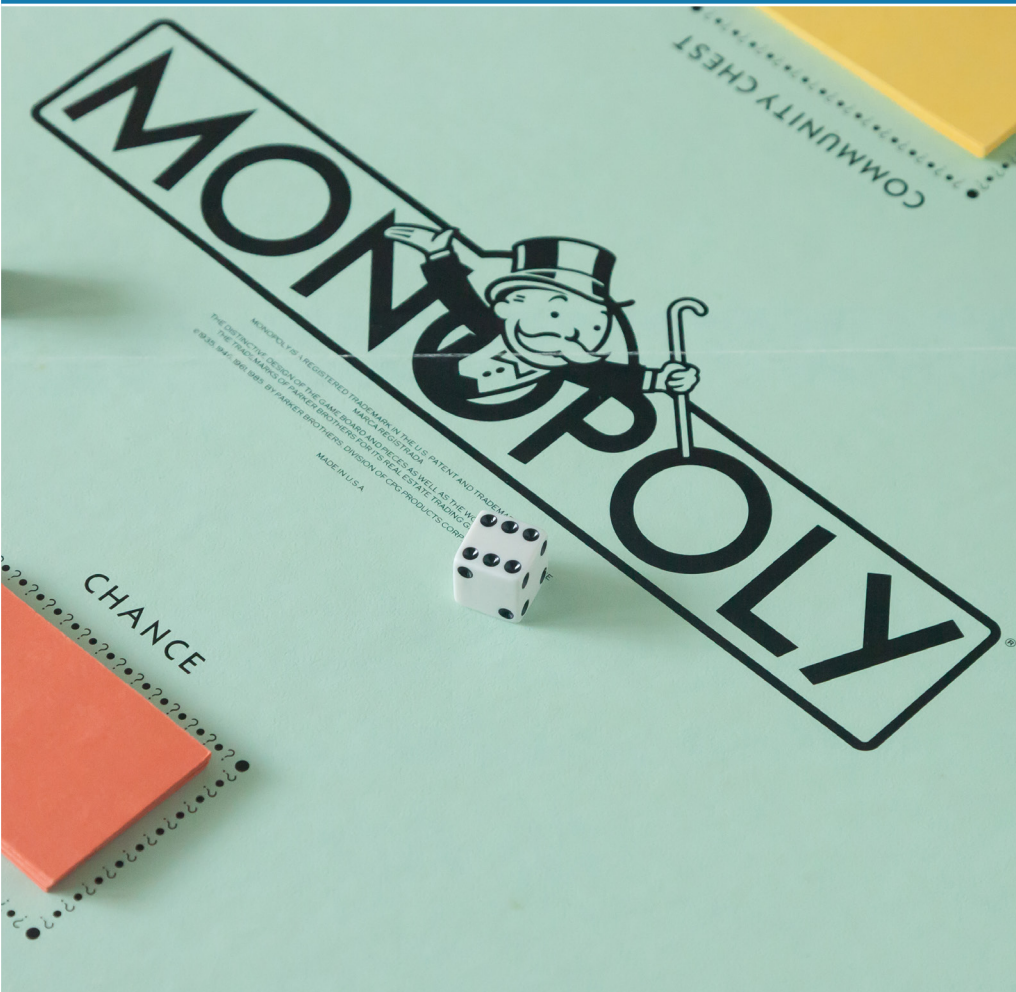


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Law, Technology and Competition at Penn

2018 – 2019





Law, Technology and Competition at Penn

2018 – 2019



Center for Technology, Innovation and Competition



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 influence the way that policymakers think about technology-related issues. CTIC delivers academic programming that explores a full range of perspectives, engages with technology policy and practice, and helps 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 other parts of Penn, including the Wharton School, Annenberg School for Communication, and School of Engineering and Applied Science.

For more information and a schedule of current and upcoming events at CTIC, visit our website at www.law.upenn.edu/ctic and follow us on Twitter @pennlawctic.

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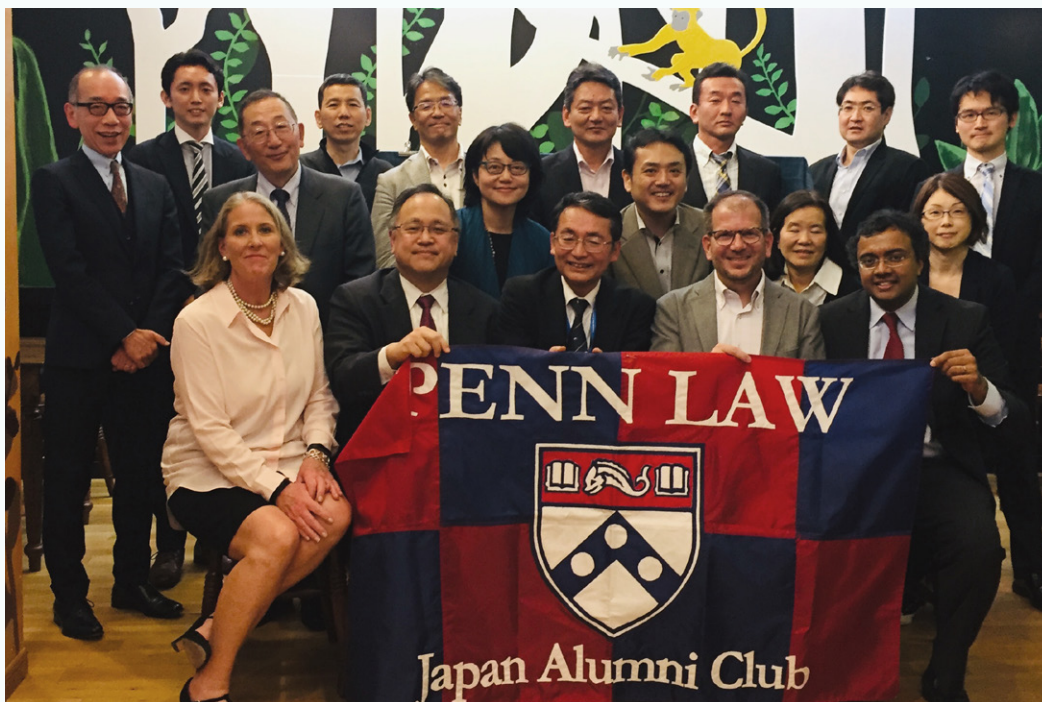
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A Message from the Directors

This report commemorates the eleventh year of Penn Law's Center for Technology, Innovation and Competition. We are proud of what we have achieved and remain committed to being at the cutting edge of law and technology—in our research, innovative educational programs, and curricula as we push out the boundaries of scholarly knowledge and help students have the most enriching and rewarding academic experience.

This year marked a significant expansion in CTIC's international presence. In 2018-19, we helped convene events in Japan, China, Brussels, Luxembourg, India, and Italy. CTIC faculty continue to expand their research into new areas, including cryptocurrencies, fintech, and calls for more vigorous antitrust scrutiny of big tech companies.

CTIC is thankful to all of its friends and supporters for bringing their perspectives, experiences, participation, and expertise to our programs and research. With 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, Economics Department, Cinema Studies Program, Perelman School of Medicine, School of Social Policy & Practice, 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 covers a range of topics, tied together by the goal of understanding and measuring how individuals respond to incentives in various legal contexts. Criminal justice is one of his major areas of expertise, in which Abrams has investigated a variety of questions, including whether longer sentences deter crime, how a defendant's race impacts judicial decisions, to what extent attorney skill affects case outcomes, and how much individuals value freedom. Intellectual Property is Abrams's other major area of expertise. He has investigated the expected impact of the America Invents Act, examined the effect of patent duration on innovation, and is using natural language processing to establish more reliable measures of patent value. He has additional interests in law and health economics, labor economics, and corporate finance. His work has appeared in a number of top peer-reviewed journals and law reviews including the *Stanford Law Review*, *University of Chicago Law Review*, *University of Pennsylvania Law Review*, *American Economic Journal: Applied Economics*, and *Journal of Legal Studies*.

Expertise

Law and Economics, Intellectual Property, Criminal Law, Patent Law

Secondary Appointments

Business Economics and Public Policy, The 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
- Intellectual Property
- Law and Economics
- Analytical Methods in Law

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 Patent Troll: Benign Middleman or Stick-Up Artist? (Univ. of Chicago, Becker Friedman Inst. for Econ. Working Paper No. 2019-51 2019).

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

Judicial Delegation (2018) (working paper) (with Roberto Galbiati, Emeric Henry, & Arnaud Phillippe).



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 other 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; Co-Director, Center for Technology, Innovation and Competition

Shyamkrishna Balganesesh is a Professor of Law and Co-Director of the Center for Technology, Innovation and Competition at the Law School. His scholarship 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 examines the evolution of American copyright law from a predominantly private law regime to a public law-based regulatory system under the influence of Legal Process thinking. While at Yale Law School, he was an Articles & Essays Editor of the *Yale Law Journal* and a Student Fellow at the Information Society Project (ISP). Prior to that, he spent two years as a Rhodes Scholar at Balliol College, Oxford.

Expertise

Copyright, Property Law, Intellectual Property, Patent Law, Law and Technology, Legal Philosophy

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
- Copyright Theory
- Property Theory

Representative Publications

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

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

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

LIMITATIONS AND EXCEPTIONS TO COPYRIGHT LAW IN COMPARATIVE PERSPECTIVE (Shyamkrishna Balganesesh, Wee Loon Ng-Loy, & Haochen Sun eds., Cambridge forthcoming 2020).

Censorial Copyright, 73 VAND. L. REV. (forthcoming 2020).

Copyright as Legal Process: The Transformation of American Copyright Law, 167 U. PA. L. REV. (forthcoming 2020).

The In Rem/In Personam Distinction and Partitioning for Persistence, in THE LEGACY OF WESLEY HOHFELD: EDITED MAJOR WORKS, SELECTED PERSONAL PAPERS, AND ORIGINAL COMMENTARIES (Shyamkrishna Balganesesh, Ted Sichelman, & Henry Smith eds., Cambridge forthcoming 2020).

The Genius of Common Law Intellectual Property, 48 J. LEGAL STUD. (forthcoming 2020).

THE PRIVATE LAW OF INDIA (Oxford forthcoming 2020) (with Neel Maitra).

Private Law Statutory Interpretations, 92 S. CAL. L. REV. 949 (2019).

The “Common Law” in Intellectual Property, in 1 RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW 508 (Ben Depoorter & Peter Menell eds., Edward Elgar 2019).

Copyright as Market Prospect, 166 U. PA. L. REV. 443 (2018).



CYNTHIA DAHL

"I love working with students and clients confronting changing or unsettled areas of the law, particularly around the use of data and new technologies. I am starting to explore some of the ethical questions that are emerging in this space as well, and I am interested in possible legislative and regulatory responses."

Cynthia 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. Prior to joining 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, drafted and executed all IP agreements, and oversaw standards-setting activities. Before practicing in house, she worked as an IP litigation associate at Holland & Hart LLP and Pennie & 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, including how clinics can best work with university technology transfer offices.

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

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).

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

Reviewing Inter Partes Review Five Years In: The View from the University Technology Transfer Offices, in RESEARCH HANDBOOK ON INTELLECTUAL PROPERTY AND TECHNOLOGY TRANSFER (Edward Elgar forthcoming 2019).

Innovation and Tradition: A Survey of Intellectual Property and Technology Legal Clinics, 25 CLINICAL L. REV. 95 (2018) (with Victoria F. Phillips).



ALLISON HOFFMAN

“One of the most interesting developments of the past year—with the current Administration’s continued erosion of the Affordable Care Act and the upcoming election—is that health law and policy is becoming a site for democratic expression. Americans, politicians, and candidates alike are exploring their philosophical and moral positions through the language of health policy.”

Allison Hoffman

Professor of Law

Allison Hoffman is an expert in health care law and policy. Hoffman's work examines some of the most important legal and social issues of our time, including the Affordable Care Act, Medicare and retiree healthcare expenses, and long-term care. She currently teaches Health Care Law and Policy, Torts, and a seminar on Health Insurance and Reform.

Hoffman has extensive experience working as a lawyer and business consultant in the health care industry. She practiced law at Ropes & Gray, where she counseled clients on health care regulatory matters. She has also provided strategic business advice to health care companies as a consultant at The Boston Consulting Group and The Bridgespan Group. In Spring 2019, she was a visiting professor and Oscar M. Ruebhausen Distinguished Senior Fellow at Yale Law School. From 2010-2017, Hoffman was a member of the UCLA School of Law faculty and prior to that, was a fellow at Harvard's Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics. Hoffman graduated *summa cum laude* from Dartmouth College and from Yale Law School, where she was Submissions Editor for the *Yale Journal of Health Policy, Law, and Ethics*.

Expertise

Health Law, Health Care Policy, Health Care Regulation, Insurance Law, Bioethics, Medical Malpractice, Regulated Industries, Social Welfare Law and Policy, Torts

Education

JD 2004 Yale Law School

AB 1998 Dartmouth College

Courses Taught

- Health Law Reform
- Torts
- Health Law

Representative Publications

THE OXFORD HANDBOOK OF U.S. HEALTH LAW (I. Glenn Cohen, Allison K. Hoffman, & William M. Sage eds., Oxford 2017).

Reimagining the Risk of Long-Term Care, 16 YALE J. HEALTH POL'Y L. & ETHICS 239 (2016).

Health Care Spending and Financial Security After the Affordable Care Act, 92 N.C. L. REV. 1481 (2014).

Retiree Out-of-Pocket Healthcare Spending: A Study of Consumer Expectations and Policy Implications, 39 AM. J.L. & MED. 62 (2013) (with Howell E. Jackson).

Three Models of Health Insurance: The Conceptual Pluralism of the Patient Protection and Affordable Care Act, 159 U. PA. L. REV. 1873 (2011).

Recent Publications

Access to Health Care, in THE OXFORD HANDBOOK OF U.S. COMPARATIVE HEALTH LAW (David Orentlicher & Tamara Hervey eds., Oxford forthcoming 2020) (with Mark Hall).

Health Law & Ethics, in HEALTH SYSTEMS SCIENCE (Susan Skochelak et al. eds., Elsevier forthcoming 2019) (with William M. Sage & I. Glenn Cohen).

Health Care's Market Bureaucracy, 66 UCLA L. REV. (forthcoming 2019).

Cost-Sharing Reductions, Technocratic Tinkering, and Market-Based Health Policy, 46 J.L. MED. & ETHICS 873 (2018).

Discrimination Risks of Alzheimer's as Support for Social Insurance for Long-Term Care, 46 J.L. MED. & ETHICS 499 (2018).

The Ethics of Medicaid's Work Requirements and Other Personal Responsibility Policies, 319 JAMA 2265 (2018) (with Harald Schmidt).



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 use case studies, experimental and observational methods, as well as traditional case-law close-reading to advance a more realistic theory of contract practice.”

David Hoffman

Professor of Law

David Hoffman's scholarship uses observational and experimental data to explore individuals' behavior relating to legal rules and practices. In contract law, Hoffman's recent papers have investigated whether millennials have developed a distinctive set of views that relate to their experiences with online commercial transactions and how firms use form contracts as brands to better engage users with digital platforms. In law and psychology, he has explored the "replication crisis" by recreating classic legal experimental work. His current projects focus on whether (and how) to regulate nondisclosure agreements about sexual harassment, and the contractual documents governing Initial Coin Offerings. 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 U.S. District Court for the Eastern District of Pennsylvania. Hoffman won the Harvey Levin Award for Teaching Excellence in 2018.

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

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

The Common Sense of Contract Formation, 67 STAN. L. REV. 1269 (2015) (with Tess Wilkinson-Ryan).

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

"They Saw a Protest": Illiberalism and the Speech-Conduct Distinction, 64 STAN. L. REV. 851 (2012) (with Dan M. Kahan et al.).

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 & Donald Braman).

Recent Publications

Coin Operated Capitalism, 119 COLUM. L. REV. 519 (2019) (with Shaanan Cohney, Jeremy Skarloff, & David A. Wishnick).

Hushing Contracts, 96 WASH. U. L. REV. 165 (2019) (with Erik Lampmann).

Relational Contracts of Adhesion, 85 U. CHI. L. REV. 1395 (2018).

Law and Psychology Grows Up, Goes Online, and Replicates, 15 J. EMPIRICAL LEGAL STUD. 320 (2018) (with Krin Irvine & Tess Wilkinson-Ryan).



HERBERT HOVENKAMP

"It's all about consumers."

Herbert Hovenkamp

James G. Dinan University Professor

Herbert Hovenkamp is a recognized expert and prolific author in the areas of antitrust law and American legal history. He holds a joint appointment between Penn Law and the Wharton School. Prior to joining the University of Pennsylvania, Hovenkamp was a Professor of Law at the University of Iowa and before that at the University of California, Hastings College of the Law. He is a fellow of the American Academy of Arts and Sciences.

Hovenkamp has been the Rockefeller Foundation Fellow, Harvard Law School; Fellow of the American Council of Learned Societies, Harvard Law School; Faculty Scholar, University of Iowa; Presidential Lecturer, University of Iowa; and the recipient of the University of Iowa Collegiate Teaching Award.

Expertise

Antitrust, Torts, Intellectual Property, and American Legal History

Secondary Appointments

Legal Studies and Business Ethics, The Wharton School

Education

JD 1978 University of Texas School of Law

PhD 1976, MA 1971 University of Texas

BA 1969 Calvin College

Courses Taught

- Antitrust
- Antitrust: Mergers, IP & Vertical Restraints
- Law and Commerce in American History

Representative Publications

ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION (3d and 4th eds. Kluwer/Aspen) (with Phillip E. Areeda et al.).

THE OPENING OF AMERICAN LAW: NEOCLASSICAL LEGAL THOUGHT, 1870-1970 (Oxford 2015).

FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE (West Academic Hornbook Series, 5th ed., 2015)

The Emergence of Classical Patent Law, 58 ARIZ. L. REV. 263 (2016).

Antitrust and Information Technologies, 68 FLA. L. REV. 419 (2016).

Recent Publications

Is Antitrust's Consumer Welfare Principle Imperiled? 45 J. CORP. L. (forthcoming 2020).

Apple v. Pepper: Rationalizing Antitrust's Indirect Purchaser Rule, 120 COLUM. L. REV. F. (forthcoming 2020).

Framing the Chicago School of Antitrust Analysis, 168 U. PA. L. REV. (forthcoming 2020) (with Fiona Scott Morton).

FRAND and Antitrust, 105 CORNELL L. REV. (forthcoming 2020).

Are Agreements to Address Climate Change Anticompetitive?, REG. REV. (Sept. 2019).

Anticompetitive Mergers in Labor Markets, 94 IND. L.J. 1031 (2019) (with Ioana Marinescu).

The Warren Campaign's Antitrust Proposals, REG. REV. (March 2019).

Platforms and the Rule of Reason: The American Express Case, 2019 COLUM. BUS. L. REV. 35 (2019).

Regulation and the Marginalist Revolution, 71 FLA. L. REV. 455 (2019).

Intellectual Property & Competition, in RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW 231 (Roger D. Blair & D. Daniel Sokol eds., Edward Elgar 2019).

Horizontal Mergers, Market Structure, and Burdens of Proof, 127 YALE L.J. 996 (2018) (with Carl Shapiro).

Horizontal Shareholding and Antitrust Policy, 127 YALE L.J. 2026 (2018) (with Fiona Scott Morton).

Whatever Did Happen to the Antitrust Movement?, 93 NOTRE DAME L. REV. 583 (2018).

Prophylactic Merger Policy, 70 HASTINGS L.J. 43 (2018).

Antitrust and the Design of Production, 103 CORNELL L. REV. 1155 (2018).

Reasonable Patent Exhaustion, 35 YALE J. ON REG. 513 (2018).

The Rule of Reason, 70 FLA. L. REV. 81 (2018).

Progressive Antitrust, 2018 U. ILL. L. REV. 71.



GIDEON PARCHOMOVSKY

“Together with a coauthor, I am working on a series of articles in which we explore the scope of the public domain in intellectual property and real property, in particular mechanisms for expanding the public domain and legal situations in which it is not possible to maintain a public domain.”

Gideon Parchomovsky

Robert G. Fuller, Jr. Professor of Law

Gideon Parchomovsky specializes in intellectual property, property law, and cyber law. 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. Parchomovsky has received the A. Leo Levin Award presented to the best teacher of a first-year course.

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
- Impact of the Internet on Copyright and Patent Law

Representative Publications

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

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).

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

Restructuring Copyright Infringement, 98 TEX. L. REV. (forthcoming 2020) (with Abraham Bell).

Autonomy (Univ. of Penn. Law Sch. Pub. Law Res. Paper 2019) (with Alex Stein).

The Privacy Interest in Property, 166 U. PA. L. REV. 917 (2019) (with Abraham Bell).

Toward the Personalization of Copyright Law, 86 U. CHI. L. REV. 527 (2019) (with Adi Libson).

Toward a Horizontal Fiduciary Duty in Corporate Law, 104 CORNELL L. REV. 803 (2019) (with Asaf Eckstein).



R. POLK WAGNER

"I am excited about the recently launched massive open online courses (MOOCs) at Penn Law. The development of the intellectual property law specialization will allow students to become fluent in the rules of the new economy. It's a new brand of practical legal education for non-attorneys which will continue to expand its influence as a platform of learning."

R. Polk Wagner

Professor of Law

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 decision making 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 S. 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, 70 FLA. L. REV. 379 (2018) (with Lee Petherbridge).



TESS WILKINSON-RYAN

“When courts consider online contracts, they often take pains to insist that technology is not disrupting contract law. ‘Promises become binding when there is a meeting of the minds and consideration is exchanged. So it was at King’s Bench in common law England; so it was under the common law in the American colonies; so it was through more than two centuries of jurisprudence in this country; and so it is today,’ declares the court in *Specht vs. Netscape*. ‘Assent may be registered by a signature, a handshake, or a click of a computer mouse transmitted across the invisible ether of the Internet.’

“Protestations like these overlook the role of social and moral cognition in legal change. One way to think about my role as a moral psychologist on a law faculty is that I am interested in how technology affects the way that humans interact with or understand the legal system. To me the most important feature of online contracting is not the technology per se, but rather the extraordinary ubiquity of fine print in the digital world—a place that most of us spend most of our time. I’d contend that all those unread terms and conditions are teaching users implicit lessons about contract law, lessons that have immediate consequences for individual decision-making and, ultimately, real implications for the doctrine of assent.”

Tess Wilkinson-Ryan

Professor of Law and Psychology; Deputy Dean

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
- Psychological Analysis of Legal-Decision Making
- Gender, Psychology, and Law

Representative Publications

The Common Sense of Contract Formation, 67 STAN. L. REV. 1269 (2015) (with David A. Hoffman).

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

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

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).

Recent Publications

Law and Psychology Grows Up, Goes Online, and Replicates, 15 J. EMPIRICAL LEGAL STUD. 320 (2018) (with Krin Irvine & David A. Hoffman).



CHRISTOPHER YOO

“Interest in big data and antitrust is exploding, with enforcement authorities around the world opening investigations into large tech companies. Unfortunately, the academic research needed to form the basis for sound data-driven competition policy in these areas is lacking. CTIC is launching multiple initiatives to provide the theoretical and empirical foundations needed for policymakers to determine whether to intervene and, if so, how.”

Christopher Yoo

John H. Chestnut Professor of Law, Communication, and Computer & Information Science; Founding Director, Center for Technology, Innovation and Competition

Christopher Yoo has emerged as one of the nation's leading authorities on law and technology. Recognized as one of the most cited scholars in administrative and regulatory law as well as intellectual property, his major research projects include studying innovative ways to connect more people to the Internet; using technological principles to inform how the law can promote optimal interoperability; protecting privacy and security for autonomous vehicles, medical devices, and the Internet's routing architecture; comparing antitrust enforcement practices in China, Europe, and the U.S.; copyright theory; and network neutrality. The author of more than 100 scholarly works, Yoo testifies frequently before Congress, the Federal Communications Commission, the Federal Trade Commission, the U.S. Department of Justice, and foreign governments. Prior to joining the academy, Yoo served as a clerk to Justice Anthony M. Kennedy of the Supreme Court of the United States and Judge A. Raymond Randolph L'69 of the U.S. Court of Appeals for the D.C. Circuit.

Expertise

Communications Law, Antitrust, Intellectual Property, Copyright, Privacy Law, Mass Media Law, Law and Technology, Government Regulation, Regulated Industries, Electronic Commerce, Information Law, Presidential Power, Separation of Powers, Constitutional Law, First Amendment, Free Speech, Patent Law, Law of War

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

- Antitrust
- Internet Law
- Telecommunications Law
- Privacy
- 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).

Beyond Network Neutrality, 19 HARV. J.L. & TECH. 1 (2005).

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

Recent Publications

The Post-Chicago Antitrust Revolution: A Retrospective, 168 U. PA. L. REV. (forthcoming 2020).

The Transformation of Transformative Use, 1 J.L. & INNOVATION (forthcoming 2019).

The Emerging Role of the Network in Online Contracting: Cloud Computing, 5G, and Network Slicing, 1 J.L. & INNOVATION (forthcoming 2019).

Self-Actualization and the Need to Create as a Limit on Copyright, in LIMITATIONS AND EXCEPTIONS TO COPYRIGHT LAW IN COMPARATIVE PERSPECTIVE (Shyamkrishna Balganes, Wee Loon Ng-Loy, & Haochen Sun eds., Cambridge forthcoming 2019).

Network Neutrality and 5G, in THE FUTURE OF THE INTERNET — INNOVATION, INTEGRATION AND SUSTAINABILITY 121 (Guenter Knieps & Volcker Stocker eds., Nomos 2019).

Product Differentiation, in 1 RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW 262 (Ben Depoorter & Peter Menell eds., Edward Elgar 2019).

Free or Fee?: The Economics of Advertising Support vs. Direct Payments for Media Content, in MEDIA MARKETS AND COMPETITION LAW 59 (Antonio Bavasso, Douglas H. Ginsburg, & David S. Evans eds., Competition Policy International 2019).

Copyright and Personhood Revisited, 2019 U. ILL. L. REV. 1039 (2019).

Procedural Fairness in Antitrust Enforcement: The U.S. Perspective, in ANTITRUST PROCEDURAL FAIRNESS 31 (D. Daniel Sokol & Andrew T. Guzman eds., Oxford 2019) (with Hendrik Wendland).

Paul Baran, Network Theory, and the Past, Present, and Future of the Internet, 17 COLO. TECH. L.J. 161 (2018).

The Emerging Internet of Things: Opportunities and Challenges for Privacy and Security, in GOVERNING CYBERSPACE DURING A CRISIS IN TRUST 41 (Aaron Shull ed., Centre for International Governance Innovation 2019).

James Wilson as Architect of the Presidency, 16 GEO. J.L. & PUB. POL'Y 51 (2019).

Lowering Legal Barriers to RPKI Adoption (report submitted to the National Science Foundation, December 31, 2018) (with David A. Wishnick).

The District Court's AT&T/Time Warner Decision: Insights into the Law of Vertical Integration, CPI ANTITRUST CHRON. (August 2018).

Common Carriage's Domain, 34 YALE J. ON REG. 991 (2018).

Hipster Antitrust: New Bottles, Same Old W(h)ine?, CPI ANTITRUST CHRON. (April 2018).

Bridges II: The Law-STEM Alliance & Next Generation Innovation, 112 NW. U. L. REV. ONLINE 173 (2018).



Michael Janson

Sharswood Fellow

Michael Janson's research focuses on artificial intelligence, the political economy of law and technology, telecommunications regulation, Internet governance, and labor law. Before becoming a Sharswood Fellow, Janson was the Federal Communication Commission's longest serving Open Internet Ombudsperson, interfacing with edge providers regarding net neutrality concerns from October 2015 to January 2017. At the FCC, he managed a number of proceedings and matters involving spectrum competition policy, consumer protection, and universal service, and is currently on leave from the FCC. Janson previously worked as a litigator for Debevoise & Plimpton in Washington, D.C., and clerked for Judge Roger L. Wollman of the U.S. Court of Appeals for the Eighth Circuit.

Expertise

Law and Technology, Communications Law, Cyberlaw, Administrative Law, Labor Law

Education

JD 2009 University of Pennsylvania Law School

PhD 2007 MA 2003 University of Pennsylvania

BA 1998 University of Michigan

Courses Taught

- Artificial Intelligence Law and Policy

Recent Publications

The Wires Go to War: The U.S. Experiment with Government Ownership of the Telephone System During World War I, 91 TEX. L. REV. 983 (2013) (with Christopher S. Yoo).



David Wishnick

Academic Fellow

David Wishnick's scholarship focuses on the interactions between law and technology in shaping commercial transactions and business forms. Before joining Penn Law, Wishnick practiced at Jenner & Block LLP in Washington, D.C., where he advised clients in the finance and communications industries and, in a multi-year engagement, participated in the monitorship of a large bank after its settlement with tax and securities regulators. Prior to joining Jenner, Wishnick clerked for Judge Guido Calabresi of the U.S. Court of Appeals for the Second Circuit and Judge Thomas B. Griffith of the U.S. Court of Appeals for the D.C. Circuit.

Expertise

Law and Technology, Banking, Commercial Law, Contracts, Corporate and Financial Law

Education

JD 2012 Yale Law School
AB 2007 Brown University

Courses Taught

- The Fintech Challenge

Representative Publications

Corporate Purposes in a Free Enterprise System: A Comment on eBay v. Newmark, 121 YALE L.J. 2032 (2012).

Recent Publications

Coin-Operated Capitalism, 119 COLUM. L. REV. 591 (2019) (with Shaanan Cohney, David A. Hoffman, & Jeremy Sklaroff)

Lowering Legal Barriers to RPKI Adoption, (report Submitted to the National Science Foundation, December 31, 2018) (with Christopher S. Yoo).



Anita Allen

Henry R. Silverman Professor of Law and Professor of Philosophy; Vice Provost for Faculty

Anita Allen is an expert on privacy law, the philosophy of privacy, bioethics, and contemporary values. She is recognized for scholarship about legal philosophy, women's rights, and race relations. Allen was the first African American woman to hold both a PhD in philosophy and a law degree. She was an Associate Attorney with Cravath, Swaine and Moore. She was elected to the National Academy of Medicine in 2016. In 2010, she was appointed by President Obama to the Presidential Commission for the Study of Bioethical Issues. Allen, who has published more than a hundred scholarly articles, book chapters and essays, has also contributed to popular magazines, newspapers and blogs, and has frequently appeared on nationally broadcast television and radio programs. Allen is active as a member of editorial, advisory, and charity boards, and in professional organizations relating to her expertise in law, philosophy and health care. She is a member of the NIH Precision Medicine IRB and the Board of Directors of the WCG Foundation.

Expertise

Privacy Law, Information Law, Bioethics, Jurisprudence, Torts, Legal Ethics, Constitutional Law, Health Law, Philosophy of Law, Non-Profit Organizations, Gender Studies, Political Philosophy, Race Relations, Sexuality and the Law, Feminism

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).



Tom Baker

William Maul Measey Professor of Law and Health Sciences

Tom Baker, a preeminent scholar in insurance law, explores insurance, risk, and responsibility using methods and perspectives drawn from economics, sociology, psychology, and history. His research on health insurance exchanges is informing the development of decision tools to improve consumer choice. His recent article, “Regulating Robo Advice Across the Financial Services Industry,” urges insurance, banking, and securities industry regulators to cooperate in developing a regulatory trajectory for automated financial advice. Baker is the Reporter for the American Law Institute’s Restatement of the Law Liability Insurance, Director of the Health Insurance Exchange Research Group of Penn’s Leonard Davis Institute of Health Economics, and a co-founder of Picwell, a data analytics company that builds tools to match people to insurance plans. In August 2013, he received the Robert B. McKay Award, a lifetime scholarly achievement award given by the Tort Trial and Insurance Practice Section of the American Bar Association.

Expertise

Insurance Law and Policy, Torts, Health Care Policy, Health Economics, Law and Technology, Financial Regulation, Behavioral Economics, Law and Economics, Litigation, Entrepreneurship, Law and Society, Contracts

Secondary Appointments

Business Economics and Public Policy Department, The Wharton School

Education

JD 1986, AB 1982 Harvard University

Courses Taught

- Torts
- Fintech Challenge
- Insurance Law and Policy
- Financial Regulation Law and Policy
- Regulation of Health Insurance Markets
- Risk Management
- Insurance Insolvency
- Liability and Insurance

Representative Publications

ENSURING CORPORATE MISCONDUCT: HOW LIABILITY INSURANCE UNDERMINES SHAREHOLDER LITIGATION (Univ. of Chicago 2010) (with Sean J. Griffith).

THE MEDICAL MALPRACTICE MYTH (Univ. of Chicago 2005) (paperback 2007).

EMBRACING RISK: THE CHANGING CULTURE OF INSURANCE AND RESPONSIBILITY (Tom Baker & Jonathan Simon eds., Univ. of Chicago 2002).

Behavioral Finance, Decumulation and the Regulatory Strategy for Robo-Advice, in *THE DISRUPTIVE IMPACT OF FINTECH ON RETIREMENT SYSTEMS* (Julie Agnew & Olivia S. Mitchell eds., Oxford forthcoming 2019) (with Benedict G.C. Dellaert).

Regulating Robo Advice Across the Financial Services Industry, 103 IOWA L. REV. 713 (2018) (with Benedict G.C. Dellaert).



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 an emphasis on the empirical evaluation of alternative regulatory strategies and the role of public participation, technology, and business-government relations in policymaking. He is a public member of the Administrative Conference of the United States and Chair of its Committee on Rulemaking. He is a co-chair of the American Bar Association's administrative law section committee on e-government, past co-chair of the section's committee on rulemaking, and a past member of the section's Council. He currently serves as a member of a committee of the National Academies of Sciences, Engineering, and Medicine studying ways to improve the inspection of offshore oil and gas development facilities. He has served as a consultant to the Administrative Conference of the United States, Environment Canada, the Organization for Economic Cooperation and Development, the U.S. Department of Commerce, the U.S. Department of Transportation, and the U.S. Environmental Protection Agency.

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
- Regulatory Analysis and Decision-Making

Representative Publications

ACHIEVING REGULATORY EXCELLENCE (Cary Coglianese ed., Brookings Institution 2016).

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

Transparency and Algorithmic Governance, 71 ADMIN. L. REV. 1 (2019) (with David Lehr).

Optimizing Regulation for an Optimizing Economy, 4 U. PA. J.L. & PUB. AFF. 1 (2018).

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



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 work on comparative competition law. His scholarship has been published in numerous peer-reviewed economics journals, including the *Journal of Economic Perspectives*, *Journal of Law & Economics*, *Journal of Law, Economics, and Organization*, and *Journal of Legal Studies*. He has published papers in the *Stanford Law Review*, *Columbia Law Review*, and *University of Chicago Law Review*.

Expertise

Law and Economics, Health Care Policy, Health Care Regulation, Health Economics, Business Entities, Class Actions, Criminal Law, Finance, Insurance Law, Jury Decision Making, Labor Economics, Mental Health Law, Product Liability Litigation, Regulated Industries, Torts

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

Requiem for a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust, 51 ARIZ. ST. L.J. 293 (2019) (with Joshua D. Wright, Elyse Dorsey, & Jan M. Rybníček).

Empirical Law and Economics, in 1 OXFORD HANDBOOK OF LAW AND ECONOMICS: METHODOLOGY AND CONCEPTS 29 (Francesco Parisi ed., Oxford 2017) (with Jonah B. Gelbach).

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 Stratmann).

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
- Individual Rights and Health Care
- Privacy and Disclosure

Representative Publications

The Ecology of Transparency Reloaded, in *TROUBLING TRANSPARENCY: THE HISTORY AND FUTURE OF FREEDOM OF INFORMATION* (David E. Pozen & Michael Schudson eds., Columbia 2018).

"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 English and Cinema Studies, School of Arts and Sciences

Peter Decherney's research focuses primarily on the law's impact on media industries, having authored or edited six books on copyright, Hollywood, and other topics. He is the Faculty Director of Penn's Online Learning Initiative and the Director of Penn's Cinema and Media Studies Program. Decherney 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

Secondary Appointments

Annenberg School for Communication

Education

PhD 2000 New York University

BA 1993 Vassar College



Ezekiel Dixon-Román

Associate Professor of Social Policy, School of Social Policy and Practice

Ezekiel Dixon-Román's research rethinks and reconceptualizes the technologies of quantification from a critical theoretical lens (broadly conceived). His research also focuses on how power and inequality are reproduced, especially in human learning and development, and the ways in which sociotechnical systems of quantification are working on, with, and in the body to generatively form and shape the movement and flow of power, difference, and inequality. He is Chair of the Data Analytics for Social Policy Certificate of the Master of Science in Social Policy Program and leading the SP2-Aliadas en Cadena Initiative, which is an evaluation of the Venezuela-based NGO's flagship program that provides training and certification in information and communication technologies for vulnerable women. Dixon-Román is also a faculty affiliate of Latin American & Latino Studies and the Warren Center for Data Sciences, as well as a visiting scholar in the Department of Sociology at Columbia University.

Expertise

Cultural Studies of Education, Quantification, and Social Policy, Philosophy of Science, Sociology of Education, Critical Theories of "Difference"

Secondary Appointments

Graduate School of Education, University of Pennsylvania
Department of Africana Studies, University of Pennsylvania

Education

PhD 2007, MA 2004 Fordham University
MA 2002 University of Chicago
BA 2000 North Carolina Central University

Gerald Faulhaber

Professor Emeritus of Business Economics and Public Policy, Wharton School

Gerald Faulhaber served as Chief Economist of the Federal Communications Commission in 2000-01. His research focuses 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 also has experience in file sharing and music copyright, public safety radio, network neutrality, and the advent of cyber-civilization.

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 of Business Economics and Public Policy, The Wharton School

Joseph Harrington has published more than 90 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, European Union, Japan, South Africa, and the United States. He has also published two textbooks, *Economics of Regulation and Antitrust* (5th ed., MIT 2018) (with David Sappington) and *Games, Strategies, and Decision Making* (2d ed., Worth Publishers 2015), and a monograph, *The Theory of Collusion and Competition Policy* (MIT Press, 2017).

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 and Sciences
Statistics Department; Operations, Information and Decisions Department, The Wharton School

Education

PhD 1989 Harvard University
BS 1985 University of California, Berkeley



Annie Liang

Assistant Professor of Economics, School of Arts & Sciences

Annie Liang's research focuses primarily on economic theory and the application of machine learning methods for model building and evaluation. Prior to becoming an Assistant Professor of Economics, Liang served as a Postdoctoral Researcher for Microsoft Research New England.

Expertise

Economic Theory, Machine Learning

Education

PhD 2016 Harvard University

SB 2011 Massachusetts Institute of Technology

Aviv Nevo

George A. Weiss and Lydia Bravo Weiss University Professor, Professor of Marketing, The Wharton School; Professor 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,
The 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



Lauren Steinfeld

Chief Privacy Officer, Penn Medicine; Senior Advisor for Privacy,
University of Pennsylvania; Lecturer-in-Law, University of Pennsylvania
Law School

Lauren Steinfeld serves as Chief Privacy Officer for Penn Medicine. In this position, Steinfeld leads and oversees the HIPAA compliance program and other privacy initiatives for Penn's six hospitals, over 250 physician practices, and the School of Medicine research program. In addition, Steinfeld teaches a Privacy Law course at Penn Law with Professor Christopher Yoo. She previously served as Chief Privacy Officer for the University of Pennsylvania. Prior to her work at Penn, she worked at the Office of Management and Budget as the Associate Chief Counselor for Privacy and prior to that, as Attorney Advisor to Federal Trade Commissioner Mozelle Thompson.

Expertise

Privacy, Health Care, Compliance

Education

JD 1992 New York University School of Law
BA 1989 University of Pennsylvania



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. 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

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 400,000 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



Victor Boyajian

Partner, Dentons

Victor Boyajian heads Dentons' Global Venture Technology practice and legacy Technology, Media and Telecommunications sector. A recognized leader in his field, Boyajian represents emerging growth technology companies and Fortune 500 companies in a broad array of venture capital, private equity, securities, and strategic transactions around the globe. He counsels senior executives, boards of directors, and venture firm principals on a wide range of issues, including business strategy, finance, mergers and acquisitions, executive compensation, board governance, intellectual property and litigation strategy. Boyajian has also been recognized for his deep network among venture firms and investment banks. Boyajian's clientele reflects a cross-section of industries, including software, digital media, mobile and Internet/e-commerce.

Education

JD 1985 University of Pennsylvania Law School
BA 1982 University of Rochester



Thomas Fetzner

Chair, Public Law, Regulation and Taxation,
University of Mannheim

Thomas Fetzner is Academic Director of both the Mannheim Centre for Competition and Innovation (MaCCI) and the Leibniz Science Campus Mannheim Taxation (MaTax). He is also an Adjunct Professor at the Mannheim Business School. From 2014, he served as Dean of the School of Law and Economics and Chair of the Department of Law.

Education

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



Osagie Imasogie

Senior Managing Partner, PIPV Capital

Osagie Imasogie is the co-founder of PIPV Capital, an IP-based private equity firm. He has over thirty years of experience in law, finance, business management, healthcare, and the pharmaceutical industry. He currently teaches a course entitled Intellectual Property and National Economy Value Creation as an adjunct professor at the University of Pennsylvania Law School, where he is a member of the Board of Overseers. He is also a member of the Executive 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 in life sciences, including antibody therapies, pharmaceuticals, and biochemistry. 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



Trevor Cloak

Member, Cozen O'Connor

Trevor Cloak's practice focuses on intellectual property transactions, prosecution, enforcement, and litigation. He has experience representing clients in all aspects of intellectual property due diligence, and in drafting and negotiating technology, software, and software-as-a-service agreements. Cloak also counsels clients with respect to trademark, copyright, and patent licenses, joint development agreements, website terms and conditions, privacy policies, and coexistence agreements.

Education

JD 2008 Vanderbilt Law School

BS 2005 Middlebury College



Gayle Gowen

Attorney, Schott, P.C.

Lecturer-in-Law, University of Pennsylvania Law School

Gayle Gowen is a patent attorney at Schott, P.C., where she specializes in patent preparation, due diligence, non-infringement and invalidity opinions, technology agreements, and patent litigation matters in the fields of materials science, pharmaceuticals, and medical devices. Prior to joining Schott, Gowen was an associate at Morgan, Lewis & Bockius. She also served as a law clerk to the Honorable Marjorie O. Rendell of the U.S. Court of Appeals for the Third Circuit.

Education

JD 1998 University of Pennsylvania Law School

MS 1995 Carnegie Mellon University

BS 1991 Massachusetts Institute of Technology



Sangyong Han

Research Fellow

Sangyong Han's primary research focuses on the impact of technological change on telecommunication industry, policy makers, and society, focusing on public interest and democracy. His research usually involves analyzing a large volume of industry and social media data, but it also includes qualitative and historical insights on the industries and government policies. He is also working on an FCC Broadband Deployment Advisory Committee project for Christopher Yoo.

While completing his Ph.D. in Mass Communications from Pennsylvania State University, he participated in various research projects including the National Science Foundation Project: A National Research Agenda for Broadband at the Institute for Information Policy. Before he came to the U.S. for his graduate studies, Han worked as a marketing director in the mobile Internet business field in Korea for six years.

Education

PhD 2016 Pennsylvania State University
MA 2009 Indiana University Bloomington



Müge Haseki

Research Fellow

Müge Haseki's research concentrates on the multi-year 1 World Connected project, which focuses on the evaluation and assessment of connectivity initiatives around the world. Her research interests include information and communication technology (ICT) adoption and use in disadvantaged and underserved communities. She has conducted research on the mobile health application use of pregnant women in Nepal, mobile phone use of newly connected communities in Rwanda, ICT practices of immigrant women entrepreneurs in New York City, broadband adoption by low-socioeconomic communities in the U.S., and social media use by media organizations in Afghanistan. She was a USAID Research and Innovation fellow at the University of Cape Town in South Africa, where she worked on an ICT for a development project. Recently, as a USAID Youlead! Fellow, she worked on the entrepreneurship development program for youth in Sri Lanka.

Education

PhD 2016 Rutgers University
MA 2008 University of Wisconsin
BA 2006 Boğaziçi University



Sharada Srinivasan

Research Fellow

Sharada Srinivasan's research focuses on the 1 World Connected project, specifically on empirical validation of innovative initiatives that address supply-and-demand side challenges to improve broadband adoption globally. She develops case studies on innovative community-level projects and studies their relative cost-effectiveness. She communicates these insights to academics, policymakers and investors. Her recent work focuses on fixed wireless deployments in the United States, and the impact of a telemedicine deployment in Vanuatu.

She is an active participant in the intersessional work of the United Nations Internet Governance Forum, and co-led the production of the *Connecting and Enabling the Next Billions - Phase IV* final output report in 2018-19. She is also part of the EQUALS Research Group focused on issues pertaining to Internet access, and serves on the IEEE Humanitarian Activities Committee's Assessment sub-committee.

In the past, she has engaged with regulatory barriers to Internet deployment in the developing world, cybersecurity, encryption policy and network neutrality at internship stints with the Global Public Policy Institute, Berlin and the Centre for Internet and Society, Bangalore. She was an Amazon fellow at the tenth UN Internet Governance Forum and a Global Internet Governance Fellow at the European Summer School of Internet Governance 2015. Srinivasan will join the World Bank Group as part of their Young Professionals Program in Fall 2019.

Education

MPP 2016 National Law School of India, Bangalore
BE 2014 Ramiah Institute of Technology, Bangalore



Caroline Olson

Managing Director

As Managing Director, Caroline Olson oversees the daily operations of the Center and has been an important part of its growth and success. She has played a key leadership role in expanding all of CTIC's programs, including our student and practitioner-oriented events, social media strategy, and innovative approaches to the growth and development of our staff.

Olson brings a wealth of experience in law firm administration, organizational development, talent management, and public service to her position. She served as the Director of Attorney Recruitment at Dechert LLP for seven years where she oversaw lateral and law school hiring as well as the attorney evaluation and compensation program. Before joining Dechert, Olson spent fifteen years at Morgan, Lewis & Bockius LLP where she ran global attorney integration, evaluation and compensation, and lateral and law student recruitment and worked in human resources. Prior to her joining Penn, Philadelphia Mayor Michael Nutter appointed her Deputy Managing Director to lead strategic talent management and organizational development for the City of Philadelphia.

Education

BA University of Missouri, Columbia





Center for Technology, Innovation and Competition



Major Conferences

Seventh Annual Global Patent Law Conference

Due Process in Antitrust Enforcement in China, Europe, and the U.S.

Big Data, AI, and Algorithms: Do New Technologies Require New Approaches to Competition Law?

Due Process in Competition Law Enforcement: A Comparative Perspective

Economics of Data Workshop

Journal of Law & Innovation Symposium: Algorithms, Big Data, and Contracting - The Law of Agreements in the Digital Era

A 3-D Perspective on Indian Intellectual Property: Distinct, Diverse and Democratic?

First Annual Law and Technology Consortium

Seventh Annual Computer Science and the Law Roundtable

Fourth Annual Copyright Scholarship Roundtable

Seventh Annual Global Patent Law Conference

October 27, 2018

Tokyo, Japan

The Seventh Annual Global Patent Law Conference, hosted by Waseda University's Research Center for the Legal System of Intellectual Property and cosponsored by CTIC and Waseda University School of Law, provided a forum to review and discuss current topics in international patent law. This year's Conference focused on important issues in patent law, including patent-eligible subject matter and infringement, international trade, and border measures. It brought together government officials and scholars from Japan and the U.S., as well as several representatives from the private sector.



Left: Brett Bachtell, Anthony Del Monaco, and conference attendees
Right: Shyamkrishna Balganes



Judge Richard Linn and conference attendees



R. Polk Wagner



Ryu Takabayashi

Welcoming Remarks

Shunsuke Hanai

Professor, Faculty of Commerce, Waseda University

Christopher Yoo

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

Takao Suami

Professor of Law, Waseda University Law School

Ryu Takabayashi

Professor, Waseda University School of Law; Former Judge, Tokyo District Court and Matsuyama District Court

Patent-Eligible Subject Matter: Software, Programs, and Games

The Honorable Richard Linn

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

The Honorable Makiko Takabe

Chief Judge, Intellectual Property High Court of Japan

R. Polk Wagner

Professor of Law, University of Pennsylvania Law School

Takeshi Maeda

Associate Professor of Intellectual Property Law, Kobe University

Hiroyuki Honda

General Manager, Intellectual Property Department, Sony Corporation

Moderator

Ichiro Nakayama

Professor, Kokugakuin University School of Law



Judge Richard Linn, Christoph Rademacher and conference panelists

Part Two: Patent Infringement, International Trade and Border Measures

Makoto Sakata

Head of Intellectual Property Group, Customs Practice Division, Japanese Ministry of Finance

Charles Schill

Partner, Steptoe & Johnson; Former Senior Counsel, U.S. International Trade Commission

Shinya Fujimoto

Senior Examiner, Intellectual Property Division, Tokyo Customs and Tariff Bureau

Brett Bachtell

Senior Legal Counsel, Qualcomm Incorporated; Chair, Intellectual Property Owners Association, U.S. International Trade Commission Committee

Anthony Del Monaco

Partner, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP; Member, Intellectual Property Owners Association, U.S. International Trade Commission Committee

Yoshio Kumakura

Partner, Nakamura & Partners

Moderator

Christoph Rademacher

Associate Professor, Waseda University School of Law



Top: Judge Makiko Takabe

Bottom: Takao Suami

Due Process in Antitrust Enforcement in China, Europe, and the U.S.

November 4, 2018
Beijing, China

As a part of their continuing four-year project, CTIC, the Competition Law Centre of the University of International Business and Economics (UIBE), and the Mannheim Centre for Competition and Innovation (MaCCI) cohosted a conference on antitrust enforcement at the Penn Wharton China Center. At the conference, preliminary research on due process in competition law enforcement procedures in China, Europe, and the U.S. was presented. The research findings were then discussed with Chinese judges, regulators, academics, and private sector representatives and the next phase of their research on big data was previewed.



Conference attendees



Yong Huang

Welcome

Yong Huang

Professor, School of Law, University of International Business and Economics

Christopher Yoo

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

Presentation of Theory and the Results for the U.S.

Christopher Yoo

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

Presentation of the Results for Europe

Thomas Fetzner

Chair of Public Law, Regulatory Law and Tax Law, University of Mannheim

Presentation of the Results for China

Yong Huang

Professor, School of Law, University of International Business and Economics

Introduction of Phase Two of the Comparative Project: Anti-Monopoly Law and Big Data

Christopher Yoo

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

Discussion and Closing



Top: Christopher Yoo

Middle: Conference attendees

Bottom: Thomas Fetzner

Big Data, AI, and Algorithms: Do New Technologies Require New Approaches to Competition Law?

November 19, 2018
Brussels, Belgium

The growing importance of big data, artificial intelligence, and algorithms has stimulated an intense debate about their implications for competition law. This conference, which featured a keynote address by U.S. Federal Trade Commission former Acting Chairman Maureen Ohlhausen, explored the technical and economic foundations of big data and examined the proper application of concepts such as algorithmic collusion, abuse of dominance, and merger analysis. The conference was co-sponsored with the Mannheim Centre for Competition and Innovation (MaCCI), and the Center for European Policy Studies (CEPS).



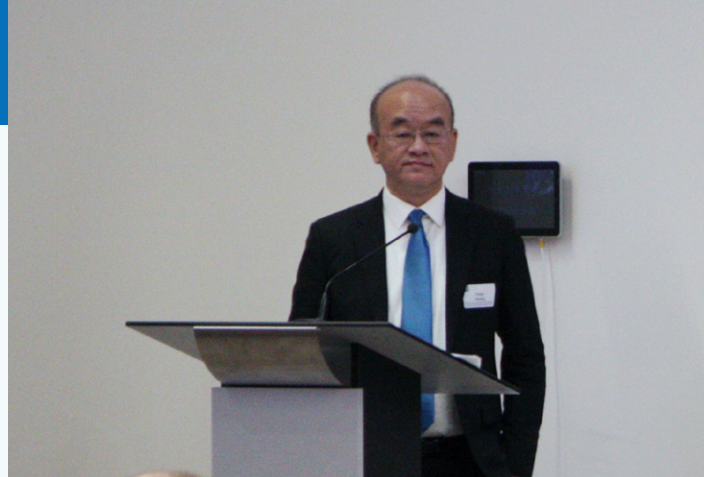
Left: Paul Bellaflamme, Liad Wagman, Ashwin Ittoo, Christopher Yoo
Right: Andrea Renda



Maureen Ohlhausen



Christopher Yoo



Yong Huang

Welcome

Thomas Fetzter

Chair of Public Law, Regulation and Taxation, University of Mannheim

Andrea Renda

Senior Research Fellow and Head of Global Governance, Regulation, Innovation & Digital Economy, CEPS

Christopher Yoo

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

Keynote Address

Maureen Ohlhausen

Former Acting Chairman, U.S. Federal Trade Commission

The Technical and Economic Foundations of Big Data

Ashwin Ittoo

Associate Professor, HEC Management School, University of Liège

Liad Wagman

Associate Professor of Economics, Illinois Institute of Technology

Paul Belleflamme

Professor of Economics, UC Louvain

Moderator

Christopher Yoo

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

Algorithmic Collusion

Joseph Harrington

Patrick T. Harker Professor, Professor of Business Economics and Public Policy, The Wharton School, University of Pennsylvania

Maureen Ohlhausen

Former Acting Chairman, U.S. Federal Trade Commission

Moderator

Thomas Fetzter

Chair of Public Law, Regulation and Taxation, University of Mannheim

Address: Big Data under China's Anti-Monopoly Law

Yong Huang

Professor, School of Law, University of International Business and Economics



Joseph Harrington, Maureen Ohlhausen, Thomas Fetzner

Big Data and Abuse of Dominance

Anja Lambrecht

Professor of Marketing, London Business School

Inge Graef

Assistant Professor, Tilburg Law School

Jan Krämer

Professor of Information Systems, Internet and Telecommunications Business Chair, University of Passau

Moderator

Thomas Fetzner

Chair of Public Law, Regulation and Taxation, University of Mannheim

Big Data and Mergers

Torsten Körber

Professor, Chair for Civil Law, Competition Law, Insurance Law, Corporate Law, Regulation Law, University of Cologne

Alexandre de Streel

Professor of European Law, University of Namur; Centre on Regulation in Europe

Damien Geradin

Professor of Competition Law and Economics, Tilburg Law and Economics Center

Moderator

Gabor Molnar

Research Associate, Department of Economics, University of Colorado Boulder

Closing



Top: Anja Lambrecht, Jan Krämer, Inge Graef

Bottom: Damien Geradin, Torsten Körber, Gabor Molnar, Alexandre de Streel

Due Process in Competition Law Enforcement: A Comparative Perspective

November 21, 2018
Luxembourg

Recent European judicial decisions and changes in the restructuring of the administrative apparatus in China and other countries have provided an opportune moment to reconsider the proper role of due process principles in competition law enforcement. This conference represented the European debut of the international research team's study comparing transparency and fairness in competition law enforcement in Europe, China, and the U.S. It featured a keynote address by European Court of Justice Advocate General Giovanni Pitruzzella and panels of distinguished current and former jurists and competition policymakers who explored key issues such as the disclosure of evidence to the parties, separation of investigatory and adjudicative personnel, and judicial review.



Left: Thomas Fetzer



Right: Judge Ulf Öberg and conference attendees



Yong Huang and conference attendees



Douglas Ginsburg, Ian Forrester, Kris Dekeyser



Giovanni Pitruzzella

Welcome

Thomas Fetzner

Chair of Public Law, Regulatory Law and Tax Law, University of Mannheim

Christopher Yoo

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

Keynote Address

Giovanni Pitruzzella

Advocate General, European Court of Justice

Presentation of the Multijurisdictional Study

Christopher Yoo

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

Thomas Fetzner

Chair of Public Law, Regulatory Law and Tax Law, University of Mannheim

Yong Huang

Professor, School of Law, University of International Business and Economics

Disclosure of Evidence to Parties

Kris Dekeyser

Director of Policy and Strategy, Directorate-General for Competition, European Commission

The Honorable Ian Forrester

Judge, General Court of the European Union

The Honorable Douglas Ginsburg

Judge, U.S. Court of Appeals for the D.C. Circuit

Moderator

Thomas Fetzner

Chair of Public Law, Regulatory Law and Tax Law, University of Mannheim

Separation of Investigative/Prosecutory and Adjudicative Personnel

The Honorable Marc van der Woude

Judge, General Court of the European Union

John Temple Lang

Professor, University of Dublin, Trinity College

Philip Lowe

Partner, Oxera; Former Director-General for Competition, European Commission

Moderator

Yong Huang

Professor, School of Law, University of International Business and Economics



Kris Dekeyser and conference attendees

Judicial Review

The Honorable Ulf Öberg

Judge, General Court of the European Union

Nicholas Forwood

Counsel, White & Case; Former Judge, General Court of the European Union

The Honorable Douglas Ginsburg

Judge, U.S. Court of Appeals for the D.C. Circuit

Moderator

Christopher Yoo

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



Top: Reception

Bottom: Sir Philip Lowe, Sir Nicholas Forwood QC, John Temple Lang

Economics of Data Workshop

December 7-8, 2018

The Economics of Data Workshop focused on the ways in which data is restructuring existing competitive markets, such as through enhanced price discrimination, changing boundaries of the firm, increased monopoly power, and the design of “data marketplaces.” Speakers gave a broad overview of the role of data in the economy and society at large and then focused on specific aspects of the economics of data.



Left: Alessandro Acquisti

Right: Rakesh Vohra, Sven Seuken



Workshop attendees



Munther Dahleh



Dirk Bergemann, Ginger Zhe Jin

December 7, 2018

Some Open Questions about the Value of Data and Simple but Useful Concept of Data Q

Michael Schwarz

Corporate Vice President and Chief Economist, Microsoft Corporation

Data Science and the Transportation Tech Revolution

Garrett van Ryzin

Charles H. Dyson Family Professor of Management, Cornell Tech and Cornell University; Head of Marketplace Labs, Lyft

Data-driven Ad-Tech and Mar-Tech at JD.com

Harikesh Nair

The Jonathan B. Lovelace Professor of Marketing, Stanford Graduate School of Business; Chief Business Strategy Scientist, JD.com



Aviv Nevo, Annie Liang, Munther Dahleh

December 8, 2018

A Marketplace for Data: An Algorithmic Solution

Munther Dahleh

William A. Coolidge Professor of Electrical Engineering and Computer Science, Massachusetts Institute of Technology

The Design of a Combinatorial Data Market

Sven Seuken

Associate Professor of Computation and Economics, University of Zurich

Who Benefits from the Data Economy?

Alessandro Acquisti

Professor of Information Technology and Public Policy, Carnegie Mellon University

Economic Priors and Regularization

Amit Gandhi

Professor of Economics, University of Pennsylvania; Former Chief Economist, Microsoft Cloud

Social Networks and Economic Decision Making

Michael Bailey

Research Scientist Manager, Facebook

The Short Run Effect of GDPR on Technology Venture Investment

Ginger Zhe Jin

Professor of Economics, University of Maryland

Markets for Information

Dirk Bergemann MA'92, PhD'94

Douglass and Marion Campbell Professor of Economics & Computer Science, Yale University



Top: Workshop participants

Bottom: Michael Bailey

Journal of Law & Innovation Symposium: Algorithms, Big Data, and Contracting - The Law of Agreements in a Digital Era

January 11, 2019

Under the leadership of Professors David Hoffman and Tess Wilkinson-Ryan, the *Journal of Law & Innovation* hosted a symposium that brought together leading scholars in digital contract law. Presentations highlighted research in cyber contracting, such as the function of smart contracts, regulation of algorithmic agreements, enforceability of privacy policies, and aspects of internet architecture.



Left: *Journal of Law & Innovation* board members: MacKinzie Neal L'19, Kevin Lawler L'19, Ryan Singer L'19, Noah Becker L'19, Adrian Parlow L'19, Amber Ausley L'19, Richard Hildreth L'19
Right: Hosea Harvey



Journal of Law & Innovation Symposium speakers



David Hoffman, Tess Wilkinson-Ryan



Ifeoma Ajunwa, Josh Simons, Talia Gillis

Why Do People Avoid Information About Privacy?

Daniel Svirsky

Doctoral Student in Business Economics, Harvard Business School

Commentator

Florencia Marotta-Wurgler BA'96

Professor of Law, New York University

Exploring the Efficacy of Contract Discrimination

Hosea Harvey

Associate Professor of Law and Political Science, Temple University

Commentator

Woodrow Hartzog

Professor of Law and Computer Science, Northeastern University

All Smart Contracts Are Ambiguous

James Grimmelmann

Professor, Cornell Law School and Cornell Tech

Commentator

Rory Van Loo

Associate Professor of Law, Peter Paul Career Development Professor, Boston University School of Law

Explanation < Justification

Talia Gillis

Terence M. Cosidine Fellow in Law and Economics, Harvard Law School

Josh Simons

Harvard-Kennedy Scholar, Harvard University

Commentator

Ifeoma Ajunwa

Assistant Professor of Labor & Employment Law, School of Industrial and Labor Relations and Associate Member of the Law Faculty, Cornell University



Hosea Harvey, Woodrow Hartzog

Bringing the Network into Online Contracting: Enabling Network Slicing and Network Function Virtualization

Christopher Yoo

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

Commentator

David Hoffman

Professor of Law, University of Pennsylvania Law School

Can We Solve the Crisis of Online Contracts?

Eric Goldman

Professor of Law, Santa Clara University School of Law

Teaching and Learning About Digital Contracts

David Hoffman

Professor of Law, University of Pennsylvania Law School

Tess Wilkinson-Ryan L'05, MA'06, PhD'08

Professor of Law and Psychology, Deputy Dean for Academic Affairs, University of Pennsylvania

Closing Remarks



Top: Symposium attendees

Bottom: James Grimmelman, Rory Van Loo

A 3-D Perspective on Indian Intellectual Property: Distinct, Diverse and Democratic?

March 5, 2019
New Delhi, India

This conference, hosted by the Indian Law Institute, explored whether other provisions in Indian IP law – in particular, copyright law and plant variety protection law – reflect similar values of distinctiveness, diversity, and democracy. It brought together different stakeholders in the Indian IP ecosystem, including lawyers, industry representatives, civil society activists, and policy makers.



Left: Retired Supreme Court Judge Aftab Alam with conference attendees
Right: K.S. Kardam



Shyamkrishna Balganes, Dhruv Anand, Anjum Rajabali, G.R. Raghavender, Arul Scaria, Ameet Datta, V.C. Vivekanandan



Suresh PJ, Prashant Reddy, M. Prabhakar Rao, Deepa Tiku, VK Gupta



Leena Menghaney

Welcome Address

Shyamkrishna Balganesh

Professor of Law, University of Pennsylvania Law School

Manoj Sinha

Director, Indian Law Institute

Introduction to Conference and Theme

Shamnad Basheer

Bok Visiting Professor of Law, University of Pennsylvania Law School; Founder, Increasing Diversity by Increasing Access to Legal Education

Opening Address

Rajiv Aggarwal

Joint Secretary, Department for Promotion of Industry and Internal Trade

Patents

K.S. Kardam

Senior Joint Controller of Patents and Designs, Indian Patent Office

Leena Menghaney

Regional Head of South Asia, Access Campaign at Médecins Sans Frontières

Seetal Chopra

Indian Lead, IPR Advocacy, Ericsson India Ltd.

Essenese Obhan

Founding Partner, Obhan and Associates

Moderator

Shamnad Basheer

Bok Visiting Professor of Law, University of Pennsylvania Law School; Founder, Increasing Diversity by Increasing Access to Legal Education

Copyright

V.C. Vivekanandan

Dean, Bennett University School of Law

Ameet Datta

Partner, Saikrishna and Associates

Arul George Scaria

Assistant Professor of Law, National Law University Delhi

Shri G.R. Raghavender

Joint Secretary, Department of Justice, Ministry of Law & Justice, Government of India

Anjum Rajabali

Chairperson, Sub-Committees on Copyright and Minimum Basic Contract, Screenwriters' Association

Dhruv Anand

Litigation Partner, Anand and Anand

Moderator

Shyamkrishna Balganesh

Professor of Law, University of Pennsylvania Law School



Deepa Tikku

Plant Variety Protection, Biodiversity, and Traditional Knowledge

Suresh PJ

Regulatory Affairs Lead, Monsanto India Limited

Mandava Prabhakara Rao

Chairman; Managing Director, Nuziveedu Seeds Ltd.

VK Gupta

Former Director, Traditional Knowledge Digital Library; Senior Advisor, Council of Scientific & Industrial Research

Deepa Kachroo Tikku

Partner, K&S Partners

Moderator

Prashant Reddy

Senior Fellow, Vidhi Centre for Legal Policy



Top: Rajiv Aggarwal

Bottom: Shamnad Basheer

This conference would not have been possible without the partnership and friendship of Shamnad Basheer, Bok Visiting Professor of Law, University of Pennsylvania Law School, who tragically passed away in July. He will be missed.

First Annual Law and Technology Consortium

May 6-7, 2019
Trento, Italy

On May 6 and 7, 2019, representatives from seven law faculties gathered in Trento, Italy, for the First Annual Law and Technology Consortium. Scholars from these institutions presented research papers addressing different areas of law and technology, including copyright, patent, communications law, privacy law, and environmental law. The roundtable discussions focused on future research and developments in these areas. The Consortium provided an opportunity for the scholars to gain a comparative perspective on their research and facilitated greater collaboration between scholars working in the areas of law and technology.



Left: Federica Giovanella
Right: Christopher Yoo





Trento, Italy



University of Trento Department of Law



Rosana Ducato, Gideon Parchomovsky

May 6, 2019

Introduction

Roberto Caso

Associate Professor of Comparative Law, University of Trento

Gideon Parchomovsky

Robert G. Fuller, Jr. Professor of Law, University of Pennsylvania Law School; Edward S. Silver Chair in Civil Procedure, The Hebrew University of Jerusalem

Session I

Restructuring Copyright Infringement

Gideon Parchomovsky

Robert G. Fuller, Jr. Professor of Law, University of Pennsylvania Law School; Edward S. Silver Chair in Civil Procedure, The Hebrew University of Jerusalem

Reconstructing the Reproduction and the Communication to the Public Rights: How to Align Copyright with Its Fundamentals

Alain Strowel

Professor, Université Catholique de Louvain

The Transformation of Transformative Use: The Infiltration of Functionality into Copyright

Christopher Yoo

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

Session II

Copyright's Objective of Promoting Education in Canada: Origin, Evolution, and Challenge

Daniel Goldenbaum

D.C.L. Candidate, McGill University

Wage Transparency in the Platform Economy

Michael Janson MA'03, PhD'07, L'09

Sharswood Fellow, University of Pennsylvania Law School

The Game is On! – The Quotation Exception in UK Copyright Law

Bartolomeo Meletti

Copyright Education Creative Director, University of Glasgow School of Law

Session III

Text and Data-Mining in IP Scholarship: A Methodological Perspective

Thomas Margoni

Senior Lecturer in Intellectual Property and Internet Law, University of Glasgow School of Law

Limitations to Text and Data Mining for Consumer Empowerment: Making the Case for a Right to Machine Legibility

Rosana Ducato

Postdoctoral Researcher, Université Catholique de Louvain

Alain Strowel

Professor, Université Catholique de Louvain

Session IV

Predictive Analytics and the Law: Coping with Uncertain Futures

Christophe Lazaro

Professor of Law and Society, Université Catholique de Louvain

From Work (of Authorship) to Data: The Final Destination of Copyright?

Roberto Caso

Associate Professor of Comparative Law, University of Trento

Giulia Dore

Postdoctoral Research Assistant, University of Glasgow School of Law



Giuseppe Verdi Street and
San Vigilio Cathedral, Trento, Italy

May 7, 2019

Session I

The Interaction of EU Competition, Consumer and Data Protection Law in the Digital Economy The Regulatory Dilemma in the Facebook Odyssey

Marco Botta

Affiliated Research Fellow, Intellectual Property and Competition Law, Max Planck Institute for Innovation and Competition

Online Intermediaries as a Vehicle for Acts of Unfair Competition and Trade Secrets Breaches: What Liability Within the European Legal Framework?

Valentina Moscon

Senior Research Fellow, Intellectual Property and Competition Law, Max Planck Institute for Innovation and Competition

Work, Identity, and the Regulation of Markets: A Study of Trademark Law in the U.S. and Germany

Katya Zakharov Assaf

Senior Lecturer, The Hebrew University of Jerusalem

Session II

***Res Ipsa Loquitur* ("the thing speaks for itself"): When the Writing is in the Code. A Reflexion on Obsolescence by Design**

Pierre-Emmanuel Moyse

Associate Professor, McGill University

The Many Faces of Regulatory Credibility

Giuseppe Bellantuono

Professor of Comparative Law, University of Trento



University of Trento

Seventh Annual Computer Science and the Law Roundtable

May 22-23, 2019

As part of the broader effort to promote interdisciplinary work bridging law and engineering, CTIC held its Seventh Annual Roundtable on Computer Science and the Law on May 22-23. As in past years, the event brought together leading legal scholars and computer scientists pursuing research at the intersection of law and computer science. The goal continues to be to promote interdisciplinary work between law and computer science and to provide an institutional home for future scholars, encouraging further collaboration between the fields.



Left: Scott Jordan, David Clark, Nick Feamster
Right: Steven Bellovin



Ani Nenkai, Eric Jardine, Shan (Sherman) Jiang, Linh Thi Xuan Phan



Christopher Yoo



William Lehr

May 22, 2019

Legal Tutorial

Christopher Yoo

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

History of Classification of Public/Commercial vs. Private Mobile Service

Scott Jordan

Professor of Computer Science, University of California, Irvine

Multi-Sided, Multi-Layer Platforms: Is Anything New?

David Clark

Senior Research Scientist, Massachusetts Institute of Technology Computer Science and Artificial Intelligence Laboratory

Regulation When Platforms Are Layered

William Lehr BA'79, BS'79, MSE'84, MBA'85

Research Scientist, Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology

Moderator

Justin (Gus) Hurwitz

Professor, Nebraska College of Law

The Emerging Role of the Network in Online Contracting: Cloud Computing, 5G, and Network Slicing

Christopher Yoo

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

The State of Web Server Software

Shane Greenstein

Martin Marshall Professor of Business Administration, Harvard Business School

Moderator

Jon Peha

Professor, Engineering and Public Policy, Carnegie Mellon University

DNS Privacy

Nick Feamster

Professor, Department of Computer Science, Princeton University

Dark Web & Crime Trends

Eric Jardine

Assistant Professor, Department of Political Science, Virginia Tech

Moderator

Steve Bellovin

Percy K. and Vida L.W. Hudson Professor of Computer Science, Columbia University



Shane Greenstein

May 23, 2019

From Static Records to Predictive Policing: The Future of Audiovisual Evidence

Jean-François Blanchette

Chair, Department of Information Studies, University of California, Los Angeles

The Case for Safety-Critical Software Professionals

Bryan Choi

Assistant Professor of Law, The Ohio State University School of Law

Content Moderation Remedies

Eric Goldman

Professor of Law, Santa Clara University School of Law

Moderator

Brett Frischmann

Chales Widger Endowed University Professor in Law, Business and Economics, Villanova University

Blockchain Technology for Algorithmic Regulation and Compliance (BARAC)

Jonathan Liebenau PhD'81

Associate Professor (Reader) of Technology Managment, London School of Economics

Calculating Market Shares of Cryptocurrency

Konstantinos Stylianou SJD'15

Lecturer in Competition Law and Regulation, University of Leeds School of Law

Nic Carter

Partner, Castle Island Ventures

Moderator

David Thaw

Assistant Professor of Law and Information Science, University of Pittsburgh



Top: Scott Jordan

Bottom: Gus Hurwitz

Fourth Annual Copyright Scholarship Roundtable

June 21-22, 2019

The Fourth Annual Copyright Scholarship Roundtable brought together the country's leading scholars who work in the area of copyright law for a two-day discussion of their ongoing research in the field. Ten papers were chosen for inclusion in the event, representing a range of methodologies, perspectives, and issues related to copyright.



Left: Zahr Said



Right: Rebecca Tushnet



Roundtable participants



Matthew Sag, Shyamkrishna Balganesh



Roundtable participants

June 21, 2019

Derivable Works

Joseph Fishman

Associate Professor of Law, Vanderbilt Law School

Commentator

Zahr Said

Associate Professor of Law, University of Washington School of Law

Intellectual Property, Independent Creation, and the Lockean Commons

Mala Chatterjee

Fellow, New York University School of Law Engelberg Center on Innovation & Law Policy

Commentator

Abraham Drassinower

Professor and Chair, Legal, Ethical and Cultural Implications of Technological Innovation, University of Toronto

Copyright's L Curve

Glynn Lunney

Professor of Law, Texas A&M University School of Law

Commentator

Christopher Buccafusco

Professor of Law, Cardozo School of Law

A Reconsideration of Copyright's Term

Kristelia Garcia

Associate Professor of Law, University of Colorado Boulder Law

Commentator

David Abrams

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

Copyright's Market Gibberish

Andrew Gilden

Assistant Professor of Law, Willamette University College of Law

Commentator

Jennifer Rothman

Professor of Law, Loyola Law School, Los Angeles

The New Legal Landscape for Text Mining and Machine Learning

Matthew Sag

Georgia Reithal Professor of Law, Loyola University of Chicago School of Law

Commentator

Jessica Silbey

Professor of Law, Northeastern University School of Law

Convergence and Conflation in Online Copyright

James Gibson

Professor of Law, University of Richmond School of Law

Commentator

Jeanne Fromer

Professor of Law, New York University School of Law



Jennifer Rothman

June 22, 2019

Rules, Standards, and How Copyright Fair Use Works

Justin Hughes

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

Commentator

Dave Fagundes

Baker Botts LLP Professor of Law, University of Houston
Law Center

Censorial Copyright

Shyamkrishna Balganesh

Professor of Law, University of Pennsylvania Law School

Commentator

Rebecca Tushnet

Frank Stanton Professor of the First Amendment, Harvard
Law School

Copyright and the Algorithmic Assemblage

Dan Burk

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

Commentator

Robert Brauneis

Professor of Law, The George Washington University
School of Law



Top: Jeanne Fromer

Bottom: James Gibson



Center for Technology, Innovation and Competition



Events and Programs

The Fifth International IP Workshop for Junior Researchers in Japan

Blockchain: Hope or Hype?

Current Issues in Law and Technology

Law and Technology Scholarship Workshop Series

Career Speaker Series

The Fifth International IP Workshop for Junior Researchers in Japan

October 30, 2018

Tokyo, Japan



Waseda University played host to The Fifth International IP Workshop for Junior Researchers. The Workshop provided young scholars from multiple Japanese universities with the opportunity to present research on intellectual property to graduate students and senior scholars. After the presentations the students received feedback from senior scholars and other junior researchers.

Hosts

Waseda University Institute of Comparative Law

Waseda University Research Center for Legal Systems of Intellectual Property

Nagoya University Graduate School of Law

Hokkaido University Research Institute for Information Law & Policy

University of Pennsylvania Center for Technology, Innovation and Competition



Top: R. Polk Wagner and workshop participants
Bottom: Waseda University

Differences in Innovation: The Gender of Prior Art

Raphael Zingg

Assistant Professor, Waseda University

Chair

Branislav Hazucha

Professor of Law, Hokkaido University Graduate School of Law

The Theory of Patent Indirect Infringement in Japan

Yusuke Tachibana

Graduate Student, Hokkaido University

Chair

Ichiro Nakayama

Professor, Kokugakuin University School of Law

The Comparison of Patent Indirect Infringement Between China and Japan

Zhu Ziyin

Graduate Student, Hokkaido University

Chair

Masabumi Suzuki

Professor, Nagoya University Graduate School of Law

Reviewing the Repair/Reconstruction Doctrine: From the Perspective of Exhaustion and Implied License

Qiu Ziyin

Graduate Student, Nagoya University

Chair

R. Polk Wagner

Professor of Law, University of Pennsylvania Law School

Copyright Exhaustion in the Digital Context

Zhou Hongqian

Graduate Student, Waseda University

Chair

Shyamkrishna Balganes

Professor of Law, University of Pennsylvania Law School

Patent Law's Presumption of Validity: A Question of Law or of Fact?

Yumi Akazawa

Graduate Student, Waseda University

Chair

Kyoto Takada

Professor, Osaka Institute of Technology

ASEAN's Single Market and Production Base: Resolving Cross-Border Patent Disputes Through the Adoption of Common Private International Law Rules

Qi Jun Kwong

Graduate student, Nagoya University

Chair

Yasuto Komada

Professor, Sophia University

Discussants

Shyamkrishna Balganes

Professor of Law, University of Pennsylvania Law School

Branislav Hazucha

Professor of Law, Hokkaido University Graduate School of Law

Yasuto Komada

Professor, Sophia University

Ichiro Nakayama

Professor, Kokugakuin University School of Law

Nobuhide Otomo

Professor, Faculty of Law, Kanazawa University

Christoph Rademacher

Associate Professor, Waseda University School of Law

Masabumi Suzuki

Professor, Nagoya University Graduate School of Law

Kyoko Takada

Professor, Osaka Institute of Technology

Ryu Takabayashi

Professor of Intellectual Property Law, Waseda University

Institute of Comparative Law

Yoshiyuki Tamura

Professor, Hokkaido University

Tatsuhiro Ueno

Professor, Waseda University

R. Polk Wagner

Professor of Law, University of Pennsylvania Law School

Blockchain: Hope or Hype?

February 21, 2019

Wharton San Francisco

February 22, 2019

Mountain View, CA



Top: David Crosbie, Saikat Chaudhuri, David Hoffman, Kevin Werbach, Christopher Yoo in San Francisco

Middle: Event attendees

Bottom: Kevin Werbach, David Hoffman, Saikat Chaudhuri, David Crosbie in Mountain View

Blockchain and cryptocurrencies are hot these days, with news stories appearing every day about new developments. Despite the high level of interest in blockchain, many professionals do not have a full understanding of how it works and its potential upsides and downsides. Penn Law, Penn Engineering, and Wharton hosted an interdisciplinary panel discussion both in San Francisco and in Silicon Valley. Faculty from these Penn schools engaged in a wide-ranging discussion of the opportunities that blockchain presents and the challenges that it faces.

Panelists

Saikat Chaudhuri BS'97, BSE'97

Executive Director, Mack Institute for Innovation Management, The Wharton School, University of Pennsylvania

David Crosbie

Lecturer, Computer and Information Science, School of Engineering and Applied Science, University of Pennsylvania

David Hoffman

Professor of Law, University of Pennsylvania Law School

Moderator

Kevin Werbach

Professor of Legal Studies & Business Ethics, The Wharton School, University of Pennsylvania

Current Issues in Law and Technology

Preview of IP and Antitrust Cases Before the Supreme Court, October 2018 Term

September 26, 2018

CTIC hosted an in-depth preview of the IP and antitrust cases scheduled to be heard by the Supreme Court during the October 2018 Term. The program featured Penn Law faculty who applied their expertise and research perspectives when discussing the following cases:

Helsinn Healthcare S.A. v. Teva Pharmaceuticals USA Inc.
Fourth Estate Public Benefit Corp. v. Wall-Street.com
Return Mail, Inc. v. United States Postal Service
Apple Inc. v. Pepper

Panelists

Shyamkrishna Balganesh

Professor of Law, University of Pennsylvania Law School

Cynthia Dahl

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

R. Polk Wagner

Professor of Law, University of Pennsylvania Law School

Christopher Yoo

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

Assessing the DMCA Twenty Years Later

November 7, 2018

The Digital Millennium Copyright Act (DMCA) was enacted twenty years ago. CTIC convened a panel of experts who provided varying perspectives on the DMCA and examined the extent to which the act has realized its stated goals and objectives.

Panelists

Shyamkrishna Balganesh

Professor of Law, University of Pennsylvania Law School

Peter Decherney

Professor of English and Cinema Studies, University of Pennsylvania

Corinne Militello L'O7

Of Counsel, Ballard Spahr LLP



Christopher Yoo, R. Polk Wagner, Cynthia Dahl, Shyamkrishna Balganesh



Peter Decherney, Corinne Militello, Shyamkrishna Balganesh



Herbert Hovenkamp, Joshua Wright, Christopher Yoo

Hot Topics in Antitrust

December 7, 2018

Two leading antitrust experts discussed emerging issues in the recently white-hot area of antitrust. These experts shared their perspectives on the Supreme Court's recent Amex decision and its implications for the platform economy, the Justice Department's ongoing challenge to the AT&T/Time Warner Merger, and the Federal Trade Commission's ongoing hearings on Competition and Consumer Protection in the 21st Century.

Panelists

Herbert Hovenkamp

James G. Dinan University Professor, University of Pennsylvania

Joshua Wright

Distinguished Policy Fellow, Leo Model Foundation Government and Public Affairs Initiative, University of Pennsylvania Law School

Moderator

Christopher Yoo

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



Christopher Yoo, Lauren Steinfeld, Anita Allen

Hot Topics in Privacy

February 25, 2019

Privacy has emerged from the shadows to become a major area of law. What was once the province of a small group of experts now commands the attention of the highest levels of businesses and organizations. Recent Supreme Court decisions and new legislation enacted in Europe and California are now front-page news, reinforced by questions about key companies' data practices, particularly with regard to the last presidential election. Penn experts shared their perspectives on the most recent developments in data protection and what they mean for the law and for society at large.

Panelists

Anita Allen

Henry R. Silverman Professor of Law, Professor of Philosophy, Vice Provost, University of Pennsylvania

Lauren Steinfeld BA'89

Chief Privacy Officer, Penn Medicine; Lecturer-in-Law, University of Pennsylvania Law School

Moderator

Christopher Yoo

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

Free Speech vs. Bad Taste: Can fuct™ Be Registered as a Trademark?

March 3, 2019

In 2017, the Supreme Court declared the Lanham Act's ban against federal registration of "disparaging" trademarks unconstitutional under the First Amendment. But that ruling specifically left open the question of whether "immoral" and "scandalous" trademark registrations should remain banned. CTIC hosted a lively discussion of *Iancu v. Brunetti*, the case in which the Supreme Court considered the constitutional protection afforded the trademark for the fuct apparel line. The distinguished panel discussed the evolving frontier between trademark law and the first amendment.

The Honorable Kent Jordan

U.S. Court of Appeals for the Third Circuit

Jacqueline Lesser

Counsel, Baker Hostetler LLP

Tobias Barrington Wolff

Jefferson B. Fordham Professor of Law; Deputy Dean for Alumni Engagement and Inclusion, University of Pennsylvania Law School

Moderator

Cynthia Dahl

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



Hon. Kent Jordan, Jacqueline Lesser, Tobias Barrington Wolff, Cynthia Dahl

Year in Review: Law and Technology

April 3, 2019

CTIC hosted an in-depth review of important developments in law and technology. Penn Law faculty explored opinions in recently decided cases, newly enacted and pending legislation, and other major changes to the legal landscape affecting innovation and related fields.

Panelists

Shyamkrishna Balganesh

Professor of Law, University of Pennsylvania Law School

Cynthia Dahl

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

Herbert Hovenkamp

James G. Dinan University Professor, University of Pennsylvania

R. Polk Wagner

Professor of Law, University of Pennsylvania Law School

Moderator

Christopher Yoo

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



Christopher Yoo, Herbert Hovenkamp, Shyamkrishna Balganesh, Cynthia Dahl, R. Polk Wagner

Law and Technology Scholarship Workshop Series

Each year, CTIC invites scholars to campus to present new work in fields related to CTIC's research in law and technology. We were delighted to welcome a great group of scholars this year.



Lisa Larrimore Ouellette
Stanford Law School



Randy Picker
University of Chicago Law School



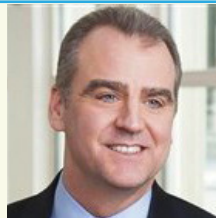
Christoph Rademacher
Waseda University School of Law

Career Speaker Series

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



Victor Boyajian L'85
Partner, Dentons



David Frazier
Partner, Latham & Watkins



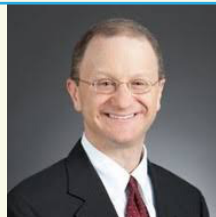
Tom Irving
Partner, Finnegan, Henderson, Farabow,
Garrett & Dunner LLP



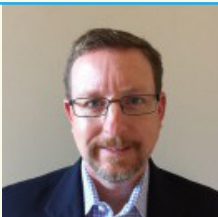
Katherine Leibowitz L'94
Attorney, Leibowitz LLC



Corinne Militello L'07
Counsel, Ballard Spahr LLP



Marc Paul L'94
Vice President of Policy, Charter
Communications



James Silberman
Attorney, U.S. Patent and Trademark
Office



Center for Technology, Innovation and Competition



Student-Oriented Programs

Cutting Edge Degree Programs in Law and Engineering

Journal of Law & Innovation

Patents, Innovation, and Value: Do NPEs Enhance the Value of Patents?

CTIC Summer Public Interest Fellowships

Detkin Intellectual Property and Technology Legal Clinic

Global Research Seminar: India and Intellectual Property

Penn Intellectual Property Group

Partnership for Entrepreneurial Engineering and Penn Law (PEEPL)

Women in Entrepreneurship Law Society

Penn Law for Privacy



Delaney Butler



Christina Chen



Teddi Anne Josephson BA'12



Kelsey Matevish BA'14 W'14

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.

In partnership 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 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 (ML) 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.

"The modern practice of technology has become much more demanding," said Christopher Yoo. "Penn's innovative joint degree programs are designed to create a new type of professional with advanced training in both law and engineering."

Journal of Law & Innovation

CTIC has created a new faculty-run *Journal of Law & Innovation* in the area of law and technology. During the fall semester students work with the faculty editors and read prominent legal scholarship on the Journal topic. During the spring they assist with the organization and running of a major symposium on the topic (see Major Conferences), work with the symposium authors to substantively edit their pieces, and help bring the *Journal* to print before the end of the academic year.



Journal members and faculty advisors



Peter Detkin



Kevin Jakel



David Abrams

Patents, Innovation, and Value: Do NPEs Enhance the Value of Patents?

March 20, 2019

Professor David Abrams, in partnership with PIPG and Wharton, hosted a discussion with two distinguished patent experts on non-practicing entities and their impact on the value of innovation.

Guest Speakers

Peter Detkin BSEE'82, L'85

Managing Director, Sherpa Technology Group; Founder and Vice-Chairman, Intellectual Ventures

Kevin Jakel

Founder and CEO, Unified Patents

Moderator

David Abrams

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

CTIC Awards Summer Public Interest Fellowships to Four Penn Law Students

The CTIC Summer Public Interest Fellowship provides funding for students holding internships with public interest or government organizations that are doing work relevant to technology policy, intellectual property, cyber law, privacy, and related fields. These Fellowships are open to Penn Law 1Ls and 2Ls and offer students the opportunity to gain experience in technology law that might not otherwise be available to them.

CTIC awarded four 2019 Summer Public Interest Fellowships to Sanjay Jolly L'21, Roger Li L'21, Myles Lynch L'20, and Anna Sheu L'21.

"I'm very grateful for the opportunity that CTIC has given me to explore the intersection between civil liberties and technology," said Li. "The Electronic Frontier Foundation is doing cutting-edge work in this area, and I'm excited to get real-world experience with an interest of mine that has developed since coming to law school."

Jolly worked for Public Knowledge in Washington, DC, a leading public interest organization and policy advocate in copyright, telecommunications, and Internet law that was co-founded by Penn Law alumna Gigi Sohn L'86.

Sheu worked in the Cryptocurrency Investigations division of the Securities and Exchange Commission at its Washington, DC, headquarters. "Because I've only worked on the corporate side of the tech industry, I'm eager to see how the opposite side functions," said Sheu. "The tech industry is constantly inventing, and so far, there's been a lag between the innovation and the regulation. I'm particularly excited by the opportunity to work with cryptocurrency and blockchain technology from the regulatory perspective — in Silicon Valley there's very much a combination of 'fail fast,' 'ask for forgiveness, not permission,' and 'break things' mentality, and it will be interesting to see the contrast in DC."

Lynch used his time over the summer to continue working at the White House Office of Science and Technology Policy, where he spent last summer and worked this spring. In addition to his JD from Penn Law, next year Lynch will graduate with a Kleinman School Certificate in Energy Management and Policy and a Wharton Certificate in Business Economics and Public Policy. "CTIC's generosity has allowed me to continue building and fortifying relationships with some of the most impressive and influential science and technology policy-makers in the country," noted Lynch. "Beyond the greatness of the people, I'm looking forward to affecting positive change at the federal level through all the policies and projects that I will be working on."



Sanjay Jolly, Myles Lynch, Roger Li, and Anna Sheu



Ryan Plesh, Jennica Wragg, Kevin Lawler, Harrison Gunn, Cynthia Dahl

Detkin Intellectual Property and Technology Legal Clinic

In 2018-2019, Penn Law's Detkin Intellectual Property and Technology Legal Clinic completed its sixth 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 and other creative work.

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 designing and implementing counsel at the cutting edge of IP and technology law.

Global Research Seminar: Intellectual Property Strategies for National Development - A Case Study of Current Issues in India

In Spring 2019, Professor Shyamkrishna Balganesh and Bok Visiting Professor Dr. Shamnad Basheer taught a Global Research Seminar that introduced Penn Law students to the dominant intellectual property debates and controversies in India.

The Global Research Seminar's (GRS) structure sought to build a nuanced and comparative understanding of copyright law, patent law, and traditional knowledge through an animated analysis of contemporary cases and debates. Students gained familiarity with the Indian legal system through a discussion of key Indian intellectual property issues and interactions with stakeholders, including judges, senior advocates, patent office administrators, and practitioners. The seminar focused on three areas of law: patents, copyright, and plant variety protection, biodiversity and traditional knowledge.

One of the highlights of the GRS was an overseas field research visit during which students and faculty met with stakeholders in India over the course of a week. They participated in a day-long conference at the Indian Law Institute titled "A 3-D Perspective on Indian Intellectual Property: Distinct, Diverse and Democratic?" The Conference featured a preeminent group of speakers drawn from the IP profession, industry, civil society, academia, and government. Justice Aftab Alam who delivered the historic Supreme Court verdict in the Novartis patent litigation and Section 3(d) attended as a special guest (see Major Conferences).

Students also had the opportunity to attend proceedings before the Supreme Court of India and meet with Justice Arjan Kumar Sikri in his chamber, attending oral arguments in the Court where they witnessed the functioning of the Indian judiciary at its highest level. They also visited the Delhi High Court and interacted with the judges that had written the landmark judgement in the DU Photocopy case. Sr. Joint Controller of Patents & Designs, Dr. K. S. Kardam, invited the students to engage with patent examiners and develop familiarity with the patent office's functioning and proceedings.

Additionally, students met with partners and associates at Anand and Anand, one of India's leading IP firms. On the final day of the field visit, they spent an afternoon with the Lawyers' Collective, an organization led by Senior Advocates Indira Jaising and Anand Grover that has championed public interest litigation in India.



Global Research Seminar students with Justice Arjan Kumar Sikri and Shyamkrishna Balganesh



Dorothy Attwood W'83 L'87

Penn Intellectual Property Group (PIPG)

CTIC is pleased to enjoy a highly collaborative relationship with the Penn Intellectual Property Group (PIPG), a student group at the Law School. Established in 2001, PIPG focuses on creating and supporting interest in intellectual property at Penn Law, other schools at Penn, and the broader Philadelphia community.

PIPG Symposium: Changing Media and its Impact on Copyright Law

March 28, 2019

PIPG's signature event is its annual symposium held every spring. This year's symposium explored the impact of streaming technology on IP law and the continuing effects it will have for years to come on the landscape of IP protection.

Keynote Address

Dorothy Attwood W'83, L'87

Senior Vice President, Global Public Policy, The Walt Disney Company

Evolution of Video Streaming Technology

Eric Besner L'95

Senior Vice President, Business Development & Distribution, Warner Bros. Digital Networks

Stephanie Brockman L'11

Senior Corporate Counsel, Sling TV

Sarah Gitchell BA'94

Senior Vice President; Deputy General Counsel, Comcast Cable

Becky Reed

Vice President, Business Affairs and Programming Legal Department, Discovery Communications LLC

Moderator

Peter Decherney

Professor of Cinema & Media Studies, University of Pennsylvania

Music Modernization and Music Streaming

Ross Charap

Partner, Akerman LLP

Susan Chertkof BA'82, L'91

Senior Vice President, Business and Legal Affairs, Recording Industry Association of America

Ken Steintal

Partner, King and Spalding

Moderator

Melissa Bortnick L'09

Senior Director and Counsel, Music Affairs, Take-Two Interactive

Future of Technology and Streaming

Rachel Fertig

Associate, Morgan, Lewis & Bockius LLP

Eugene Marder

Senior Product Counsel, Twitch

Amy Wolf BA'09, L'12,

Counsel, NBCUniversal

Moderator

Michael Janson MA'03, PhD'07, L'09

Sharswood Fellow, University of Pennsylvania Law School



Becky Reed, Stephanie Brockman, Sarah Gitchell,
Eric Besner



Clerkships in Patent Law

January 29, 2019

CTIC, in partnership with the PIPG, hosted a panel discussion that explored District Court and Federal Circuit patent law clerkships and the clerkship application process. The participants included:

The Honorable Leonard P. Stark

Chief Judge, U.S. District Court for the District of Delaware

Julie Goldemberg L'12

Patent Litigation Associate, Morgan, Lewis & Bockius LLP

Christie Larochelle

Associate, Ballard Spahr LLP

Moderator

R. Polk Wagner

Professor of Law, University of Pennsylvania Law School

CTIC is proud of the Penn Law graduates who recently completed clerkships, are currently clerking, or are due to clerk for distinguished patent law judges:

Nora Crawford L'17

The Honorable Leonard P. Stark, U.S. District Court for the District of Delaware, 2017-18 Term

The Honorable Kent A. Jordan, U.S. Court of Appeals for the Third Circuit, 2018-19 Term

Stephen DeSalvo L'17

The Honorable Kent A. Jordan, U.S. Court of Appeals for the Third Circuit, 2017-18 Term

The Honorable Raymond C. Clevenger III, U.S. Court of Appeals for the Federal Circuit, 2018-19 Term

Andreas Kuersten L'14 LCM'18

The Honorable Evan Wallach, U.S. Court of Appeals for Federal Circuit, 2018-19 Term

Greg Bishoping L'18

The Honorable Kent A. Jordan, U.S. Court of Appeals for the Third Circuit, 2018-19 Term

Michelle Bone L'19

The Honorable Raymond C. Clevenger III, U.S. Court of Appeals for the Federal Circuit, 2019-20 Term

Thomas Vaseilou L'19

The Honorable Richard G. Taranto, U.S. Court of Appeals for the Federal Circuit, 2020-21 Term

Lavi Ben Dor L'19

The Honorable Kent A. Jordan, U.S. Court of Appeals for the Third Circuit, 2021-22 Term

Intellectual Property Practice Panel and Reception

February 27, 2019

In partnership with PIPG, CTIC hosted a panel discussion with intellectual property attorneys at different stages in their careers. The panelists discussed their experiences working at large firms in intellectual property. They shared with the students the type of work they do, what a typical day is like, and what they appreciate most about their respective practice. After hearing from the speakers, students had the opportunity to ask a variety of questions.

Molly Grammel L'13

Associate, Goodwin Procter LLP

Julie Goldemberg L'12

Associate, Morgan, Lewis & Bockius LLP

Robert Shaffer

Partner, Finnegan, Henderson, Farabow, Garrett & Dunner LLP

Golda Lai L'16

Attorney, Paul, Weiss, Rifkind, Wharton & Garrison LLP

Moderator

Cynthia Dahl

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



Robert Shaffer, Julie Goldemberg, Golda Lai, Molly Grammel



Cynthia Dahl



Cynthia Dahl

Partnership for Entrepreneurial Engineering and Penn Law (PEEPL)

The Partnership for Entrepreneurial Engineering and Penn Law (PEEPL) is a student-run legal counseling simulation supervised by CTIC Core Faculty member Cynthia Dahl. PEEPL pairs law students with teams of engineering students enrolled in the Engineering Entrepreneurship class at Penn's School of Engineering and Applied Science.

The teams choose a real-world technology to develop into a simulated business, which they then pitch to a panel of venture capitalists as a course capstone. The law students counsel the engineering teams during the semester, answering questions about protectability, licensing, and infringement of the technology.

The goal of the partnership is to equip both future engineers and future attorneys with the skills they need to communicate effectively in an increasingly interdisciplinary professional environment and to teach the teams to consider legal advice within business realities.

"PEEPL highlights Penn Law's interdisciplinary educational experience on the engineering front," says Harrison Gunn L'20. "In today's burgeoning entrepreneurial landscape PEEPL prepares Penn Law students to engage critically by counselling engineering students to help bring a hi-tech concept to market. I thoroughly enjoyed meeting students with a technical background, observing a presentation on their go-to-market strategy, and asking them questions to elicit how IP protection relates to their goals.

"Throughout the course of the semester I held regular meetings with the students as their concept progressed, and I performed legal research and analysis to determine potential roadblocks and areas of opportunity. At the end of the semester I presented my findings and made myself available for follow up questions. It was great to see the enthusiasm on their faces as they showed a genuine appreciation for my work product; several of the engineering students even developed an interest in pursuing a career in IP law themselves."

Women in Entrepreneurship Law Society (WELS)

The mission of the Women in Entrepreneurship Law Society (WELS) is to inspire creative thought and to empower women with the skills they need to engage in women's leadership and entrepreneurial ventures in interdisciplinary pursuits. It is open to all students who seek to promote gender equality in the quest for innovation. WELS coordinates educational events, panels, networking opportunities and symposia in an effort to inform and empower members, as well as connect Penn Law students with members of the community. Past events included programming on women in private equity, impact investing, and big law and entrepreneurship.



Penn Law for Privacy

Launched this year, Penn Law for Privacy plans to grow its membership and host events in the next academic year. The group looks to have programs with speakers who specialize in privacy law, discuss current issues relating to privacy in their own lives, and advocate for change. CTIC looks forward to this emerging partnership.



Penn Law Students



Center for Technology, Innovation and Competition



Projects and News

Penn Algowatch Initiative

Comparative Study of Chinese, European, and U.S. Competition Law

1 World Connected

NSF Grant on Securing the Routing Infrastructure

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

CTIC Faculty and the American Law Institute (ALI)

FCC's Broadband Deployment Advisory Committee

Penn Law Massive Open Online Courses: Intellectual Property Law
Specialization



Penn AlgoWatch Initiative

The purpose of the Penn AlgoWatch Initiative is to provide intellectual and moral leadership on the increasing tensions and promise in the interactions between algorithms and society. An outgrowth of interdisciplinary dialogue across Penn's campus over the last several years, the project aspires to produce scientific, legal, and regulatory solutions for ethical algorithms and design/build an evolving suite of metrics and tools for measuring algorithmic bias, privacy violations, and related behaviors. Professor Christopher Yoo and his colleagues from Engineering and Social Policy and Practice hope to establish and encourage best practices, critique methods of design, and educate the public about the social issues surrounding our algorithmic era. The centerpiece of the Initiative will be a public website featuring two broad categories of content and services: "auditing" of existing algorithms, services, and systems; and "tools" for best practices in algorithm and system design. The University believes this Initiative has the potential to significantly impact machine learning, mainly in the monitoring of large-scale services for algorithmic discrimination, privacy, transparency, and other concerns.

Comparative Study of Chinese, European, and U.S. Competition Law

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

To address this need, CTIC initiated a multi-year research project to compare how key issues of antitrust law are handled in China, Europe, and the U.S. Phase one of the project focuses on due process in antitrust enforcement. Phase two examines the antitrust issues posed by big data.

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

Professor Yoo is joined in the project by Wharton Professor Joseph Harrington. Chinese partners include Professor Yong Huang of the University of International Business and Economics Law School and Professor Guobin Cui of Tsinghua University. European expertise is provided by Professor Thomas Fetzer, Director of the Mannheim Centre for Competition and Innovation and Dean Emeritus of the University of Mannheim Law School. The project has the support of a China Research Engagement Fund provided by Penn Global as well as key corporate contributors.

The research team discussed their preliminary research findings with judges and enforcement authorities at conferences in November 2018, at the Penn Wharton China Center in Beijing, Brussels, and Luxembourg. The team was also invited to present their results before the International Competition Network, the Organization for Economic Cooperation and Development (OECD), and the U.S. Justice Department's Antitrust Division.



1 World Connected



For many people, the Internet is a centerpiece of social and professional activity. But billions of people around the world still lack access to it, with obstacles including cost, culture, and geographic barriers.

The 1 World Connected project aims to address these problems by studying efforts to narrow the digital divide in an academically rigorous way.

“Bringing the benefits of the Internet to more of the world is one of the most critical ways we can improve people’s lives,” says Professor Christopher Yoo. “It’s true from as far away as Vanuatu to as near as rural America.”

Thousands of efforts have been launched to address this need, with varying levels of success. In order to achieve optimal outcomes, governments and organizations that fund broadband adoption initiatives need empirical evidence of what works—and what doesn’t.

“Everyone says more data is needed,” Yoo says, “but until now, no one has put in the effort to collect and analyze it.”

Seizing the opportunity to make an impact, Yoo launched the 1 World Connected project in 2016. With a small team of two postgraduate students, 1 World Connected has already analyzed more than 1,000 broadband adoption initiatives, tracked successes and failures, and evaluated how expanding Internet access has improved quality of life across various dimensions, including education, health care, and economic growth.

This information can assist governments in setting policy and private investors in determining which projects are viable. “We don’t have to convince politicians that connecting people to the Internet is a good idea,” says Yoo. “What they need is information on how to do it and how to sustain it.”

“It’s important to emphasize this is not just some fancy technology that is being dropped into people’s lives,” says Sharada Srinivasan, a postdoctoral fellow at the CTIC. “We’ve learned that if you don’t make it clear how Internet access can make everyday lives better, you risk wasting time and money building a system that gets abandoned.”

1 World Connected has earned high praise from leaders in broadband adoption initiatives, who see it as the “missing link” to connect projects taking place all over the globe, often in isolation from each other.

“1 World Connected creates an academic repository that’s independent and rigorous,” Srinivasan says. “We’re the only ones telling the big picture story about how to build connections that can have huge impacts on people.”

The work thus far has been impressive from such a limited team, but Yoo has a far-reaching vision for what 1 World Connected can yet accomplish. “There are many projects we haven’t been able to follow up on because we haven’t had the resources,” says Yoo. “I would love to expand the fieldwork, because that improves our understanding of what works in different locations much more than working behind a computer. Long-term funding would be a great boost to our efforts.”

Advancing knowledge for the good of the world is embedded in the University’s ethos, and 1 World Connected is the kind of globally impactful, data-driven venture that is uniquely Penn. “We can help guide sound policy because we’re able to share knowledge and resources across schools,” Yoo says. “I don’t think there’s any other place in the world where we could be doing this important work.”



NSF Grant on Securing the Routing Infrastructure

A CTIC team of Christopher Yoo and David Wishnick conducted a National Science Foundation EAGER grant-funded project with three major goals in mind. First, the project sought to identify possible legal barriers impeding the deployment of a promising framework for securing Internet routing known as the Resource Public Key Infrastructure (“RPKI”). Second, the team sought to produce actionable recommendations to support the deployment of RPKI, especially in North America. Third, the team sought to generate contributions to academic theory on the role of law in supporting the development and diffusion of innovative technology.

To deliver on these goals, the team first canvassed the field of network engineering to identify all potentially significant legal barriers to the adoption of the RPKI framework. The team interviewed practicing engineers and academics alike, learning that the set of perceived barriers to RPKI was broader than had originally been identified in public dialogue. This led the team to conduct an independent analysis of the legal problems at issue.

The team’s ultimate analysis offered network engineers a perspective on the problem of RPKI non-adoption that transcended water-cooler chatter or individual statements made at professional conferences. It helped identify which barriers really were salient across the entire community, and it revealed that some of the perceived legal barriers to RPKI adoption were based on misunderstandings.

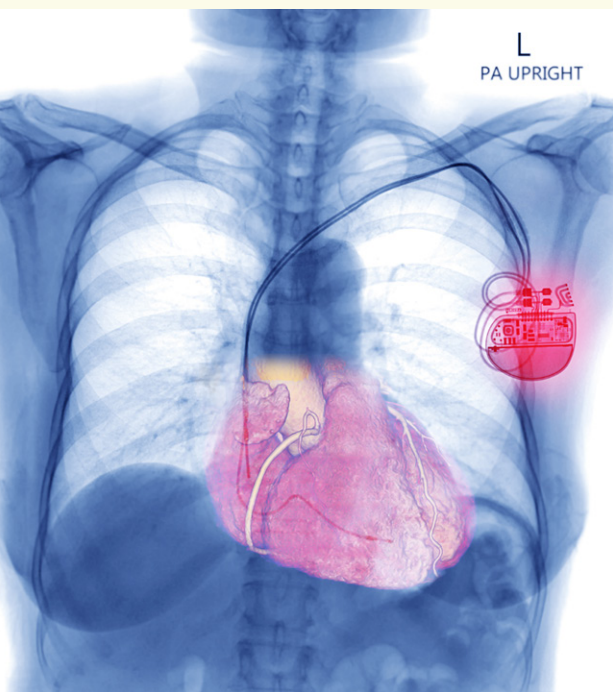
Most importantly, the team developed a set of actionable recommendations for the American Registry of Internet Numbers (“ARIN”), which operates the RPKI repository for North America and for the larger networking community. These recommendations have become central aspects of ongoing dialogue between ARIN and its members regarding reform of the RPKI legal framework. ARIN has already adopted one of the recommendations that had been part of a circulating draft of the team’s report and has publicly committed itself to consider and respond to the team’s final report during 2019.

In addition to practical impact, the project has yielded useful results at the level of academic theory. The research conducted under this grant shed light on the dynamics of technology adoption in the Internet setting. Many new technologies—especially security technologies—present what is often referred to as a “chicken-and-egg” problem. This is a type of collective action problem where large benefits accrue to community members if large numbers of network operators adopt a new technology, but early adopters do not have strong immediate incentives to adopt. The challenge in these situations is to encourage disparate actors to move towards the valuable state of widespread adoption.

This project’s research reveals that nonprofits like ARIN and the North American Network Operators Group (“NANOG”) have important roles to play in promoting adoption, as do early first movers who identify themselves to a broader community to create excitement about a new technology. The fewer legal barriers there are to the adoption of a new technology, the easier this process will be. CTIC’s work has thus ended up being instrumental to shifting the adoption curve for RPKI by encouraging groups like ARIN and NANOG to address their legal issues head-on.



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



CTIC continues its research on secure and privacy-aware cyber-physical systems (CPS), which are systems such as autonomous vehicles and medical devices that combine network connectivity with sensors that collect information from the physical environment. CPS are performing increasingly critical functions subject to severe resource constraints. Moreover, CPS incorporate real-world data that make them less predictable and more vulnerable to attacks than pure cyber systems. Unfortunately, most CPS were not designed with hostile environments 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. The project was supported in part by NSF CNS-1505799 and the Intel-NSF Partnership for Cyber-Physical Systems Security and Privacy.

CTIC Faculty and the American Law Institute (ALI)

Founded in 1923, the American Law Institute (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.

CTIC faculty are playing key roles in many ALI projects. Anita Allen and Christopher Yoo both serve as Advisers for the Project on Principles of the Law, Data Privacy. The first two chapters of this project have already been adopted by the ALI Council and await approval by the ALI membership. Work on the third chapter will continue during the upcoming year.

Shyamkrishna Balganesh serves as an Advisor for the Project on Restatement of the Law, Copyright. The first three of eleven chapters have been drafted, but have not yet been submitted for approval. Balganesh was one of four key scholars who submitted a letter that has led the ALI to consider whether this project should use a format that differs from the typical Restatement format.

Tom Baker serves as one of the Reporters for the Project on Restatement of the Law, Liability Insurance. This project reached its successful completion this summer, when the ALI membership approved all four of its chapters at its 2018 Annual Meeting this past summer.

Yoo also serves on the newly formed Board of Advisers for the Project on Principles for a Data Economy. This project held its organizational meeting last fall.

David Hoffman has been an elected ALI member since 2011.

CTIC is proud of the contributions its faculty is making to the important work of the ALI.



Top to bottom: Anita Allen, Christopher Yoo, Shyamkrishna Balganesh, Tom Baker, David Hoffman



Christopher Yoo

FCC's Broadband Deployment Advisory Committee

In March 2019, Professor Christopher Yoo completed his two-year term as a member of the Broadband Deployment Advisory Committee (BDAC) appointed by Federal Communications Commission (FCC) Chairman Ajit Pai. The Chairman subsequently reappointed him to a second two-year term.

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

Yoo served on the working group charged with drafting a model state code and the Ad Hoc Committee on Rates and Fees. He also led the BDAC's efforts to assess current deployment practices empirically.

"High-speed Internet access creates undeniable economic, educational, and health benefits for users," said Yoo. "The FCC has already incorporated important elements of the BDAC's recommendations into its official work. We hope that our ongoing work can help identify additional ways to provide and expand Internet access to citizens across the country."

Penn Law Massive Open Online Courses: Intellectual Property Law Specialization

Penn Law recently launched eight new massive open online courses (MOOCs) on the Coursera platform that will bring legal education to learners far beyond the traditional pool of JD, LLM, and ML candidates. Working alongside the Legal Education Programs team, Professor Michael Knoll and Professor R. Polk Wagner recruited many of Penn Law's top standing, clinical, and adjunct faculty in a broad collaboration to produce a new brand of practical legal education for non-attorneys. These courses focus on intellectual property law and regulatory compliance, responding to a steep increase in demand for applicable legal knowledge from professionals across industries.

Four of the eight classes are part of the Intellectual Property Law Specialization. Through these courses, students will learn the differences between the various forms of intellectual property rights, including patents, copyrights, and trademarks, and their various applications to human innovations. Drawing from that knowledge, students will then work to develop a trademark strategy for a company, analyze a patent document, and address a copyright cease-and-desist request. These hands-on projects will give students the necessary framework to craft integrated intellectual property strategies tailored to an organization's core business goals.

The courses in the Intellectual Property Law Specialization include Introduction to Intellectual Property taught by Professor Wagner, Copyright Law taught by Professor Shyamkrishna Balganesh, Trademark Law taught by Professor Cynthia Dahl, and Patent Law, also taught by Professor Wagner.





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