter as an empty threat.”

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

Reinventing Copyright and Patent, 113 MICH. L. REV. 231 (2014) (with Abraham Bell).

Intellectual Property Defenses, 113 COLUM. L. REV. 1483 (2013) (with Alex Stein).

Partial Patents, 111 COLUM. L. REV. 207 (2011) (with Michael Mattioli).

Law and the Boundaries of Technology-Intensive Firms, 157 U. PA. L. REV. 1649 (2009) (with Oren Bar-Gill).

Tradable Patent Rights, 60 STAN. L. REV. 863 (2007) (with Ian Ayres).

Recent Publications

Incomplete Takings, 114 COLUM. L. REV. (forthcoming 2017) (with Abraham Bell).

Empowering Individual Plaintiffs, 102 CORNELL L. REV. 1319 (2017) (with Alex Stein).

The Value of the Right to Exclude: An Empirical Assessment, 165 U. PA. L. REV. 917 (2017) (with Jonathan Klick).

Of Property and Information, 116 COLUM. L. REV. 237 (2016) (with Abraham Bell).

The Dual Grant Theory of Fair Use, 83 U. CHI. L. REV. 1051 (2016) (with Abraham Bell).

Is the Government Fiscally Blind?: An Empirical Examination of the Effect of the Compensation Requirement on Eminent Domain Exercises, 45 J. LEGAL STUD. 437 (2016) (with Ronit Levine-Schnur).



R. POLK WAGNER

“The past year has been full of high-stakes litigation in the patent realm, including cases such as *TC Heartland*, *Waymo v. Uber*, and the final saga of *Apple v. Samsung*. These cases will have long term implications on venue, claim construction, damages, and other broad strokes themes in patent law for years to come. In addition to monitoring the constant flux in patent law, my research focuses on continuing to explore the Federal Circuit’s claim construction jurisprudence, as well as novel approaches to measuring patent value.”

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

Patent Law, Copyright Law, Trademark Law, Cyberlaw, Intellectual Property Policy, Law and Technology, Property Law

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

Poisoning the Next Apple: How the America Invents Act Harms Inventors, 65 STAN. L. REV. 417 (2013) (with David Abrams).

Did Phillips Change Anything? Empirical Analysis of the Federal Circuit's Claim Construction Doctrine, in INTELLECTUAL PROPERTY AND THE COMMON LAW 123 (Shyamkrishna Balganesh ed., Cambridge 2013) (with Lee Petherbridge).

Understanding Patent Quality Mechanisms, 157 U. PA. L. REV. 1410 (2009).

The Federal Circuit and Patentability: An Empirical Assessment of the Law of Obviousness, 85 TEX. L. REV. 2051 (2007) (with Lee Petherbridge).

Patent Portfolios, 154 U. PA. L. REV. 1 (2005) (with Gideon Parchomovsky).

Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance, 152 U. PA. L. REV. 1105 (2004) (with Lee Petherbridge).

Information Wants to Be Free: Intellectual Property and the Mythologies of Control, 103 COLUM. L. REV. 995 (2003).

Recent Publications

Teva and the Process of Claim Construction, 69 FLA. L. REV. (forthcoming 2017) (with Lee Petherbridge).

**TESS WILKINSON-RYAN**

“The rise of online commerce has put contract law in an uneasy position: what does it mean to agree to a contract when no one knows what they are agreeing to? No one can read their online contracts. My view is that there is no communicative distinction between 3,000 words of boilerplate terms and conditions and zero words of boilerplate terms and conditions. But even if the text of the contract does not increase a party’s understanding of the deal, does that mean that it has no effect on their behavior at all? One of my research interests right now is in the social or moral meaning of these unread terms. People take contracts seriously, even if they don’t read them—even if they could never have read them. Consumer contracts may deter complaints, or exit, or even legal challenges, even when the terms are really objectionable, because they appear morally and legally legitimate. People have been writing about the promissory morality of contract for a long time, but usually we assume it doesn’t mean much in one-shot small-scale deals between individuals and corporations. But I think that’s an area worth exploring, because it has huge consequences for economic and legal behavior.”

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

A Psychological Account of Consent to Fine Print, 99 IOWA L. REV. 101 (2014).

Judging Similarity, 100 IOWA L. REV. 267 (2014) (with Shyamkrishna Balganesh & Irina Manta).

Transferring Trust: Reciprocity Norms and Assignment of Contract, 9 J. EMPIRICAL LEGAL STUD. 511 (2012).

Do Liquidated Damages Encourage Breach? A Psychological Experiment, 108 MICH. L. REV. 633 (2010).

Moral Judgment and Moral Heuristics in Breach of Contract, 6 J. EMPIRICAL LEGAL STUD. 407 (2009) (with Jonathan Baron).

Recent Publications

The Behavioral Paradox of Boilerplate, 103 CORNELL L. REV. (forthcoming 2017).

The Knowledge Gap in Workplace Retirement Investing and the Role of Professional Advisors, 66 DUKE L.J. 633 (2016) (with Jill Fisch & Kristin Firth).



CHRISTOPHER YOO

“Over the past decade, my work has become increasingly international in focus. For example, I am conducting a series of empirical studies examining the deployment of fiber-to-the-home and 4G LTE wireless technologies in Europe and the Pacific Rim. The 1 World Connected project is also empirically assessing innovative ways to connect more people to the Internet in the developing world. I am also part of another team studying due process and fairness in antitrust enforcement in China, Europe, and the U.S.

“Another emerging dimension of my work is a series of NSF grants on privacy and security. One is studying how to redesign cyber-physical systems, such as autonomous vehicles and medical devices, for a hostile world. Another is examining legal barriers to the use of RPKI to secure the routing infrastructure. These projects epitomize the growing importance of interdisciplinary research that integrates the disciplines of law and engineering.”

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

THE DYNAMIC INTERNET: HOW TECHNOLOGY, USERS, AND BUSINESS ARE TRANSFORMING THE NETWORK (AEI 2012).

NETWORKS IN TELECOMMUNICATIONS: ECONOMICS AND LAW (Cambridge 2009) (with Daniel F. Spulber).

Technological Determinism and Its Discontents, 127 HARV. L. REV. 914 (2014) (book review).

Mandating Access to Telecom and the Internet: The Hidden Side of Trinko, 107 COLUM. L. REV. 1822 (2007) (with Daniel Spulber).

Copyright and Product Differentiation, 79 N.Y.U. L. REV. 212 (2004).

Recent Publications

Network Neutrality and 5G, in THE FUTURE OF THE INTERNET — INNOVATION, INTEGRATION AND SUSTAINABILITY (Guenter Knieps & Volcker Stocker eds., forthcoming 2018).

Antitrust Enforcement in a Global Context: The U.S. Perspective, in TRANSPARENCY AND DUE PROCESS IN ANTITRUST ENFORCEMENT (D. Daniel Sokol ed., Oxford forthcoming 2018) (with Hendrik Wendland).

Self-Actualization and the Need to Create as a Limit on Copyright, in COMPARATIVE ASPECTS OF LIMITATIONS AND EXCEPTIONS IN COPYRIGHT LAW (Shyamkrishna Balganesh, Wee Loon Ng-Loy, & Haochen Sun eds., Cambridge forthcoming 2018).

Product Differentiation, in 1 RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW (Ben Depoorter & Peter Menell eds., Edward Elgar forthcoming 2017).

Common Carriage's Domain, 34 YALE J. ON REG. (forthcoming 2018).

James Wilson as Architect of the Presidency, 16 GEO. J.L. & PUB. POL'Y (forthcoming 2018).

"Everything Not Forbidden Is Permitted": A U.S. Perspective on Regulation and Innovation, 9 J.L. & ECON. REG. (forthcoming 2017).

An Unsung Success Story: A Forty-Year Retrospective on U.S. Communications Policy, 41 TELECOMM. POL'Y (forthcoming 2017).

Internet Decentralization and Its Discontents, in THE GLOBAL INTERNET GOVERNANCE IN TRANSITION (Eli M. Noam, Raul Katz, & Lorenzo Maria Pupillo eds., forthcoming 2017).

Avoiding the Pitfalls of Net Uniformity: Zero Rating and Nondiscrimination, 46 REV. INDUS. ORG. 509 (2017).

Wireless Network Neutrality: Technological Challenges and Policy Implications, 31 BERKELEY TECH. L.J. 1409 (2017).

Open Source, Modular Platforms, and the Challenge of Fragmentation, 1 CRITERION J. ON INNOVATION 619 (2017).

Network Neutrality in an Increasingly Diverse World, ANTITRUST CHRON., Nov. 2016.

Telecommunications: Competition Policy in the Telecommunications Space, 85 MISS. L.J. 779 (2016) (with Gene Kimmelman, Maureen K. Ohlhausen, Michael O'Rielly, & Stephen F. Williams).

Modularity Theory and Internet Policy, 2016 U. ILL. L. REV. 1 (2016).

Legal Mechanisms for Governing the Transition of Key Domain Name Functions to the Global Multi-Stakeholder Community, in 2 WHO RUNS THE INTERNET?: THE GLOBAL MULTI-STAKEHOLDER MODEL OF INTERNET GOVERNANCE 67 (Centre on International Governance Innovation & Chatham House 2016) (with Aaron Shull & Paul Twomey).

When Are Two Networks Better than One?: Toward a Theory of Optimal Fragmentation, in 1 A UNIVERSAL INTERNET IN A BORDERED WORLD: RESEARCH ON FRAGMENTATION, OPENNESS AND INTEROPERABILITY 127 (Centre on International Governance Innovation & Chatham House 2016).

The Bounds of Executive Discretion in the Regulatory State, 164 U. PA. L. REV. 1587 (2016) (with Cary Coglianese).

Presidential Signing Statements: A New Perspective, 164 U. PA. L. REV. 1801 (2016).



CYNTHIA LAURY DAHL

"I enjoy guiding students to become more holistic practitioners, which I think comes from being able to adopt the mindset of the client. My scholarship suggests ways to teach students to do that. I examine how to introduce interdisciplinary study into a clinical seminar class, and discuss whether that has been helpful to new graduates in a technology practice. In addition, since IP and technology clinics are a relatively new phenomenon, I have been studying their innovations and best practices, gathering survey data and comparing such clinics to the rest of the clinical community. I am particularly interested in the ways that a technology practice and lawyers' use of new technology can challenge traditional legal ethics rules."

Cynthia Laury Dahl

Practice Professor of Law; Director, Detkin Intellectual Property and Technology Legal Clinic

Cynthia Dahl directs the Detkin Intellectual Property and Technology Legal Clinic, specializing in counseling clients on creating business value out of intellectual property and technological innovation. Before coming to Penn Law, she practiced for ten years as Senior IP Counsel for TruePosition, Inc., a Liberty Media-owned international wireless location company, where she managed the patent portfolio for the parent company as well as three start-up entities, and drafted and executed all IP agreements as well as oversaw standards-setting activities. Before practicing in-house, she worked as an IP litigation associate at Holland and Hart LLP and Pennie and Edmonds LLP. Prior to working in the law, she also counseled artists for Volunteer Lawyers for the Arts and held several jobs in policy and the press, including working for Senator Bill Bradley (D-NJ) and Nina Totenberg of National Public Radio. Her scholarly work suggests new designs for teaching students practicing at the intersection of law, business and technology, particularly concerning how best to introduce law students to the mindsets and mores of non-legal professionals. She is also interested in applying traditional rules of legal ethics to a technologically savvy practice.

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

Representative Publications

Teaching Would-Be IP Lawyers to “Speak Engineer”: An Interdisciplinary Module to Teach New Intellectual Property Attorneys to Work Across Disciplines, 19 LEWIS & CLARK L. REV. 361 (2015).

Making “Friends” with the #Ethics Rules: Avoiding Pitfalls in Professional Social Media Use, 43 AIPLA Q.J. 155 (2015).

Recent Publications

Solving Ethical Puzzles to Unlock University Technology Transfer Client Work for an Intellectual Property Legal Clinic. 23 B.U. J. Sci. & TECH. L. 1 (2017).



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 Bioethical Issues. 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

PRIVACY LAW AND SOCIETY (3d ed., ThomsonReuters/West 2016).

UNPOPULAR PRIVACY: WHAT MUST WE HIDE? (Oxford 2011).

Protecting One's Own Privacy in a Big Data Economy, 130 HARV. L. REV. F. 71 (2016).

Cognitive Enhancement and Beyond: Recommendations from the Bioethics Commission, 19 TRENDS COGNITIVE SCI. 549 (2015) (with Nicolle K. Strand).

Privacy Law: Positive Theory and Normative Practice, 126 HARV. L. REV. F. 241 (2013).



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 serves as the Chair of the Administrative Conference of the United States' Committee on Rulemaking, a member of the National Academy of Sciences Committee on Performance-Based Safety Regulation, and as a member of the Aspen Institute Dialogue on Energy Governance. Coglianese was a founding editor of the peer-reviewed journal *Regulation & Governance*, and he founded and serves as advisor to *The Regulatory Review*.

Expertise

Administrative Law, Government Regulation, Environmental Law

Secondary Appointments

Political Science Department, School of Arts and Sciences

Education

PhD 1994, MPP 1991, JD 1991 University of Michigan
AB 1985 College of Idaho

Courses Taught

- Administrative Law
- Environmental Law
- Policy Analysis
- Regulatory Law and Policy
- Advanced Regulatory Law and Policy

Representative Publications

ACHIEVING REGULATORY EXCELLENCE (Brookings Institution 2016).

DOES REGULATION KILL JOBS? (Cary Coglianese, Adam Finkel, & Chris Carrigan eds., Univ. of Pennsylvania 2013).

REGULATORY BREAKDOWN? THE CRISIS OF CONFIDENCE IN U.S. REGULATION (Cary Coglianese ed., Univ. of Pennsylvania 2012).

Regulating by Robot: Administrative Decision Making in the Machine-Learning Era, 105 GEO. L.J. 1147 (2017) (with David Lehr).

Separation of Powers Legitimacy: An Empirical Inquiry of Norms of Executive Power, 164 U. PA. L. REV. 1869 (2016) (with Kristin Firth).



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

THE LAW AND ECONOMICS OF FEDERALISM (Jonathan Klick ed., Edward Elgar 2017).

The Value of the Right to Exclude: An Empirical Assessment, 165 U. PA. L. REV. 917 (2017) (with Gideon Parchomovsky).

Mobile Phones and Crime Deterrence: An Underappreciated Link, in RESEARCH HANDBOOK ON THE ECONOMICS OF CRIMINAL LAW 243 (Alon Harel & Keith N. Hylton eds., Edward Elgar 2012) (with John MacDonald & Thomas Stratman).

Why Aren't Regulation and Litigation Substitutes?: An Examination of the Capture Hypothesis, in REGULATORY BREAKDOWN: THE CRISIS OF CONFIDENCE IN U.S. REGULATION 227 (Cary Coglianese ed., Univ. of Pennsylvania 2012) (with Eric Helland).

Social Networks, Self Denial, and Median Preferences: Conformity as an Evolutionary Strategy, 37 J. SOCIO-ECON. 1319 (2008) (with Francesco Parisi).



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." 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 in the 21st Century
- Individual Rights and Health Care
- Privacy and Disclosure

Representative Publications

Spelling Out Spokeo, 165 U. PA. L. REV. ONLINE 47 (2016) (with Craig Konnoth).

"Spooky Action at a Distance": Intangible Injury in Fact in the Information Age, 18 U. PA. J. CONST. L. 745 (2016).

Pervasive Image Capture and the First Amendment: Memory, Discourse, and the Right to Record, 159 U. PA. L. REV. 335 (2011).

Censorship by Proxy: The First Amendment, Internet Intermediaries and the Problem of the Weakest Link, 155 U. PA. L. REV. 11 (2006).

Technologies of Protest: Insurgent Social Movements and the First Amendment in the Era of the Internet, 150 U. PA. L. REV. 119 (2001).



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 six books on the history of copyright and Hollywood. He is the Faculty Director of Penn's Online Learning Initiative and Director of Penn's Cinema and Media Studies Program. Decherney is also the 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, Penn Law, and Department of Business Economics and Public Policy, Wharton School

Gerald Faulhaber is Professor Emeritus at Penn Law and of Business Economics and Public Policy at the Wharton School. He served as Chief Economist of the Federal Communications Commission in 2000-01. His past research has focused on the microeconomics, management, and public policy aspects of technology and telecommunications firms. Faulhaber's current research is wireless telecommunications, cybersecurity and the Internet of Things, public policy and the Internet, and the political economy of regulation. He has also written on file sharing and music copyright, public safety radio, and network neutrality.

Expertise

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

Education

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



Joseph Harrington

Patrick T. Harker Professor, Department of Business Economics and Public Policy, Wharton School

Joseph Harrington has published more than 80 articles and his research has appeared in many leading journals including the *American Economic Review*, *Journal of Political Economy*, *Econometrica*, *Management Science*, and *American Journal of Sociology*. His research focuses on collusion and cartels, with the objectives of understanding observed collusive practices, developing observable markers of collusion, and designing competition law and policy to detect and deter collusion. This work is often at the interface of theory and practice and has been presented before competition authorities throughout the world including those of Chile, the European Union, Japan, South Africa, and the United States. He has also published two textbooks, *Economics of Regulation and Antitrust* (5th ed., MIT forthcoming) with David Sappington and W. Kip Viscusi and *Games, Strategies, and Decision Making* (2d ed., Worth Publishers 2015), and has a forthcoming monograph, *The Theory of Collusion and Competition Policy* (MIT).

Expertise

Industrial Organization, Microeconomic Theory

Education

PhD 1984 Duke University
BA 1979 University of Virginia



Michael Kearns

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

Michael Kearns's 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



Aviv Nevo

George A. Weiss and Lydia Bravo Weiss University Professor,
Department of Marketing, Wharton School and Department of
Economics, School of Arts and Sciences

Aviv Nevo draws from his experience across academic, governmental, and corporate sectors to address pressing real-world issues, opening pathways for a broader understanding of national and global economies. His past research includes topics in the areas of health economics, health care, telecommunications, and real estate brokerages, as well as questions involving the demand for packaged goods and its implications for mergers and market power. Nevo served as Chief Economist in the Antitrust Division of the Department of Justice, advising attorneys on merger, civil, and criminal investigations in addition to leading the division's Economic Analysis Group.

Expertise

Industrial Organization, Econometrics, Marketing, Antitrust

Education

PhD 1997, AM 1994 Harvard University
BSc 1991 Tel Aviv University



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 spent the 2016–17 academic year as the 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, 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. His most recent book is titled, *The Aisles Have Eyes: How Retailers Track Your Shopping, Strip Your Privacy, and Define Your Power* (Yale 2017).

Expertise

Mass Media Policy, Social Impact of Digital Marketing on Society and Media, 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, the legal and ethical implications of big data and business analytics, blockchain and distributed ledger technologies, and gamification (applying digital game design techniques to business). He co-led the review of the Federal Communications Commission (FCC) for the Obama transition team, served as Counsel for New Technology Policy at the FCC during the Clinton Administration, and created the Supernova executive technology conference. Over 350,000 students worldwide have registered for his pioneering Coursera massively open online course (MOOC).

Expertise

Internet Policy, Telecommunications Regulation, Law and Ethics of Big Data, Gamification, Blockchain

Education

JD 1994 Harvard Law School
BA 1991 University of California, Berkeley





Thomas Fetzer

Dean and Professor of Law, School of Law and Economics,
University of Mannheim

Thomas Fetzer holds a Chair of Public 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 (MaCCI) and the Leibniz ScienceCampus Mannheim Taxation (MaTax). He is also an Adjunct Professor at the Mannheim Business School.

Education

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



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

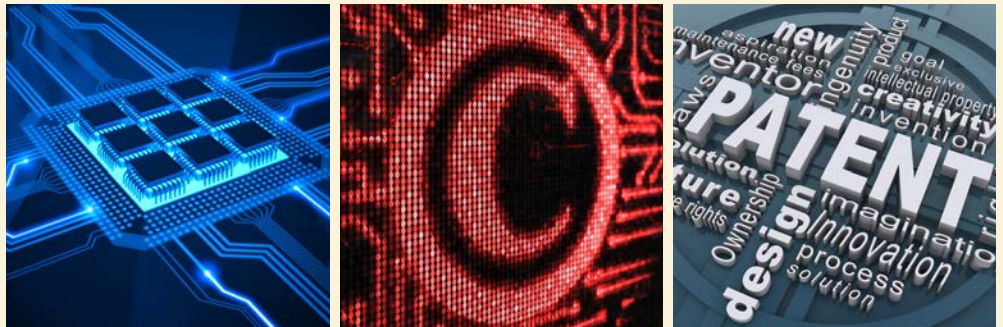
Matthew Pearson's area of expertise is in patent litigation. He works on cases in a range of technologies, including antibody therapies, pharmaceuticals, chemistry, biotechnology and medical devices. Prior to entering private practice, Pearson clerked for two years for Judge Kent Jordan of the U.S. District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



Center for Technology, Innovation and Competition



Major Conferences

Fifth Annual Global Patent Law Conference

Second Annual Copyright Scholarship Roundtable

Fifth Annual Computer Science and the Law Roundtable

Trento LawTech Research Group – CTIC Law & Technology Roundtable

Fifth Annual Global Patent Law Conference

December 3, 2016

Tokyo, Japan

The Fifth Annual Global Patent Law Conference, co-sponsored by CTIC and Waseda University, provided a forum to review and discuss current topics in international patent law. During the first part of the conference, experts from the United States and Japan provided an in-depth review and future outlook on exhaustion doctrine in Japan and the United States. The second part of the conference focused on the interplay of infringement and validity decision-making in the United States and Japan.



Left: Motoyuki Koike, Ryu Takabayashi, Hon. Ryuichi Shitara, Hon. Kent Jordan, Hon. David Ruschke, and Christoph Rademacher

Opposite Page: Waseda Law School, Masabumi Suzuki, Ryoichi Mimura, Toshiaki Iimura, Chris Longman, Polk Wagner, and Ichiro Nakayama



Opening Remarks

Yoshiki Kurumisawa

Dean, Faculty of Law, Waseda University

Christopher Yoo

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

Exhaustion of Patent Rights

Shyamkrishna Balganesh

Professor of Law, University of Pennsylvania Law School

Toshiaki Iimura

Partner, Yuasa & Hara

Former Chief Judge, Intellectual Property High Court

Chris Longman

Senior Director, Legal Counsel, Qualcomm

Ryoichi Mimura

Partner, Nagashima Ohno & Tsunematsu

Former Judge, Intellectual Property High Court

Masabumi Suzuki

Professor, Nagoya University Graduate School of Law

R. Polk Wagner

Professor of Law, University of Pennsylvania Law School

Moderator

Ichiro Nakayama

Professor, Kokugakuin University Law School

Interplay of Infringement Proceedings and Validity Determination in the U.S. and in Japan

The Honorable Kent Jordan

Judge, U.S. Court of Appeals for the Third Circuit

Motoyuki Koike

Director, Intellectual Property Department, Sony

The Honorable David Ruschke

Chief Judge, Patent and Trial Appeal Board (PTAB)

The Honorable Ryuichi Shitara

Chief Judge, Intellectual Property High Court, Japan

Ryu Takabayashi

Professor, Waseda University School of Law

Former Judge, Tokyo District Court and Matsuyama District Court

Moderator

Christoph Rademacher

Associate Professor, Waseda University School of Law

Second Annual Copyright Scholarship Roundtable

March 24-25, 2017

The Second Annual Copyright Scholarship Roundtable brought together some of the country's leading scholars working in the area of copyright law for a two day discussion of their ongoing research in the field. Nine papers were chosen for inclusion in the event, representing a range of methodologies, perspectives, and issues within the field.





Opposite Page: Peter Menell, David Hoffman

Above: Polk Wagner and Conference Participants



March 24, 2017

Copyright Survives: Rethinking the Copyright-Contracts Conflict

Guy Rub

Associate Professor of Law, Ohio State University Moritz College of Law

[Lead Commentator](#)

David Hoffman

Professor of Law, University of Pennsylvania Law School

Why We Should Abolish Copyright Protection for Visual Art

Amy Adler

Emily Kempin Professor of Law, New York University School of Law

[Lead Commentator](#)

Patrick Goold

Qualcomm Postdoctoral Fellow in Private Law and Intellectual Property, Harvard Law School

Hypernarrative in Copyright

Dan Burk

Chancellor's Professor of Law, University of California, Irvine School of Law

[Lead Commentator](#)

Zahr Said

Associate Professor of Law, University of Washington School of Law

Internet Safe Harbors and the Transformation of Copyright Law

Matthew Sag

Professor of Law, Loyola University Chicago School of Law

[Lead Commentator](#)

Gideon Parchomovsky

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

Strategies for Discerning the Boundaries of Copyright and Patent Protections

Pamela Samuelson

Richard M. Sherman Distinguished Professor of Law and Information, University of California, Berkeley

[Lead Commentator](#)

R. Polk Wagner

Professor of Law, University of Pennsylvania Law School

How Photographs Infringe

Terry Kogan

Professor, University of Utah College of Law

[Lead Commentator](#)

Justin Hughes

Hon. William Matthew Byrne, Jr. Chair, Loyola Law School, Los Angeles

Left to Right: Shyamkrishna Balganesh, Pamela Samuelson, Ben Depoorter, Gideon Parchomovsky, and Christopher Buccafusco



March 25, 2017

Rise of the API Copyright Dead?: An Updated Epitaph for Copyright Protection of Network and Functional Features of Computer Software

Peter Menell

Koret Professor of Law, University of California, Berkeley School of Law

Lead Commentator

Christopher Yoo

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

Over-Claiming Willfulness: Statutory Damage Awards by the Numbers

Ben Depoorter

Professor of Law, University of California, Hastings College of the Law

Lead Commentator

Shyamkrishna Balganesh

Professor of Law, University of Pennsylvania Law School

Fashion's Function in Intellectual Property Law

Christopher Buccafusco

Professor of Law, Benjamin N. Cardozo School of Law

Lead Commentator

Annemarie Bridy

Professor of Law, University of Idaho College of Law



Top to Bottom: Zahr Said, Amy Adler

Fifth Annual Computer Science and the Law Roundtable

May 9-10, 2017

As part of the broader effort to promote interdisciplinary work bridging law and engineering, CTIC held its Fifth Annual Computer Science and the Law Roundtable on May 9-10. 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 hope is to promote interdisciplinary work spanning law and computer science and to provide an institutional home to encourage the future generations of scholars.





Opposite Page: David Clark, Shane Greenstein, and William Lehr, Jason Livingood

Above: Conference Participants



May 9, 2017

Legal Tutorial

Christopher Yoo

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

Survey of Recent Results from the Internet Measurement Community

kc claffy

Founder and Director, Center for Applied Internet Data Analysis (CAIDA)

David Clark

Senior Research Scientist, Massachusetts Institute of Technology

Evaluation of Data Caps Under the Open Internet Order

Scott Jordan

Professor of Computer Science and Engineering, University of California, Irvine

Internet Measurement Analytics Can and Should Reshape Policy Debates

Nick Feamster

Professor of Computer Science, Princeton University

Moderator

Christopher Yoo

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

Changing Markets in Operating Systems: A Socio-Economic Analysis

Silvia Elaluf-Calderwood

Associate Fellow, Oxford Brookes University

Jonathan Liebenau

Associate Professor (Reader) of Technology Management, London School of Economics and Political Science

Open Source, Modular Platforms, and the Challenge of Fragmentation

Christopher Yoo

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

Moderator

Konstantinos Stylianou

Lecturer in Competition Law and Regulation, University of Leeds

Playing with the Data

Paul Ohm

Professor of Law, Georgetown University Law Center

David Lehr

Research Fellow, Georgetown University Law Center

Ideological Segregation Among Online Collaborators: Evidence from Wikipedians

Shane Greenstein

Martin Marshall Professor of Business Administration, Harvard Business School

Moderator

Justin (Gus) Hurwitz

Assistant Professor of Law, University of Nebraska-Lincoln College of Law



Left to Right: Justin (Gus) Hurwitz, Nick Feamster, Jonathan Liebenau and Silvia Elaluf-Calderwood

May 10, 2017

Ex-Post Mitigation Strategies for Breaches of Non-Financial Data

William Lehr

Research Associate, Massachusetts Institute of Technology

The Privacy Right to Redress Understood as a Potential Cyber-Attack

Jesse Woo

Research Associate, Georgia Institute of Technology

Moderator

Rahul Telang

Professor of Information Systems and Management, Carnegie Mellon University

Contracts Ex Machina

Kevin Werbach

Associate Professor of Legal Studies and Business Ethics, Wharton School

Property Law as a Programming Language

Shrutarshi Basu

PhD candidate, Cornell University

James Grimmelmann

Professor of Law, Cornell University

Moderator

Bryan Choi

Assistant Professor of Law, Ohio State University Moritz College of Law



Top to Bottom: Bryan Choi, Paul Ohm

Trento LawTech Research Group – CTIC Law & Technology Roundtable

June 5, 2017
Trento, Italy

On June 5, 2017, CTIC and the LawTech Research Group at the University of Trento co-hosted a day-long faculty roundtable in Trento, Italy. Scholars from Penn Law and the University of Trento presented research papers addressing different areas of law and technology (copyright, patent, communications law, privacy law and environmental law) and the roundtable discussions focused on future research and developments in these areas. The objective of the roundtable was for scholars to gain a comparative perspective on their research, and to facilitate greater collaboration between Penn Law and European legal scholars working in the area of law and technology.





Opposite Page: Christopher Yoo

Above: Christopher Yoo, Giovanni Sartor, and Polk Wagner



Regulating Community Networks in Europe: The netCommons Project

Federica Giovanella

Post-Doc Fellow in Private Comparative Law, Department of Information Engineering and Computer Science, University of Trento

May the Awareness Be with You: Empirical Research on Consumer Protection at the Time of the Sharing Economy

Rossana Ducato

Research Assistant, Institute for Interdisciplinary Research in Legal Sciences (JURI), Catholic University of Louvain

Comparative Methodologies for the Low-Carbon Transition

Giuseppe Bellantuono

Associate Professor of Comparative Law, University of Trento Faculty of Law

The Right to Be Forgotten: Balancing Interests in the Flux of Time

Giovanni Sartor

Professor of Legal Informatics and Legal Theory, University of Bologna Faculty of Law

Open Source, Modular Platforms, and the Challenge of Fragmentation

Christopher Yoo

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

Poisonous Science: The Dark Side of Academic Copyright in the Digital Age

Roberto Caso

Associate Professor of Comparative Law, Co-director of LawTech Group, University of Trento Faculty of Law

Left to Right: Rossana Ducato, David Abrams



Protecting Copyright Integrity

Shyamkrishna Balganesh

Professor of Law, University of Pennsylvania Law School

Gideon Parchomovsky

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

Pharmaceutical Patent Citations and Real Value

David S. Abrams

Professor of Law, Business Economics, and Public Policy, University of Pennsylvania

Teva and the Process of Claim Construction

R. Polk Wagner

Professor of Law, University of Pennsylvania Law School



Top to Bottom: Umberto Izzo, Giovanni Sartor, Gideon Parchomovsky and Shyamkrishna Balganesh



Center for Technology, Innovation and Competition



Policy Outreach

Internet Privacy: Technology and Policy Developments

The Future of the Internet in a Post-Internet Regulation World

Municipal Fiber in the U.S.: An Empirical Assessment of Financial Performance

Internet Privacy: Technology and Policy Developments

May 1, 2017

Washington, D.C.

Debates over the Federal Communications Commission's intervention in Internet privacy (and the Congressional Review Act resolution that prevented those efforts from taking effect) revealed the need for a better understanding of the technological foundations of privacy. Federal Trade Commission Acting Chairman Maureen Ohlhausen and a distinguished group of technologists explored the impact of recent technological changes on the ways that personal information is handled and what those changes mean for privacy policy.

Keynote Address

Maureen Ohlhausen

Acting Chairman, Federal Trade Commission

Panel

David Farber

Distinguished Career Professor of Computer Science and Public Policy Emeritus, Carnegie Mellon University

Nick Feamster

Professor of Computer Science, Princeton University

Jules Polonetsky

CEO, Future of Privacy Forum

Moderator

Christopher Yoo

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



Christopher Yoo, Maureen Ohlhausen, Jules Polonetsky, David Farber, and Nick Feamster

The Future of the Internet in a Post-Internet Regulation World

May 23, 2017

Washington, D.C.

The Federal Communications Commission, under Chairman Ajit Pai, has started the process of undoing the Internet regulation of the last administration. The recent Notice of Proposed Rulemaking solicits comments regarding everything from the legal reasoning for removing the common carrier status to what, if any, “bright line rules” the agency should entertain keeping. This event, co-hosted by CTIC and the Technology Policy Institute, explored what is ahead for the Internet and Internet users in a post-internet regulation world.

Speakers

Michelle Connolly

Professor of the Practice of Economics, Duke University

Robert Crandall

Nonresident Senior Fellow, Economic Studies Program, Brookings Institution

Michael Katz

Sarin Chair in Strategy and Leadership, Professor, Department of Economics, Haas School of Business, University of California, Berkeley

Joshua Wright

University Professor, Antonin Scalia Law School, George Mason University

Christopher Yoo

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

Moderator

Thomas Lenard

Senior Fellow and President Emeritus, Technology Policy Institute



Michelle Connolly, Robert Crandall, Michael Katz, Joshua Wright, Christopher Yoo, and Thomas Lenard

Municipal Fiber in the U.S.: An Empirical Assessment of Financial Performance

May 24, 2017

Washington, D.C.

Many municipalities have already built municipal-owned fiber networks and others continue to consider building them. A stream of media reports point to Chattanooga and other cities as success stories. However, little empirical analysis of their financial performance is available. Penn Wharton Public Policy Initiative and the Center for Technology, Innovation and Competition released a comprehensive analysis of the financial performance of municipal-owned fiber networks and brought together experts to discuss it, with the aim of providing citizens and decision makers with a toolkit for assessing the financial viability of such networks.

Keynote Address

Christopher Yoo

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

Keynote Address

The Honorable Edward Rendell

Former Governor of Pennsylvania

Former Mayor of Philadelphia

Panel

Douglas Holtz-Eakin

President, American Action Forum

Former Chief Economist, Council of Economic Advisors

Former Director, Congressional Budget Office

Frank Louthan

Managing Director - Equity Research, Raymond James, and a leading Wall Street telecommunications analyst



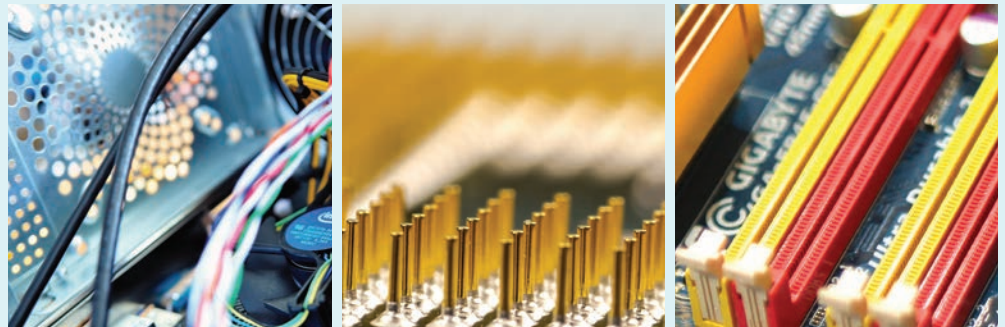


Opposite Page: Douglas Holtz-Eakin and Frank Louthan, Conference Attendees, Hon. Edward Rendell and Christopher Yoo

Above: Hon. Edward Rendell



Center for Technology, Innovation and Competition



Programs and Events

Optimizing Government

Current Issues in Law and Technology

The Intersection of Law and Design: An Introduction to Patent Design

Free Software and Your Freedom

Lee v. Tam: Disparaging Trademarks and the First Amendment

Scholarship Workshop Series

Career Speaker Series

Optimizing Government 2016-2017 Workshop Series

The Optimizing Government Project, created by Professor Cary Coglianese and based at Penn Law, has brought together faculty from across Penn to study governmental applications of machine learning from an interdisciplinary perspective. It convened a series of seven workshops throughout the 2016-17 academic year, bringing together leading scholars in law, computer science, and philosophy. The Project aims to deepen interdisciplinary conversation about the government's use of machine learning so that policymakers and practitioners can harness its revolutionary potential, as well as respond to concerns about its possible risks.

September 22, 2016

What is Machine Learning (and Why Might it Matter?)

Presenter

Aaron Roth

Associate Professor of Computer and Information Science,
University of Pennsylvania

Commentator

Richard Berk

Professor of Statistics and Criminology, University of
Pennsylvania

October 6, 2016

What is Fair and Equal Treatment?

Presenters

Samuel Freeman

Avalon Professor of the Humanities, University of Pennsylvania

Nancy Hirschmann

Professor of Political Science, University of Pennsylvania

Seth Kreimer

Kenneth W. Gemmill Professor of Law, University of Pennsylvania

Moderator

Cary Coglianese

Edward B. Shils Professor of Law, Professor of Political Science,
University of Pennsylvania



Top to Bottom: Seth Kreimer and Workshop Participants, Aaron Roth and Richard Berk, Helen Nissenbaum

Opposite Page: Cary Coglianese, Michael Kearns and Tom Baker



November 3, 2016

Fairness and Performance Trade-Offs in Machine Learning

Presenter

Michael Kearns

Professor and National Center Chair, Department of Computer and Information Science, University of Pennsylvania

Commentator

Sandra Mayson

Research Fellow, Quattrone Center for the Fair Administration of Justice, University of Pennsylvania

December 9, 2016

Regulating Robo-Advisors Across the Financial Services Industry

Presenters

Tom Baker

William Maul Measey Professor of Law and Health Sciences, University of Pennsylvania

Benedict G.C. Dellaert

Professor, Erasmus University Rotterdam

Commentator

Richard Berk

Professor of Statistics and Criminology, University of Pennsylvania

February 20, 2017

For the People, By the Robots? Democratic Governance in a Machine-Learning Era

Presenters

John Mikhail

Agnes N. Williams Research Professor and Professor of Law, Georgetown University Law Center

Helen Nissenbaum

Professor of Media, Culture, and Communication & Computer Science, New York University

David Robinson

Principal, Upturn; Adjunct Professor, Georgetown University Law Center

March 21, 2017

Can Technology be Democratic? Transparency and Accountability in Machine Learning

Presenters

Sorelle Friedler

Assistant Professor of Computer Science, Haverford College

Andrew Selbst

Visiting Fellow, Yale Information Society Project

APRIL 11, 2017

BIG DATA AND GOVERNMENT: MEETING THE REAL-WORLD CHALLENGES

Presenters

Cary Coglianese

Edward B. Shils Professor of Law, Professor of Political Science, University of Pennsylvania

Stephen Goldsmith

Daniel Paul Professor of the Practice of Government, Harvard Kennedy School of Government

Dennis P. Culhane

Professor, Dana and Andrew Stone Chair in Social Policy, University of Pennsylvania

Current Issues in Law and Technology

October 27, 2016

Preview of Patent Cases Before the Supreme Court, October 2016 Term

CTIC hosted an in-depth preview of patent law cases docketed to be heard by the Supreme Court during the October 2016 Term. The panel featured Penn Law faculty who applied their expertise and research perspectives to the following cases:

Life Technologies Corp. v. Promega Corp

Samsung Electronics Co. v. Apple Inc.

SCA Hygiene Products v. First Quality Baby Products

Speakers

R. Polk Wagner

Professor of Law, University of Pennsylvania Law School

Cynthia Dahl

Practice Professor of Law, Director of the Detkin Intellectual Property and Technology Legal Clinic, University of Pennsylvania Law School

Moderator

David Abrams

Professor of Law, Business Economics, and Public Policy, University of Pennsylvania



Top to Bottom: David Abrams, Cynthia Dahl, and Polk Wagner, Shyamkrishna Balganesh and Jane Ginsburg, Peter Menell and David Nimmer

Opposite Page: Robert Gorman, Christopher Yoo and Kevin Werbach



November 9, 2016

***Varsity Brands v. Star Athletica* Copyright Event**

CTIC and the Copyright Society of the USA co-sponsored an in-depth panel discussion led by some of the country's leading copyright scholars. The panel discussed *Star Athletica v. Varsity Brands*, heard by the Supreme Court in October 2016, which deals with an important copyright issue that has divided lower courts for the last several years: when and how the aesthetic features of a useful article become eligible for copyright protection.

Panelists

Shyamkrishna Balganesh

Professor of Law, University of Pennsylvania Law School

Jane Ginsburg

Morton L. Janklow Professor of Literary and Artistic Property Law, Columbia Law School

Peter Menell

Koret Professor of Law, University of California, Berkeley School of Law

David Nimmer

Of Counsel, Irell & Manella LLP; Professor from Practice, UCLA School of Law

Moderator

Christopher Yoo

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

March 20, 2017

Communications Policy in the New Administration

Professors Christopher Yoo and Kevin Werbach shared their perspectives on how the new administration might approach issues related to the Internet and other communications technologies.

Speakers

Christopher Yoo

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

Kevin Werbach

Associate Professor of Legal Studies and Business Ethics, Wharton School

April 6, 2017

A Review of Supreme Court Patent Case Decisions, October 2016 Term

Professors Wagner and Dahl once again took an in-depth look at patent law cases heard by the Supreme Court during the October 2016 Term. They explored the opinions in the following cases and what those represent for the future of design patents and the innovative business of design:

Samsung Electronics Co. v. Apple Inc.

SCA Hygiene Products v. First Quality Baby Products

Speakers

R. Polk Wagner

Professor of Law, University of Pennsylvania Law School

Cynthia Dahl

Practice Professor of Law, Director of the Detkin Intellectual Property and Technology Legal Clinic, University of Pennsylvania Law School

The Intersection of Law and Design: An Introduction to Patent Design

November 21, 2016

In a unique event co-hosted by the Integrated Product Design program and the Detkin Intellectual Property and Technology Legal Clinic, law, engineering, design and business students at Penn had an opportunity to collaborate with one another and gain a better understanding of design through different lenses: the attorney, the designer, and the business person. By gaining a better understanding of design elements, attorneys are better equipped to advise businesses, and by having some legal acumen, designers, engineers and business students are able to better grasp the challenges that may lie ahead.

Speakers

James Aquilina

Partner, Design IP

Peter Bressler

Adjunct Associate Professor, Integrated Product Design,
University of Pennsylvania

Moderator

Cynthia Dahl

Practice Professor of Law, Director of the Detkin Intellectual
Property and Technology Legal Clinic, University of Pennsylvania
Law School



Top to Bottom: James Aquilina, Cynthia Dahl, and Peter Bressler,
Event Participants, James Aquilina

Free Software and Your Freedom

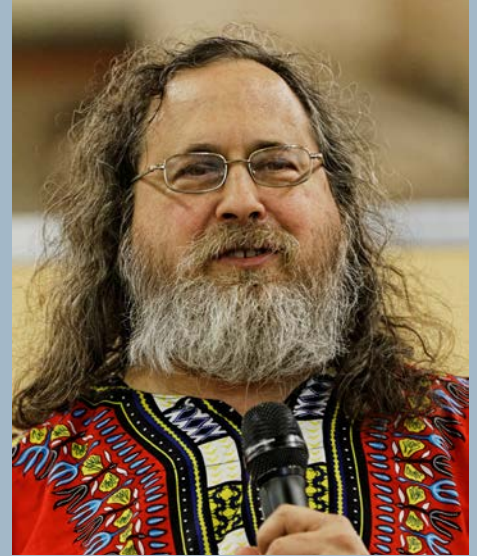
April 15, 2017

CTIC, along with a number of other organizations, hosted an afternoon program featuring Dr. Stallman. Stallman, who launched the free software movement and began the development of the GNU operating system, spoke about the history and future of the free software movement to a large and engaged crowd.

Speaker

Dr. Richard Stallman

Software Freedom Activist and Programmer



Lee v. Tam: Disparaging Trademarks and the First Amendment

April 18, 2017

CTIC, the Penn Intellectual Property Group (PIPG) and the Philadelphia Intellectual Property Law Association (PIPLA) hosted a panel discussion about the landmark case, *Lee v. Tam*. The case involved the name of the Asian-American rock band, “The Slants,” and was heard by the Supreme Court in January 2017. The case revolved around the U.S. Patent and Trademark Office’s disparaging trademarks provisions and could have significant impact on how the First Amendment is applied in other trademark cases. Panelists and guests enjoyed a performance by The Slants at a reception following the program.

Panelists

Simon Tam

The Slants

Ron Coleman

Partner, Archer Law

Joel MacMull

Associate, Archer Law

Jackie Lesser

Counsel, BakerHostetler

Charlie Lyu

Associate, BakerHostetler

Moderator

Nancy Frandsen

Partner, BakerHostetler



Top to Bottom: Richard Stallman, The Slants

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.



Christopher Buccafusco
Professor of Law, Benjamin N. Cardozo
School of Law
*Innovate or Borrow?: A Model for
Regulating Sequential Innovation*



Ryan Calo
Assistant Professor of Law,
University of Washington School of Law
*The Taking Economy: Uber, Information,
and Power*



William Fisher
WilmerHale Professor of Intellectual
Property Law, Harvard Law School
*Infection: The Health Crisis in the
Developing World and What We Should
Do About It*



Justin (Gus) Hurwitz
Assistant Professor of Law, University of
Nebraska-Lincoln College of Law
Technology's Problem of Social Cost



Zorina Khan
Professor of Economics,
Bowdoin College
*Prestige and Profit: The Royal Society
of Arts and Incentives for Innovation,
1750-1850*



Margaret Kyle
Professor of Economics,
MINES ParisTech
*Experts and Financial Ties: Evidence from
FDA Advisory Committees*



Irina Manta
Professor of Law, Maurice A. Deane
School of Law at Hofstra University
Branded



Peter Menell
Koret Professor of Law,
University of California, Berkeley School
of Law
Rise of the API Copyright Dead?



Ruth Okediji

William L. Prosser Professor of Law,
University of Minnesota Law School
*Reframing International Copyright
Limitations and Exceptions as
Development Policy*



Lisa Ouellette

Assistant Professor of Law,
Stanford Law School
Who Reads Patents?



Christoph Rademacher

Associate Professor,
Waseda University School of Law
*How Much Bifurcation Does an Efficient
Patent Enforcement System Require?*

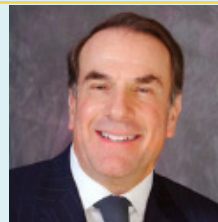
Career Speaker Series

Every year, CTIC invites practitioners to campus to share with students their experiences and insights and discuss their respective careers in law and technology. This year we were pleased to have the following Penn Law alumni practitioners speak:



Colleen Theresa Brown

Partner, Sidley Austin LLP



Steven Friedman

Partner, Duane Morris LLP



Thomas Penn

Partner, Meridian Venture Partners



Stuart Rosen

Senior Vice President and General
Counsel, Broadcast Music, Inc.



Center for Technology, Innovation and Competition



News

New Faculty: Herbert Hovenkamp and Allison Hoffman
NSF Grant on Secure and Privacy-Aware Cyber-Physical Systems
Comparative Competition Law: China, Europe, and the U.S.
1 World Connected
CTIC Faculty Service in American Law Institute (ALI) Projects
Detkin Intellectual Property and Technology Legal Clinic
Cutting-Edge Degree Programs in Law and Engineering
National Championship in the Giles S. Rich Moot Court Competition
FCC's Broadband Deployment Advisory Committee
Interdisciplinary Scholarships in Law and Technology
CTIC Summer Public Interest Fellowships
Penn Intellectual Property Group (PIPG)
Partners of Entrepreneurial Engineering and Penn Law (PEEPL)
Students for Technological Progress (STP)



New Faculty: Herbert Hovenkamp and Allison Hoffman

Herbert Hovenkamp has been named the University of Pennsylvania's 21st Penn Integrates Knowledge University Professor and joined Penn in July 2017. A world-renowned scholar of antitrust law and policy, Hovenkamp will be the James G. Dinan University Professor, with joint faculty appointments in the Law School and in the Department of Legal Studies and Business Ethics at the Wharton School.

Called "the dean of American antitrust law" by *The New York Times* in 2011, Hovenkamp received the John Sherman Award from the Antitrust Division of the Department of Justice in 2008 for "outstanding achievement in antitrust law, contributing to the protection of American consumers and to the preservation of economic liberty." He was formerly the Ben and Dorothy Willie Professor at the University of Iowa College of Law, where he taught since 1986. He is also the principal coauthor of the landmark 21-volume *Antitrust Law* treatise, which has been cited more than 50 times by the Supreme Court and more than 1,000 times by federal courts.

Health care law and policy expert Allison Hoffman will join the Law School's faculty in July. Hoffman comes to Penn Law from the University of California, Los Angeles School of Law, where she taught courses on health insurance and reform, health law and policy, and torts. She was a visiting professor at Penn Law in 2015.

Hoffman's research examines the role of regulation and the welfare state in promoting health, as well as how regulation affects conceptions of risk and responsibility. Her recent work includes "Reimagining the Risk of Long Term Care" in the *Yale Journal of Health Policy Law and Ethics*—an article that argues for a more capacious vision of how we think about long-term care risk—and the *Oxford Handbook of U.S. Health Law* (2017), a volume co-edited with I. Glenn Cohen and William M. Sage. She also contributed a chapter to this volume entitled "What Health Reform Reveals about Health Law," which explores the Affordable Care Act as a window into the idiosyncrasies of U.S. health care law and the values that have shaped this field. Her work and commentary has been featured in top media outlets, including *The New York Times*, *The Huffington Post*, *The Wall Street Journal*, *Reuters*, Morningstar, CNBC, *The New York Daily News*, Marketplace by American Public Media, *Jotwell*, and Penn Law's *Regulatory Review* (formerly *RegBlog*).

NSF Grant on Secure and Privacy-Aware Cyber-Physical Systems

CTIC is proud to continue its participation in the National Science Foundation grant to conduct research into security and privacy for cyber-physical systems (CPS). CPS, such as autonomous vehicles and medical devices, combine network connectivity with sensors that collect information from the physical environment. These systems are performing increasingly critical functions subject to severe resource constraints. The fact that CPS incorporate real-world data make them less predictable and more vulnerable to attacks than pure cyber systems. Unfortunately, most CPS were not designed with a hostile environment in mind.

This project addresses this shortcoming by providing a novel design capable of providing CPS with quantifiable security and privacy protection against zero-day attacks. The design incorporates a layered approach that includes not only prevention, but also fast detection and recovery.

This year's efforts expanded on previous work exploring the implications of products liability law for CPS security in considering the privacy-related aspects of the design. In particular, the work explored the implications of key legal regimes such as the Health Insurance Portability and Accountability Act (HIPAA), regulation of medical devices by the Food and Drug Administration (FDA), and current and proposed regulation by the National Highway Transportation Safety Administration (NHTSA).

This research is being conducted in partnership with faculty from Penn's School of Engineering and Applied Science, Perelman School of Medicine, and School of Arts and Sciences; the University of Michigan; and Duke University. It is supported in part by NSF CNS-1505799 and the Intel-NSF Partnership for Cyber-Physical Systems Security and Privacy.





Comparative Competition Law: China, Europe, and the U.S.

Global antitrust enforcement is casting an increasingly long shadow over high-tech industries. The nearly \$1 billion judgment assessed by Chinese authorities against Qualcomm and the \$2.7 billion fine that European officials have proposed against Google have captured the attention of key business leaders and policymakers all over the world.

The increase in enforcement activity has underscored the need to gain a better understanding of how these are likely to apply to their antitrust laws. Other jurisdictions that are becoming increasingly active in competition policy are watching these developments closely.

Regrettably, most scholars and legal practitioners know all too little about the antitrust enforcement policies of other jurisdictions. China's Anti-Monopoly Law is celebrating its tenth anniversary this year. Its relative youth means that many key principles are still not yet fully worked out. At the same time, the emphasis on innovation in China's most recent five-year plan and the Chinese government's ongoing efforts to reform administrative enforcement has made this a particularly auspicious time for a comparison of how antitrust law is applied in each jurisdiction.

To address this, CTIC has initiated a three-year project to examine how key issues of antitrust law are handled in China, Europe, and the U.S. The first year of the project is focused on the extent to which antitrust enforcement procedures are consistent with due process and the rule of law. The importance of fair procedures was underscored on September 6, 2017, when the Court of Justice of the European Union noted procedural irregularities when quashing a \$1.26 billion judgment against Intel, although those irregularities were not sufficient by themselves to justify annulling the decision.

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

The research team convened initially at the Penn Wharton China Center in Beijing in September 2016 to discuss and reach consensus on the basis approach to the research. The team is scheduled to gather again in November 2017 to discuss its preliminary findings with Chinese judges and enforcement authorities, and expects to report its conclusions in early 2018.

1 World Connected

Internet connectivity has the potential to expand access to education, health and economic opportunities for millions of people around the world. Systematic information about efforts by various stakeholders experimenting with new and innovative ways to connect the unconnected, however, is not easily accessible to decision-makers seeking to improve broadband adoption.

1 World Connected fills this gap by empirically assessing the effectiveness of projects to increase Internet connectivity. Led by Professor Christopher Yoo, in its first year this initiative has already identified approximately 600 potential case studies of community-level projects that are focused on access to connectivity. These efforts span not only Latin America, Africa and Asia, but also explore innovative approaches in countries in the developed world with fundamentally different challenges.

In addition, 1 World Connected partners with key organizations seeking to extend connectivity to the unconnected in order to develop experimental and quasi-experimental designs to evaluate the impact of connectivity on education, health care, and financial inclusion.

1 World Connected organized major programs at venues across the world, including the 11th Annual UN Internet Governance Forum in Guadalajara, Mexico, the WSIS Forum in Geneva, Switzerland, the World Economic Forum's Internet for All initiative, the IEEE's program on Internet Inclusion: Advancing Solutions, the Internet Research Task Force's Global Access to the Internet for All Research Group, EQUALS Partnership Research Group, and Phase III of the IGF's Intersessional Programme on Connecting and Enabling the Next Billions.





CTIC Faculty Service in American Law Institute (ALI) Projects

Professor Shyamkrishna Balganesh was one of 58 lawyers, judges, and law professors elected to the American Law Institute (ALI) in early 2017.

Balganesh's research focuses on understanding how intellectual property and innovation policy can benefit from the use of ideas, concepts, and structures from different areas of the common law, especially private law. His most recent work tries to understand authorship in copyright law using ideas and principles from the common law of causation. "I have the highest regard for the ALI, its mission, and its contributions to American law over the years," said Balganesh, who also serves as an Adviser for the ALI's project on the Restatement of the Law, Copyright. "The ALI's projects help to define and distill fields of legal thought for courts, practitioners, and academics, and I am delighted to be involved in its work."

Founded in 1923, the ALI is an independent organization that produces scholarly work to clarify, modernize, and improve the law. It currently has 2,900 elected members, including eminent lawyers, judges, and academics.

Other CTIC faculty members are also active participants in the ALI. Anita Allen and Christopher Yoo, both elected members, serve as Advisers for the "Principles of the Law, Data Privacy" project. David Hoffman has been an elected member since 2011.

Detkin Intellectual Property and Technology Legal Clinic

In 2016-2017, Penn Law's Detkin Intellectual Property and Technology Legal Clinic completed its fourth full academic year under the direction of CTIC's Cynthia Dahl. Designed as a "teaching IP law firm," the Detkin Clinic allows upper-level IP students to impact the Penn and Philadelphia innovation communities by assuming primary responsibility for helping clients commercialize their inventions.

The Detkin Clinic is unique among IP clinics nationwide in that it assumes a sizeable percentage of work from the University of Pennsylvania's technology transfer office, known as the Penn Center for Innovation (PCI). Students counsel Penn start-up companies and Penn laboratories with early stage discoveries, helping them to analyze their legal and business options and choose their best path to commercialization. The Detkin Clinic seminar also provides opportunities for law students to work with students from other schools at Penn that represent the types of professionals they will meet in practice, especially in business, technology, science and the arts.

Besides PCI, students represent Wharton-affiliated entrepreneurial ventures, community inventors, nonprofits, and individual artists and creators in a broad-based transactional practice. Students gain experience with drafting, negotiating, and counseling clients at the cutting edge of IP and technology law.





Lucas Teiwani, JD/MCIT '17

Cutting-Edge Degree Programs in Law and Engineering

At a time when debates over technology policy are as significant as they are complex, Penn Law has developed one of the most comprehensive educational programs aimed at preparing students for careers at the intersection of law and technology. Together with the School of Engineering and Applied Science (SEAS), Penn Law offers two joint-degree programs in law and technology: the JD/Master of Computing and Information Technology (MCIT), which requires no prior engineering or computer science background, and the JD/Master of Science in Engineering (MSE), which is intended for students with strong undergraduate backgrounds in engineering or computer science.

In addition, Penn Law offers a technology track for its one-year Master in Law degree geared to students and technology professionals in a field increasingly defined by regulation and new technology. Graduates of the program will have developed key analytical and critical thinking skills as well as a base of knowledge that will prepare them for careers in technology as inventors, leaders of technology firms, and more.

Whether a student is a graduate or undergraduate, a future lawyer or technologist, Penn Law has a program tailored to fit their interests.

National Championship in the Giles S. Rich Moot Court Competition

On April 21, Penn Law students Stephen DeSalvo L' 17 and Matt Lembo L' 17 won the national championship of the 44th Annual American Intellectual Property Law Association (AIPLA) Giles S. Rich Moot Court. The annual competition administered by an association of intellectual property lawyers is named in memory of Judge Giles Sutherland Rich, an influential figure in patent law.

The finals took place in Washington, D.C., where ten teams from around the country argued in front of a panel of three Federal Circuit judges at the U.S. Court of Appeals for the Federal Circuit. The Penn Law team faced off against the University of Utah in the final round.

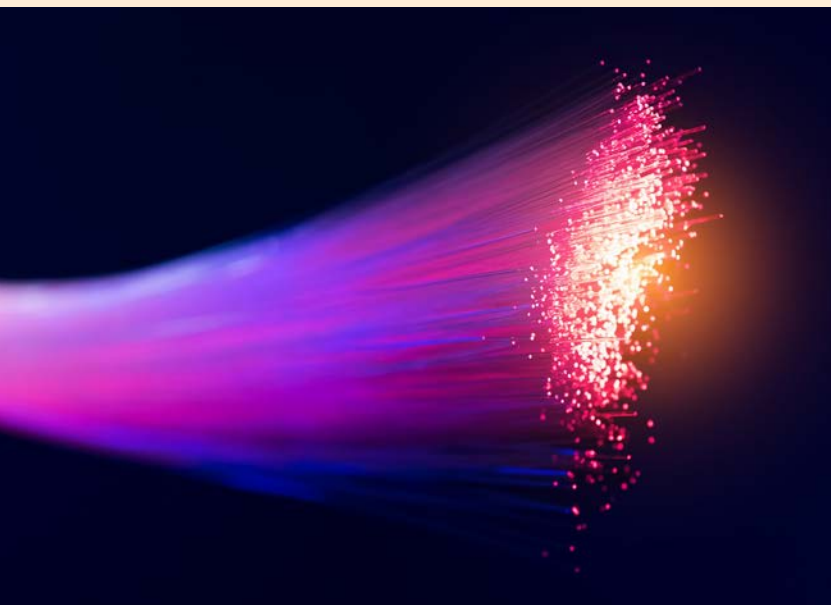
Both DeSalvo and Lembo were named best oralist, and the team won best appellant brief at the national competition.

"Stephen and Matt have dedicated months of hard work to the complex field of appellate advocacy," said Professor Polk Wagner, an expert in patent law and the team's faculty advisor. "Their success is a testament to their commitment, preparation, and their advocacy skills."

Penn Law's 2017 win represents its second national championship in three years.



Matt Lembo and Stephen DeSalvo



FCC's Broadband Deployment Advisory Committee

Professor Christopher Yoo is one of 29 members appointed by Federal Communications Commission (FCC) Chairman Ajit Pai to the newly created Broadband Deployment Advisory Committee (BDAC).

BDAC's mission is to provide advice and make recommendations to the FCC on how to accelerate the deployment of high-speed Internet access or broadband by reducing and removing regulatory barriers to infrastructure investment.

Yoo is a leading authority in law and technology whose research focuses on how the principles of network engineering and the economics of imperfect competition can provide insights into the regulation of electronic communications.

"High-speed Internet access has economic, educational, and health benefits for users," said Yoo. "Through the new Committee's recommendations, we can identify specific ways to make it easier for citizens across the country to share in the benefits of connectivity."

Interdisciplinary Scholarships in Law and Technology

CTIC awarded this year's annual CTIC Interdisciplinary Scholarships to three students pursuing the JD/ Master of Computer and Information Technology (MCIT) degree: Delaney Butler L'20, Christina Chen L'20, and Kelsey Matevish L'19.

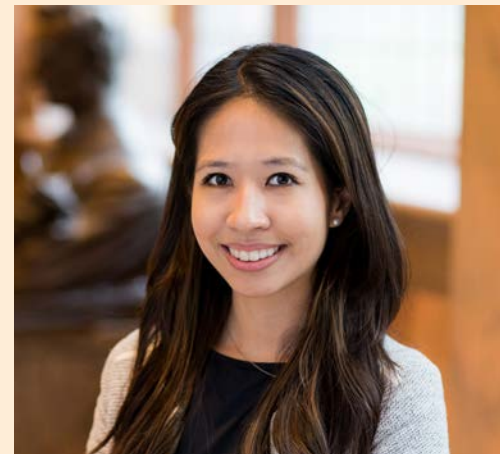
These competitive scholarships, which provide funding to students pursuing joint degrees in law and technology, can be used to help offset the cost of the additional year of study at Penn's School of Engineering and Applied Science needed to fulfill the joint-degree requirements. In addition to the funding provided by the CTIC Scholarship, Chen, Butler, and Matevish will have the opportunity to work closely with CTIC faculty.

Butler graduated *magna cum laude* from the University of Oregon in 2014 with degrees in general science and political science, and was president of the university's rowing team. He spent the summer of 2017 working with AT&T's Federal Regulatory team in Washington, D.C., through the AT&T Penn Law Privacy and Technology Internship.

Chen graduated *summa cum laude* from New York University in 2012 with a BA in history. Before attending law school, she investigated cybercrimes and complex financial crimes at the Manhattan District Attorney's Office, where she developed an interest in the interdisciplinary fields of privacy law and cybersecurity. She served as a legal intern at Twitter during the summer of 2017.

Matevish graduated *summa cum laude* from Penn in 2014 with a degree from Wharton in economics and a degree from the School of Arts and Sciences in religious studies. Before entering Penn Law, she worked as an analyst on national security cyber matters for the Department of Justice. In the summer of 2017, she will be conducting intellectual property research for Professor Balganes and working as a cyber analyst for the Justice Department.

This marks the second year of the CTIC Interdisciplinary Scholarship program. Last year's recipients were Teddi Anne Josephson and Anna Marion.



Top to Bottom: Delaney Butler, Christina Chen, Kelsey Matevish



CTIC Summer Public Interest Fellowships

CTIC's Summer Public Interest Fellowships fund internships with public interest or government organizations doing work relevant to CTIC's focus on technology policy, intellectual property, cyber law and privacy. These 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 2017 Summer Public Interest Fellowships were awarded to the following three students to support them while working at their respective organizations: Kevin Lawler at NASA, Teddi Anne Josephson at Berkman Klein Center for Internet and Society at Harvard University, and Richard Hildreth at The Wistar Institute.

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



Top to Bottom: Richard Hildreth, Teddi Anne Josephson, Kevin Lawler

Penn Intellectual Property Group (PIPG)

The Penn Intellectual Property Group (PIPG) is a student group at the University of Pennsylvania Law School. PIPG, established during the fall of 2001, focuses on creating and supporting intellectual property interest at Penn Law, Penn, and in the Philadelphia community. PIPG activities include career panels, academic symposiums, and social events.

PIPG's signature event is its annual symposium held every spring:

2017 Annual PIPG Symposium

A Healthy Dose of IP: The Evolving Legal Landscape of the Health Field

March 16, 2017

The latest and most exciting developments in the health field have been impacted by intellectual property law. The PIPG Annual Symposium explored three areas: pharmaceuticals, medical devices, and personalized medicine. Leading experts, attorneys, and business practitioners shed light on the current state of the law, discussed its consequences to the health sector, and shared their insights regarding what is ahead in this ever-evolving field.

Keynote

Charlene Stern, Ph.D., J.D.

Head of Legal Affairs, Editas Medicine

Pharmaceutical Panel

Patricia Danzon, Ph.D.

Celia Moh Professor Emeritus of Health Care Management, Wharton School

Brian Hirsch, M.A., J.D., (G'97, L'00)

Vice President Global IP and Legal Head North America, Glenmark Pharmaceuticals

Staci Julie, J.D.

Senior Vice President and Chief IP Counsel, Teva Pharmaceuticals

Medical Devices Panel

Ali Behbahani, M.B.A., M.D., (WG'07, M'07)

Partner, New Enterprise Associates

Randy Sabett, J.D.

Vice Chair of Privacy & Data Protection Practice Group, Cooley, Adjunct Professor, George Washington University

Gerard von Hoffmann, J.D.

Partner, Knobbe Martens

Bryan Wahl, M.D., J.D.

Partner, Knobbe Martens

Personalized Medicine Panel:

Jennifer Gordon, Ph.D, J.D.

Attorney, Paul, Weiss

Antoinette Konski, J.D.

Partner, Foley & Lardner LLP

Jennifer Morrisette, Ph.D.

Clinical Director, University of Pennsylvania Perelman Center for Personalized Diagnostics, Assistant Professor of Clinical Pathology and Laboratory Medicine





Partners of Entrepreneurial Engineering and Penn Law (PEEPL)

Partners of Entrepreneurial Engineering and Penn Law (PEEPL) is a student-run legal counseling simulation run by Cynthia Dahl.

Through PEEPL, students are assigned to a team of engineers enrolled in the Engineering Entrepreneurship class at the School of Engineering and Applied Sciences. The engineers use a technology idea and spend the semester building it into a business that will be pitched to a panel of venture capitalists as a course capstone. It is all simulation, although the ideas are real. The law students counsel the engineering teams during the semester, answering questions about protectability, licensing, and infringement. The goal of the partnership is to get engineers to consider intellectual property issues and to give law students exposure to counseling future engineers.

Students for Technological Progress (STP)

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 pro bono student projects at the Law School gives 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.

The group focuses on privacy, telecommunications, open Internet issues, and intellectual property — not traditional pro bono areas for law school students. When STP was founded in 2014, the project had one community partner: the Media Mobilizing Project. Now, in addition to developing a deep and robust collaboration with the Media Mobilizing Project, STP has a number of organizational partners including 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 drafting a brief for a D.C. Circuit case on administrative law and drones.





CTIC thanks the following supporters:

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Google

Information Technology Industry Council

Internet Society

Microsoft

National Science Foundation

Qualcomm

Verizon

The Walt Disney Co.



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