



Law and Technology at Penn

2010-2011



Center for Technology, Innovation and Competition



About CTIC

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

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

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

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CTIC Directors (Left to Right):
Shyamkrishna Balganesh, Gideon Parchomovsky, Christopher Yoo, R. Polk Wagner, and David Abrams

A Message from the Directors

Welcome to Penn Law's Center for Technology, Innovation and Competition. The following pages chronicle our activities over the past year and offer a glimpse of our plans for the coming year.

Last year's highlight was the Conference on Intellectual Property and the Common Law held at the Penn Law School in May. This conference brought together top scholars to explore what the common law can contribute to discussions about the structure and functions of intellectual property.

In November, CTIC joined Seoul National University's Center for Law & Public Utilities in co-sponsoring an international conference on Equal Access Issues in Communications Law.

Our ongoing workshop series was our largest to date, featuring presentations by leading thinkers in the field, such as Barton Beebe, Clarisa Long, and Hal Varian, to name only a few of the participants.

CTIC has also continued in its support for the student-led Penn Intellectual Property Group. This year's symposium focused on copyright law, bringing together a diverse group of panelists from practice.

CTIC is proud of its close ties to other institutions across the University. As a testament to the Center's interdisciplinary approach, CTIC faculty conduct classes and research in conjunction with the Wharton School, the School of Engineering and Applied Science, the Cinema Studies Program, and the Annenberg School for Communication.

Finally, CTIC faculty members have contributed to policymaking, frequently testifying before Congress as experts in their field and serving in policy positions in the government.

During our next year, CTIC plans to expand its core programs, backed by substantial grants from the New York Bar Foundation and the National Science Foundation. In the fall, CTIC is planning a conference on cloud computing. CTIC faculty are also pioneering an innovative, year-long Global Research Seminar with faculty from the Technical University of Dresden, which will bring together students from the United States and Germany to study global Internet law. Other initiatives include a visiting scholar program and fellowships and research opportunities for students.

CTIC also welcomes the Law School's new Detkin Intellectual Property and Technology Legal Clinic, which will add a new dimension to the Law School's educational mission in law and technology.

We extend our heartfelt thanks to all of our friends and supporters for bringing their perspectives, experiences, participation, and expertise to all that we do. Through them, CTIC has been able to build a successful foundation to continue serving as a leading academic center in technology and innovation policy.



Center for Technology, Innovation and Competition



2010–2011

Conference on Intellectual Property and the Common Law

May 6-7, 2011

The highlight of the past year was the Center's conference on Intellectual Property and the Common Law held in May. Intellectual property is generally understood to be principally legislative in origin. Consequently, discussions of intellectual property reform tend to neglect the role of the judicial process in shaping the scope, nature, and coverage of various regimes. This conference challenged top thinkers in intellectual property law, jurisprudence, and legislation to test this assumption. The resulting discussions explored the extent to which common law techniques, rules, and concepts influence the structure and substance of the various intellectual property regimes as well as the lessons that this holds for the future of intellectual property law and policy. Selected papers will be published in a special conference volume by the Cambridge University Press.





Left to Right: Deven Desai, Michael Risch, Mark McKenna, Jeanne Fromer, Dan Burk, Margaret Lemos

Above: David Abrams, Mark Lemley, R. Polk Wagner, Pamela Samuelson, Peter Menell



Intellectual Property and the Common Law Conference May 6-7, 2011

Welcome

Christopher Yoo

Professor of Law, Communication, and Computer & Information Science,
University of Pennsylvania

Michael A. Fitts

Dean and Bernard G. Segal Professor of Law,
University of Pennsylvania Law School

WHAT CAN THE COMMON LAW BRING TO INTELLECTUAL PROPERTY?

Panelists

Shyam Balganesh

Assistant Professor of Law, University of Pennsylvania Law School

Hanoch Dagan

Professor of Law, Tel-Aviv University

Emily Sherwin

Professor of Law, Cornell University Law School

Henry Smith

Fessenden Professor of Law, Harvard Law School

Moderator

Jody Kraus

Robert E. Scott Distinguished Professor of Law, Professor of Philosophy, and
Albert Clark Tate, Jr., Research Professor, University of Virginia

THE ROLE OF COURTS IN INTELLECTUAL PROPERTY LAWMAKING

Panelists

Peter Menell

Professor of Law, UC Berkeley School of Law

Pam Samuelson

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

Polk Wagner

Professor of Law, University of Pennsylvania Law School

Mark Lemley

William H. Neukom Professor of Law, Stanford Law School

Moderator

David Abrams

Assistant Professor of Law, Business, and Public Policy,
University of Pennsylvania Law School

FEDERALISM IN INTELLECTUAL PROPERTY LAW

Panelists

Jeanne Fromer

Associate Professor of Law, Fordham University School of Law

Mark McKenna

Professor of Law, Notre Dame Law School

Michael Risch

Associate Professor of Law, Villanova University School of Law

Moderator

Deven Desai

Manager of Academic Relations, Google, Inc.; Associate Professor of Law,
Thomas Jefferson School of Law



Left to Right:
Hanoch Dagan, Shyam Balganes, Wendy Gordon L'75, Gideon Parchomovsky, Henry Smith, Emily Sherwin

SUBSTANTIVE LESSONS FROM THE COMMON LAW: LESSONS FROM PROPERTY LAW

Panelists

Molly Van Houweling

Professor of Law, UC Berkeley School of Law

Eric Claeys

Professor of Law, George Mason University Law School

Shyam Balganes

Assistant Professor of Law, University of Pennsylvania Law School

Gideon Parchomovsky

Professor of Law, University of Pennsylvania Law School

Moderator

Wendy Gordon L'75

William Fairfield Warren Distinguished Professor of Law,
Boston University School of Law

SUBSTANTIVE LESSONS FROM THE COMMON LAW: LESSONS FROM TORT LAW

Panelists

Steven A. Hetcher

Professor of Law, Vanderbilt Law School

Wendy Gordon L'75

William Fairfield Warren Distinguished Professor of Law,
Boston University School of Law

Benjamin Zipursky

Professor of Law, Fordham University Law School

Paul Heald

Allen Post Professor of Law, University of Georgia Law

Moderator

Justin (Gus) Hurwitz

CTIC Fellow, University of Pennsylvania Law School

THE COMMON LAW AND VALUE PLURALISM IN INTELLECTUAL PROPERTY

Panelists

David Lametti

Associate Professor of Law, McGill University

Thomas Cotter

Briggs and Morgan Professor of Law,
University of Minnesota Law School

Jennifer Rothman

Professor of Law and Joseph Scott Fellow,
Loyola Law School Los Angeles

Madhavi Sunder

Professor of Law, UC Davis School of Law

Moderator

Gregory Alexander

A. Robert Noll Professor of Law, Cornell University Law School

COMMON LAW STATUTORY INTERPRETATION IN IP

Panelists

Margaret Lemos

Associate Professor of Law, Benjamin N. Cardozo School of Law

Dan Burk

Professor and Founding Faculty Member, UC Irvine School of Law

Christopher Yoo

Professor of Law, Communication, and Computer & Information Science,
University of Pennsylvania

Moderator

David Lametti

Associate Professor of Law, McGill University

For further information, see <http://www.law.upenn.edu/cf/institutes/ctic/conferences/ipcommonlaw>

Conference on Equal Access Issues in Communications Law

Co-sponsored with the Seoul National University
Center for Law & Public Utilities (CeLPU)

November 26, 2010

This past year, CTIC co-sponsored an international conference on Equal Access Issues in Communications Law with the Seoul National University Center for Law & Public Utilities. This conference brought together international academics, industry participants, and government officials for a day of intensive discussions and commentary about differing perspectives on the role of regulating access to communications networks. Morning discussions focused on access to networks, with a particular emphasis on network neutrality. In the afternoon, the conference's attention shifted to access to content and the role of program access rules developed for cable television as the Internet becomes the dominant platform for distributing video programming. Each session finished with a panel of industry experts offering their own views on these issues. Seoul National University published the papers in a special conference issue of the *Journal of Law and Economic Regulation*.





Opposite Page, Left to Right:
Christopher Yoo, Jong-Sup Chong, Ki Jeong Han

Left to Right:
Bruce Owen, Harold Furchtgott-Roth

Welcome

Christopher Yoo
Professor of Law, Communication, and Computer & Information Science,
University of Pennsylvania

Welcoming Address

Jong-Sup Chong
Dean, Seoul National University School of Law

Keynote Speeches

Kyung-Ja Lee
Vice-Chairman, Korea Communications Commission

Hak-Hyun Kim
Commissioner, Korea Fair Trade Commission

SESSION I: LEGAL ISSUES ON EQUAL ACCESS TO NETWORKS

Panelists

Christopher Yoo
Professor of Law, Communication, and Computer & Information Science,
University of Pennsylvania

Ho-Young Lee
Professor, Hanyang University Department of Law

Hee-Jung Lee
Associate Professor, Korea University School of Law

Bruce Owen
Morris M. Doyle Centennial Professor in Public Policy, Stanford University

Bong-Eui Lee
Associate Professor of Law, Seoul National University School of Law

Moderator

Won-Woo Lee
Associate Professor of Law, Seoul National University School of Law

Industry Issues Panel

Discussion by panelists from SK Telecom, KT, LG Telecom, NHN Corp.,
and the Korea Cable Television Association

SESSION II: LEGAL ISSUES ON EQUAL ACCESS TO CONTENT

Panelists

Harold Furchtgott-Roth
Former FCC Commissioner,
President of Furchtgott-Roth Economic Enterprises

Jung-mihn Ahn
Professor, Hallym University

Martin Cave
BP Centennial Professor, London School of Economics

Sung-Gi Hwang
Associate Professor, Hanyang University Department of Law

Sang-Woo Lee
Associate Professor, Yonsei University

Eli Noam
Professor of Finance and Economics, Columbia University

Tae-Ho Kim
Supreme Court of Korea

Moderator

Christopher Yoo
Professor of Law, Communication, and Computer & Information Science,
University of Pennsylvania

Industry Issues Panel

Discussion by panelists from SK Telecom, KT, LG Telecom, NHN Corp.,
and the Korea Cable Television Association

Closing Address

Won-Woo Lee
Associate Professor of Law, Seoul National University School of Law

For more information, see <http://www.law.upenn.edu/cf/institutes/ctic/conferences/equalaccessissues.html>



Conference on Copyright Law

Penn Intellectual Property Group
March 22, 2011

With support from CTIC, Penn Law's student-run, Penn Intellectual Property Group held its annual symposium in March 2011. This year's symposium considered current issues in copyright law. These panels were moderated by CTIC faculty and brought together diverse participants from practice and industry who confront every day how copyright law is adapting to dynamic technological changes that are transforming the entire communications environment. Panels focused on the licensing of content on the Internet, open source law as derivative works, and issues relating to copyright and authorship.

Keynote Address

CONTENT LICENSING AND DISTRIBUTION ON THE WEB

Ken Richieri
General Counsel, New York Times

Panelists

Roger Cramer, Selverne & Company, PLLC
Bruce Rich, Partner, Weil Gotshal
Jeff Farmer, VP Legal Affairs, Limewire

OPEN SOURCE AND DERIVATIVE WORK

Panelists

Aaron Williamson, Counsel, Software Freedom Law Center
Van Lindberg, Associate, Haynes and Boone
Jay Westermeier, Of Counsel, Finnegan

COPYRIGHT AND AUTHORS - THREE UNIQUE PERSPECTIVES

Panelists

Nina Paley, Author and Cartoonist
Michael Boni L'88, Co-founder, Boni and Zack
Marcia Paul, Partner, Davis Wright Tremain



2010-2011 Workshop Series



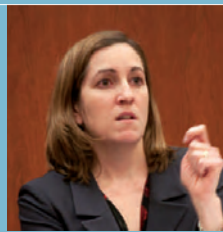
Michael Abramowicz

George Washington University Law School
Orphan Business Models



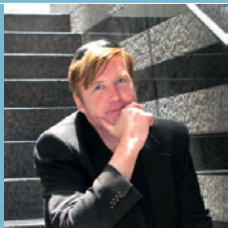
Barton Beebe

New York University School of Law
One Cheer for the New Federal Antidilution Law: Evidence from the First Four Years of Trademark Dilution Revision Act Case Law



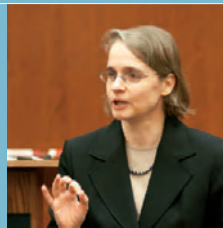
Patricia Bellia

Notre Dame Law School
Designing Surveillance Law



Justin Hughes

Benjamin N. Cardozo School of Law
U.S. Patent & Trademark Office
Copyright and Photography



Clarisa Long

Columbia Law School
Interest Groups and Patent Law's Uniformity Norm, or Why Patent Law Isn't Worse than It Is



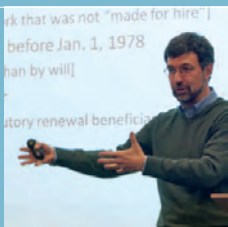
Gregory Mandel

Temple University Beasley Law School
Private Signals, Social Benefit



Jonathan Masur

University of Chicago Law School
Patent Inflation



R. Anthony Reese

UC Irvine School of Law
Who's Terminating What? The Termination of Transfers Empirical Study and Preliminary Data



Hal Varian

Chief Economist, Google
Co-sponsored by the Institute for Law and Economics
Copyright and Transactions Costs



Center for Technology, Innovation and Competition



CTIC News



Detkin Intellectual Property and Technology Legal Clinic

In March of this past year, the Law School announced the formation of the Detkin Intellectual Property and Technology Legal Clinic. The Clinic's mission is to set a new standard for higher legal education in IP and technology law by providing hands-on, practical experience with the legal challenges that arise in the new high-tech economy. CTIC will be working closely with the Clinic in support of this mission, both through joint programs and through CTIC faculty support of the Clinic's programs.

Students in the Clinic will work with Penn's Center for Technology Transfer to learn firsthand about the legal, technical, and business questions associated with creating and commercializing innovation. CTT is dedicated to moving the world-class research and technologies developed at Penn to the marketplace where they may be developed for the public good. Students will work on real-world cases involving invention and market evaluation, patent prosecution and patent application development, strategic decision-making related to patents and licensing, and negotiation of licensing or other commercialization deals.

In line with both the Law School and CTIC's interdisciplinary focus, the Clinic and Penn Law will collaborate with Penn's Schools of Engineering, Medicine, Business (Wharton), Arts and Sciences, and other Penn departments and programs involved in the patenting and licensing processes.

The Detkin Clinic was made possible by a generous gift from Peter Detkin EE'82, L'85, the noted IP entrepreneur and Founder and Vice Chairman of Intellectual Ventures, an invention investment firm, who currently serves on the Board of Overseers for Penn's School of Engineering and Applied Science.



National Science Foundation Research Grant to Study Future Internet Architecture

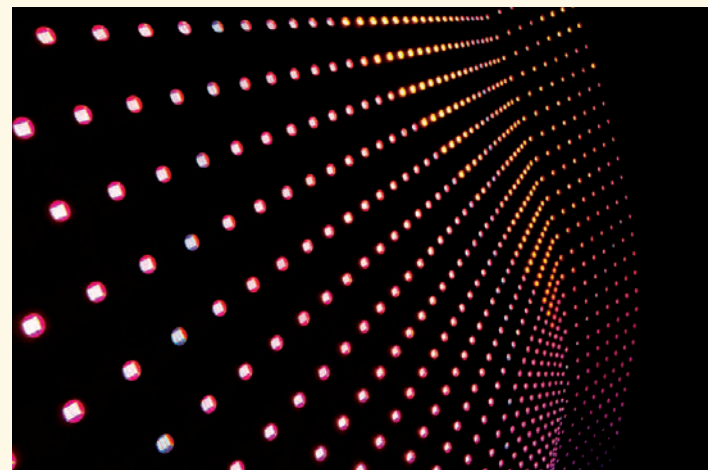
In August 2010, the National Science Foundation awarded \$7.5 million to a partnership of network researchers at twelve universities to study the challenges posed by the ongoing shift toward cloud computing.

Under the traditional approach to computing, applications rely on the processing power, software, and data storage located in each individual computer. Cloud computing shifts these resources to a data center that is accessed through a network.

This change in architecture greatly simplifies the demands placed on end users' computers, requiring that they only possess enough memory and storage to run a browser or some other simple interface. It also facilitates the sharing of resources, increases mobility, and greatly reduces the costs of network management. At the same time, however, cloud computing places new demands on the network in terms of security, ubiquity, and performance.

This award, which is part of the NSF's Future Internet Architecture program, will support Penn's NEBULA Project. Led by Jonathan Smith, the Olga and Alberico Pompa Professor of Engineering and Applied Science at Penn, and including CTIC Founding Director Christopher Yoo, NEBULA is developing new approaches to data integrity, network management, and core networking to support cloud computing's heightened demand for secure and reliable network services.

Professor Smith and his colleagues at Penn are collaborating with researchers from Cornell University, the Massachusetts Institute of Technology, Princeton University, Purdue University, Stanford University, Stevens Institute of Technology, the University of California at Berkeley, the University of Delaware, the University of Illinois at Urbana-Champaign, the University of Texas, and the University of Washington.





New York Bar Foundation Research Grant to CTIC

In 2011, CTIC received a three-year \$600,000 grant from the New York Bar Foundation to explore policy issues surrounding the Internet.

The grant is the unexpected byproduct of the landmark Grinnell litigation, in which the federal government successfully prosecuted a number of leading alarm monitoring companies for price fixing. The Supreme Court decision in this case established the standard that has governed all monopolization cases ever since.

Prominent Philadelphia attorney and Penn alumnus David Berger C'32, L'36 represented plaintiffs in the private antitrust suits brought in parallel with the federal prosecution. When these cases were settled in 1971, a small amount was held in reserve for class members that the court could not identify. Part of these funds were never claimed. They remained forgotten in an interest bearing account for nearly 40 years until they were discovered by Berger's son, Daniel Berger, after his father's death in 2007.

The *cy pres* doctrine requires that such funds be used for charitable purposes that are closely related to the issues that were the focus of the original litigation. Daniel Berger worked with Howard Shecter L'68, a partner with Reed Smith and a past president of the Penn Law Alumni Society, and Lesley Friedman Rosenthal, the Chair of the New York Bar Foundation's Cy Pres Committee, to identify an appropriate recipient. The fact that early alarm technologies represented an important precursor to the modern Internet led them to recommend CTIC as the beneficiary of these funds. Their recommendation was subsequently approved by Chief Judge Loretta A. Preska of the U.S. District Court for the Southern District of New York in December 2010.

The grant is helping to fund vital faculty research as well as supporting visiting scholars, a new research fellowship for emerging scholars, innovative new courses, and student activities and scholarships. CTIC is grateful for the opportunity to help honor Grinnell's legacy.



Upcoming Initiatives for Next Year

During the 2011-2012 year, CTIC faculty will teach a Global Research Seminar, an intensive four-credit international and comparative research course designed to facilitate engagement among faculty, students, and professionals in a global setting.

This seminar will consider Internet policy in the US and EU, comparing the regulatory approaches taken in the US and Europe and studying both their emerging similarities and key differences in intellectual commitments that tend to keep them distinct. In the process, the seminar will provide an introduction to EU law, covering both the EU's institutions and lawmaking process. The seminar should be of particular interest to students interested in Internet policy, economic regulation, EU law, and the impact of different institutional structures on regulatory policy.

The course will be co-taught by Professor Thomas Fetzer of the Dresden University of Technology in conjunction with a parallel seminar at his home institution. It will incorporate a week-long field research visit to Philadelphia and Washington, D.C., and a second week-long field research visit to Germany and Brussels. US and German students will work together to gain insights into each country's legal and institutional settings and to collaborate to develop and coauthor a major writing project.

CTIC is also currently planning a conference this fall to explore the policy implications of cloud computing. In addition, CTIC faculty is working with the University of Pennsylvania Law Review to organize a conference on property theory. Other conferences are planned for the spring semester.

In addition to our annual workshop series, CTIC is initiating a visiting scholar program to promote research collaborations between CTIC faculty and other academics from around the world.

In the coming year, we also expanding and enhancing our student-oriented programs. One major development is the Detkin Intellectual Property and Technology Legal Clinic discussed above. CTIC also plans to provide students greater opportunity to participate in scholarly events related to law and technology. In addition, CTIC will be sponsoring two summer fellowships for students interested in public interest work related to law and technology.

We anticipate adding additional programs in the months to come. We are excited about our plans for the upcoming year and that our friends and supporters feel the same way.



Center for Technology, Innovation and Competition



CTIC Faculty

The Center for Technology, Innovation and Competition is privileged to draw on the cross-disciplinary expertise from across the University of Pennsylvania. In addition to the Law School, CTIC brings together faculty from the top-ranked Wharton School, the University's School of Engineering and Applied Science, the Cinema Studies Program, and the Annenberg School for Communication.



CTIC Primary Faculty



David S. Abrams

Assistant Professor of Law, Business, and Public Policy
Professor Abrams is an empirical economist whose work brings modern econometric techniques to bear on a variety of topics in law and economics. His recent research has included investigations into the impact of patent priority rules, incentives for innovation, attorney performance, the deterrent effect of incarceration, and the impact of race in criminal sentencing. Additionally, he has begun a series of projects that make use of the unique experimental environment of virtual worlds to answer an array of economic and legal questions. Abrams joined Penn Law from the University of Chicago Law School, where he was an Olin Fellow and received the 2007 Coase Prize for the outstanding paper in law and economics.



Justin (Gus) Hurwitz

CTIC Fellow

Gus joins the faculty as the Center's inaugural fellow. His current work draws on his legal, technical, and economic backgrounds to consider the application of network theory to legal institutions. He has previously been a Visiting Assistant Professor at George Mason University Law School. Prior to that he was a Trial Attorney with the United States Department of Justice Antitrust Division, Telecommunications and Media Enforcement Section. He has a background in technology and is the recipient of professional awards from organizations such as the Federal Laboratory Consortium, R&D Magazine, Los Alamos National Lab, IEEE & ACM, and the Corporation for Education Network Initiatives in California. In addition, he held an Internet2 Land Speed World Record with the Guinness Book of World Records.



Shyamkrishna Balganesh

Assistant Professor of Law

Professor Balganesh's 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. His most recent work analyzes how the common law idea of "foreseeability" might be employed to shape the scope of copyright law and the benefits of understanding copyright as a conditional common law entitlement rather than as a property right.



Gideon Parchomovsky

Robert G. Fuller, Jr. Professor of Law

Professor Parchomovsky specializes in intellectual property law, property law, and cyberlaw. He 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.



Christopher S. Yoo

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

Professor Yoo has emerged as one of the nation's leading authorities on law and technology. His research focuses on how technological developments and economic theories of imperfect competition are transforming the regulation of the Internet and other forms of electronic communications. He has been a leading voice in the "network neutrality" debate that has dominated Internet policy over the past several years. He is also pursuing research on copyright theory as well as the history of presidential power. He is the author of four books, including *Networks in Telecommunications: Economics and Law* (Cambridge 2009) (with Daniel F. Spulber), as well as nearly fifty articles and book chapters. Yoo testifies frequently before Congress, the Federal Communications Commission, and the Federal Trade Commission. Before entering law teaching, Yoo clerked for 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.



R. Polk Wagner

Professor of Law

Professor Wagner focuses his research and teaching in intellectual property law and policy, with a special interest in patent law. He has written over 20 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 the co-author of *Patent Law (Concepts and Insights)* (Foundation 2008) (with Craig Allen Nard). 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.



CTIC Secondary Faculty



Anita L. Allen

Henry R. Silverman Professor of Law, and Professor of Philosophy

Professor Allen is an expert on privacy law, bioethics, and contemporary values and is recognized for her scholarship about legal philosophy, women's rights, and race relations. She is a member of the Presidential Commission for the Study of Bioethical Issues. Her books include *Unpopular Privacy* (Oxford 2011); *Privacy Law and Society* (Thomson/West 2011); *The New Ethics: A Guided Tour of the 21st Century Moral Landscape* (Miramax/Hyperion 2004); *Why Privacy Isn't Everything: Feminist Reflections on Personal Accountability* (Rowman and Littlefield 2003); and *Uneasy Access: Privacy for Women in a Free Society* (Rowman and Littlefield 1988). She co-edited (with Milton Regan) *Debating Democracy's Discontent* (Oxford 1998). Allen writes for popular magazines and blogs and has frequently appeared on nationally broadcast television and radio programs.



Seth Kreimer

Kenneth W. Gemmill Professor of Law

Professor 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 government manipulation of public benefits. His subsequent work has shaped analysis of governmental control of private information, abortion regulation, assisted suicide, and gay marriage. He has explored the implications of DNA testing in criminal justice, free speech on the Internet, and the dangers of abuse in the "war on terror." Kreimer has represented plaintiffs in a wide array of litigation. He served as co-counsel in *Ferguson v. City of Charleston* (U.S. Supreme Court 2001), establishing the right of obstetrical patients to refuse non-consensual drug testing; *In Re R.B.F.* (Pa. Supreme Court 2002), securing the right of gay and lesbian parents to establish families by second parent adoption; *Nixon v. Commonwealth of Pennsylvania* (Pa. Supreme Court 2003), successfully challenging the constitutionality of lifetime disqualification of sex-offenders from employment; and *Buck v. Stankovic* (M.D. Pa. 2007), enjoining denial of a marriage license to a citizen who wished to marry an undocumented non-citizen. Prior to joining the Penn Law faculty, Kreimer clerked for Judge Arlin M. Adams L'47 of the U.S. Court of Appeals for the Third Circuit.



Cary Coglianese

Edward B. Shils Professor of Law; Professor of Political Science; and Director, Penn Program on Regulation

Professor Coglianese specializes in the study of regulation and regulatory processes, with a particular emphasis on the empirical evaluation of alternative regulatory strategies and the role of conflict and cooperation in business-government relations. His recent books include *Import Safety: Regulatory Governance in the Global Economy* (University of Pennsylvania 2009); *Regulation and Regulatory Processes* (Ashgate 2007); and *Leveraging the Private Sector: Management-Based Strategies for Improving Environmental Performance* (Resources for the Future 2006). He has also recently written on climate change policy, public participation and transparency in federal rulemaking, and voluntary environmental programs. Coglianese was a founding editor of the peer-reviewed journal *Regulation & Governance*, and he currently serves on the board of the American Bar Association's Section on Administrative Law and Regulatory Practice.

CTIC Affiliated Faculty



Matthew Blaze

Associate Professor of Computer and Information Science
 Professor Blaze focuses his research on the architecture and design of secure systems based on cryptographic techniques, analysis of secure systems against practical attack models, and finding new cryptographic primitives and techniques. He is especially interested in the use of encryption to protect insecure systems such as the Internet. He was a designer of swlPe, a predecessor of the now standard IPSEC protocol for protecting Internet traffic. Another project, CFS, investigated and demonstrated the feasibility of including encryption as a file system service. Recently, he has applied cryptologic techniques to other areas, including the analysis of physical security systems. This work yielded a powerful and practical attack against virtually all commonly used master-keyed mechanical locks.



Gerald R. Faulhaber

Professor Emeritus of Business and Public Policy, Wharton School
 Professor Faulhaber served as Chief Economist at the Federal Communications Commission from July 1, 2000 to June 30, 2001, where he worked on many telecommunications and Internet issues, including the AOL-Time Warner merger. His current research focuses on public policy and broadband infrastructure and the political economy of regulation. He has published widely in professional journals and is the author of several books, including *European Economic Integration: Technological Perspectives* (Springer 1991) and *Telecommunications in Turmoil: Technology and Public Policy* (Harper 1988). He has served on numerous scholarly boards and review committees and was Vice-President of the Board of Directors of the Telecommunications Policy Research Conference in Washington, D.C. He was an Associate Editor of the *Journal of Industrial Economics* and serves on the Board of Editors of *Information Economics and Policy*. Prior to his academic career, Faulhaber was Director of Strategic Planning and Financial Management at AT&T, after holding the position of Head, Economics Research at Bell Laboratories.



Peter Decherney

Associate Professor of Cinema Studies, English Department
 Peter Decherney is Associate Professor of Cinema Studies and English at the University of Pennsylvania, where his research and teaching focus on the history of media and internet regulation. He is the author of *Hollywood's Copyright Wars: from Edison to the Internet* (Columbia, 2012) and *Hollywood and the Culture Elite: How the Movies Became American* (Columbia, 2005). In 2006, he successfully petitioned for an exemption to the Digital Millennium Copyright Act for media professors. In 2009 that exemption was expanded to include media students, noncommercial filmmakers, and many other groups. Also in 2009, he was named an Academy of Motion Picture Arts and Sciences Scholar, and in 2011 he holds a fellowship from the American Council of Learned Societies. In addition to Penn, Decherney has taught at Yale, Johns Hopkins, Tsinghua University (Beijing), and King's College (London).



Michael Kearns

Professor of Computer and Information Science and Professor of Operations and Information Management and Statistics, Wharton School

Since 2002, Professor Kearns has been on the faculty of the Computer and Information Science Department at the University of Pennsylvania, where he holds the National Center Chair. He is the Founding Director of the new Singh Program in Market and Social Systems Engineering (www.mkse.upenn.edu), and holds secondary appointments in the Statistics and Operations and Information Management (OPIM) departments of the Wharton School. He has worked closely with a quantitative trading group at SAC Capital in New York City, and is actively involved in a number of technology startup companies. He has also served as a consultant and expert witness on a number of technology and regulatory matters. For more information, see www.cis.upenn.edu/~mkearns.



Andrea M. Matwyshyn

Assistant Professor of Legal Studies and Business Ethics, Wharton School

Professor Matwyshyn joined the Wharton School in 2007. Her research and consulting focus on corporate information security regulation, consumer data privacy law, and technology regulation. She is the editor of *Harboring Data: Information Security, Law and the Corporation* (Stanford Press 2009), and, most recently, has been a visiting faculty member at Notre Dame Law School (Fall 2011) and the Oxford Internet Institute (Summer 2011). A list of her most recent publications and talks is available at <http://www.andreamm.com>.



Monroe E. Price

Director of the Center for Global Communication Studies, Annenberg School for Communication

Monroe E. Price is director of the University of Pennsylvania's Center for Global Communication Studies (CGCS) at the Annenberg School for Communication, where he works with a wide transnational network of regulators, scholars, and practitioners in Europe, Africa, Latin America, and Asia, as well as in the United States. Price also founded the Programme in Comparative Media Law and Policy at Oxford University and remains a research fellow there. He chairs the Center for Media and Communications Studies at Central European University, a project instituted and encouraged by CGCS. Price has served on the President's Task Force on Telecommunications Policy and the Sloan Commission on Cable Communications (both in the 1970s) and on the Carter-Sagalaev Commission on Radio and Television Policy (in the 1990s). He was a long-time member of the International Broadcasting Institute (now the International Communications Institute). His publications include *Media and Sovereignty: The Global Information Revolution and its Challenge to State Power*, *Owning the Olympics: Narratives of the New China*, *Self Regulation and the Internet*, and *Objects of Remembrance: A Memoir of American Opportunities and Viennese Dreams*.



Katja Seim

Assistant Professor of Business and Public Policy,
Wharton School

Professor Seim specializes in applied microeconomics and industrial organization. Her research focuses on two areas. First, she studies how firms make product placement and entry decisions, how they assess the competitive implications of different market entry strategies, and how their decisions are affected by public policies and regulatory interventions. Second, she analyzes firm and consumer behavior in information and communications industries. Specific topics she has worked on in this area include consumer adoption of online services; consumer choice among the commonly offered nonlinear pricing plans for such services; and the effect of entry on the characteristics of such sophisticated pricing strategies. Her research has been published in leading journals such as *American Economic Review*, *American Economic Journal: Microeconomics*, *Marketing Science*, *Quantitative Marketing and Economics*, and the *Rand Journal of Economics*.



Jonathan M. Smith

Olga and Alberico Pompa Professor of Engineering and
Applied Science

Professor Smith's research interests are in computer networking and computer security. He is developing network architectures for new services and applications, such as the Terabit Edge Research Activity (TERA), which is focused on the coupling between parallel processing and parallelism in transmission systems, and implications for host software and network control. He has recently worked on Zodiac, an intrinsically assurable mobile ad-hoc network, where many challenges ensue as router and host become indistinguishable, and is investigating Dynamic Trust Management (DTM), which is focused on "situation-aware" authorizations for privileged actions, such as emergency situations. From 2004 to 2006, Professor Smith served as a Program Manager for the Defense Advanced Research Projects Agency (DARPA), for which he was awarded the OSD Medal for Exceptional Public Service in August 2006.



Joseph Turow

Robert Lewis Shayon Professor of Communication,
Annenberg School for Communication

Professor Turow is a recipient of the National Communication Association's Distinguished Scholar Award and is an elected Fellow of the International Communication Association. A 2005 *New York Times* magazine article called Professor Turow "probably the reigning academic expert on media fragmentation." He has authored nine books, edited five, and written more than 100 articles on mass media industries. Turow's continuing national surveys of the American public on issues relating to marketing, new media, and society have received a great deal of attention in both the popular press and the research community. The recipient of a number of conference paper and book awards, Turow has lectured widely and been invited to give the Pockrass Distinguished Lecture at Penn State University and to be a Chancellor's Distinguished Lecturer at Louisiana State University. Turow currently serves on the editorial boards of the *Journal of Broadcasting and Electronic Media*, *Poetics*, and *New Media & Society*.

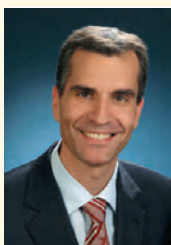


Kevin Werbach

Associate Professor of Legal Studies and Business Ethics,
Wharton School

Professor Werbach is a leading expert on the business, policy, and social implications of emerging Internet and communications technologies. While serving as Counsel for New Technology Policy at the FCC during the Clinton Administration, Werbach was named by *Wired* magazine as "one of the few policy wonks who really got it." He is the founder of the Supernova Group, a technology analysis and consulting firm. He advises companies, writes about emerging trends in communications and information technology and organizes Supernova, a major executive technology conference. He co-lead the review of the Federal Communications Commission for the Obama-Biden Transition Project and currently serves as an advisor to the National Telecommunications and Information Administration for the broadband stimulus grant program. A sought-after speaker and commentator, Werbach appears frequently in print and broadcast media.

Adjunct Faculty



Thomas Fetzer

Adjunct Professor of Law

Thomas Fetzer is Professor of Law at the Dresden University of Technology. He has been a guest lecturer at Vanderbilt, the University of Mannheim, the University of Freiburg, and the University of Jena. His fields of expertise include telecommunications law, media law, and privacy/data protection law. He has also published several articles on tax law and European community law and co-authored books on Internet law, telecommunications law, and public economics law.



The Honorable Kent A. Jordan

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

Judge Jordan was appointed in 2006 to serve as a Judge on the United States Court of Appeals 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. Before taking the bench, Judge Jordan served as an Assistant United States Attorney for the District of Delaware, having served as Civil Chief in that office in 1991 and 1992. He has also been an officer and member of the boards of directors of privately held businesses and was a partner in a Wilmington, Delaware, law firm, where his practice focused on intellectual property, corporate, and commercial litigation.



Osagie Imasogie L'85

I Grant Irey Adjunct Professor of Law

Osagie Imasogie has over twenty-five years of experience in the fields of law, finance and business management, healthcare and the pharmaceutical industry. Prior to co-founding Phoenix IP Ventures, an IP-based Merchant Bank, Imasogie conceptualized and established GlaxoSmithKline Ventures and was its founding Vice President. Imasogie led GSK Ventures in concluding thirty worldwide transactions within a three-year period. He currently serves on the Board of Directors of Genaera Corporation, a publicly traded biopharmaceutical company, and is Chairman of the Board of Directors of iCeutica Pharmaceuticals, Inc., and the former Chairman of Ception Therapeutics, Inc., a biopharmaceutical company that he also co-founded. He is a member of the Board of Overseers of the University of Pennsylvania Law School and a member of the Wilson Council of the Woodrow Wilson International Center for Scholars, in addition to a number of other non-for-profit companies and institutions. Osagie also served as a Senior Consultant to the President's Emergency Plan For Aids Relief (PEPFAR), a unique initiative by the United States Government to fight the global AIDS epidemic.



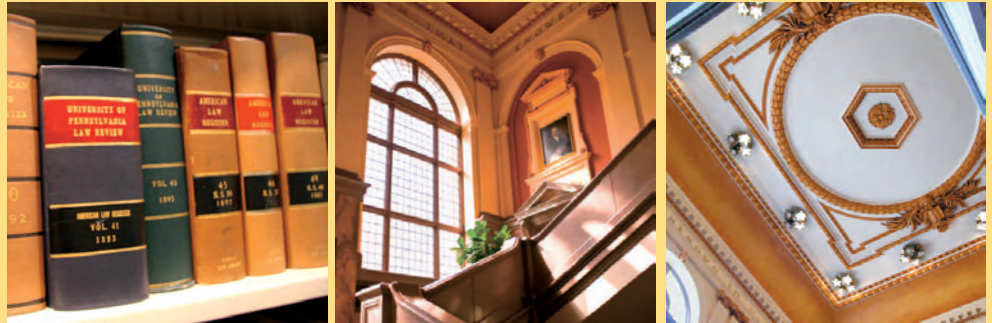
Herbert F. Schwartz L'64

Adjunct Professor of Law

Herbert Schwartz was a partner of Ropes & Gray until his retirement in 2007, having previously been a partner with Fish & Neave, where he served as the firm's managing partner between 1985 and 1991. Schwartz is a Fellow of the American College of Trial Lawyers and the American Bar Foundation and a member of the American Law Institute. He is the author of *Patent Law and Practice* and is co-author of *Principles of Patent Law* (with Donald S. Chisum, Craig Allen Nard, Pauline Newman, and F. Scott Kieff). He spent his career litigating intellectual property cases, has testified at different times before Congress at its invitation on issues relating to innovation and patent law reform, has served as a special master in patent litigation, and has written and spoken widely on intellectual property issues.



Center for Technology, Innovation and Competition



CTIC Research

Research output 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.

Listed in the next several pages is a sampling of recently published papers related to technology, innovation, and competition by CTIC faculty members. All primary and secondary faculty appointments are in the University of Pennsylvania Law School unless otherwise noted. All affiliated and adjunct faculty appointments are in the University of Pennsylvania.



Primary Faculty

David S. Abrams

Assistant Professor of Law, Business, and Public Policy

Priority Rules: An Empirical Exploration of First-to-Invent Versus First-to-File (with R. Polk Wagner).

Shyamkrishna Balganes

Assistant Professor of Law

The Pragmatic Incrementalism of Common Law Intellectual Property, 63 VAND. L. REV. 1543 (2010).

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

The Normative Structure of Copyright Law, in INTELLECTUAL PROPERTY AND THE COMMON LAW (Shyamkrishna Balganes ed., Cambridge forthcoming 2012).

INTELLECTUAL PROPERTY AND THE COMMON LAW (Shyamkrishna Balganes ed., Cambridge forthcoming 2012).

Gideon Parchomovsky

Robert G. Fuller, Jr. Professor of Law

Beyond Fair Use, 96 CORNELL L. REV. 91 (2010) (with Philip J. Weiser).

The Distortionary Effect of Evidence on Primary Behavior, 124 HARV. L. REV. 518 (2010) (with Alex Stein).

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

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R. Polk Wagner

Professor of Law

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Priority Rules: An Empirical Exploration of First-to-Invent Versus First-to-File (forthcoming) (with David Abrams).

Christopher S. Yoo

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

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Network Neutrality and Technological Change, in HANDBOOK OF MEDIA LAW AND POLICY: A SOCIO-LEGAL EXPLORATION (Monroe E. Price & Stefaan G. Verhulst eds., Routledge forthcoming 2012).

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Secondary Faculty

Anita L. Allen

Henry R. Silverman Professor of Law and Professor of Philosophy

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Cary Coglianese

Edward B. Shils Professor of Law, Professor of Political Science, and Director of the Penn Program on Regulation

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Seth Kreimer

Kenneth W. Gemmill Professor of Law

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Affiliated Faculty

Matthew Blaze

Associate Professor of Computer and Information Science, School of Engineering and Applied Science

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Peter Decherney

Associate Professor of Cinema Studies, English Department

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Gerald R. Faulhaber

Professor Emeritus of Business and Public Policy, Wharton School

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Michael Kearns

Professor of Computer and Information Science and Professor of Operations and Information Management and Statistics

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Andrea M. Matwyshyn

Assistant Professor of Legal Studies and Business Ethics, Wharton School

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Monroe E. Price

Director of the Center for Global Communication Studies, Annenberg School

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Katja Seim

Assistant Professor of Business and Public Policy, Wharton School

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Jonathan M. Smith

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

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Joseph Turow

Robert Lewis Shayon Professor of Communication, Annenberg School

Rethinking Television in the Digital Age, in *MEDIA, ORGANISATION, AND IDENTITY 27* (Lilie Chouliaraki & Mette Morsing eds., Palgrave Macmillan 2010).

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Kevin Werbach

Associate Professor of Legal Studies and Business Ethics, Wharton School

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