

Jacob S. Sherkow

University of Illinois College of Law
504 E. Pennsylvania Ave., Champaign, IL 61820-6909
jsherkow@illinois.edu | 217.300.3936

ACADEMIC POSITIONS

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Professor of Law, College of Law, 2020–present
Professor of Medicine, Carle Illinois College of Medicine
Professor, European Union Center
Affiliate, Carl R. Woese Institute for Genomic Biology
Director, Intellectual Property and Technology Law Program
2024 University Scholar Award
2024 Carroll P. Hurd Award for Scholarly Excellence

NEW YORK LAW SCHOOL

Professor of Law, 2018–2020
Associate Professor, 2014–2018
Affiliated Faculty, Innovation Center for Law and Technology
2018 Otto L. Walter Distinguished Writing Award
Class of 2017 Teaching Award

VISITING POSITIONS

UNIVERSITY OF COPENHAGEN, FACULTY OF LAW

Research Fellow, Center for Advanced Studies in Biomedical Innovation Law, 2023–present
Permanent Visiting Professor, Center for Advanced Studies in Biomedical Innovation Law, 2018–2023

HARVARD UNIVERSITY

Edmond J. Safra/Petrie-Flom Centers Joint Fellow-in-Residence, 2019–2020

COLUMBIA UNIVERSITY MAILMAN SCHOOL OF PUBLIC HEALTH

Visiting Assistant Professor of Health Policy and Management, 2017–2019

STANFORD LAW SCHOOL

Visiting Scholar, Spring 2018
Fellow, Center for Law and the Biosciences, 2012–2014

EDUCATION

UNIVERSITY OF MICHIGAN LAW SCHOOL

J.D., cum laude, 2008
Contributing Editor, MICHIGAN LAW REVIEW
James N. Adler Scholarship
Fred L. Leckie Scholarship

COLUMBIA UNIVERSITY

M.A., Biotechnology, 2006

University Research Assistant Scholarship (Full Tuition)

MCGILL UNIVERSITY

B.Sc., Molecular Biology, English Literature, 2004

Dean's Commendation for Student Leadership

PUBLICATIONS ([IDEALS](#) | [SSRN](#))

BOOKS

[INNOVATION INSTITUTIONS AND COVID-19, PART II](#) (SSRN, 2022) (with Lisa Larrimore Ouellette, W. Nicholson Price, II & Rachel E. Sachs)

[INNOVATION INSTITUTIONS AND COVID-19](#) (SSRN, 2021) (with Lisa Larrimore Ouellette, W. Nicholson Price, II & Rachel E. Sachs)

LAW REVIEW ARTICLES & ESSAYS

The Myth of DNA Trade Secrecy, 75 UNIVERSITY OF CALIFORNIA LAW JOURNAL 1047 (2024)
2022 Wiet Life Science Law Conference, Loyola University Chicago School of Law (paper selection)

Putting the C Back in IRAC, 27 GREEN BAG.2D 39 (2023)

Familial Searches, The Fourth Amendment, and Genomic Control, 96 SOUTHERN CALIFORNIA LAW REVIEW POSTSCRIPT 1 (2023) (with Natalie Ram & Carl Gunter)

The Antibody Patent Paradox, 132 YALE LAW JOURNAL 994 (2023) (with Mark A. Lemley)
Cited in *Amgen Inc. v. Sanofi*, 598 U.S. 594 (2023)

Writing Definitions in Rewriting Nature, 102 BOSTON UNIVERSITY LAW REVIEW ONLINE 22 (2022)

Regulatory Sandboxes and the Public Health, 2022 UNIVERSITY OF ILLINOIS LAW REVIEW 357 (2022)

Governance Choices of Genome Editing Patents, 3 FRONTIERS IN POLITICAL SCIENCE 745898 (2021)
(with Naomi Scheinerman)

EpiPen, Patents, and Life and Death, 96 NEW YORK UNIVERSITY LAW REVIEW ONLINE 164 (2021)
(with Patricia J. Zettler)

Presidential Administration and FDA Guidance: A New Hope, 2021 UNIVERSITY OF ILLINOIS LAW REVIEW ONLINE 179 (2021) (with Nathan Cortez)

Gene Editing Sperm and Eggs (not Embryos): Does it Make a Legal or Ethical Difference?, 48 JOURNAL OF LAW, MEDICINE & ETHICS 619 (2020) (with I. Glenn Cohen & Eli Y. Adashi)

The Pick-and-Shovel Play: The Bioethics of Gene-Editing Vector Patents, 97 NORTH CAROLINA LAW REVIEW 1497 (2019) (with Christopher Thomas Scott)

Patents, Promises, and Reproducibility, 49 GEORGETOWN JOURNAL OF INTERNATIONAL LAW 957 (2018)
Finalist, ATRIP Essay Competition for Young Researchers in IP Law (2016)

IP, Surrogate Licensing, and Precision Medicine, 7 IP THEORY 1 (2018) (with Jorge L. Contreras)
2017 Wiet Life Science Law Conference, Loyola University Chicago School of Law (paper selection)

Is It “Gene Therapy”?, 5 JOURNAL OF LAW & THE BIOSCIENCES 786 (2018) (with Patricia J. Zettler & Henry T. Greely)

The Science of Substitution: A Response to Carrier and Minniti, 2018 UNIVERSITY OF ILLINOIS LAW REVIEW ONLINE 81 (2018)

Cancer’s IP, 96 NORTH CAROLINA LAW REVIEW 297 (2018)
2017 Junior Faculty Forum on Law and STEM (paper selection)

Patent Protection for CRISPR: An ELSI Review, 4 JOURNAL OF LAW & THE BIOSCIENCES 565 (2017)

CRISPR, Cancer, and Collaboration in Law and STEM, 112 NORTHWESTERN UNIVERSITY LAW REVIEW ONLINE 157 (2017)

Patent Law’s Reproducibility Paradox, 66 DUKE LAW JOURNAL 845 (2017)

Describing Drugs: A Response to Profs. Allison and Ouellette, 65 DUKE LAW JOURNAL ONLINE 127 (2016)

Administrating Patent Litigation, 90 WASHINGTON LAW REVIEW 205 (2015)

Preliminary Injunctions Post-Mayo and Myriad, 67 STANFORD LAW REVIEW ONLINE 1 (2014)

The Natural Complexity of Patent Eligibility, 99 IOWA LAW REVIEW 1137 (2014)

And How: Mayo v. Prometheus and the Method of Invention, 122 YALE LAW JOURNAL ONLINE 351 (2013)

Patent Infringement as Criminal Conduct, 19 MICHIGAN TELECOMMUNICATIONS & TECHNOLOGY LAW REVIEW 1 (2012)

Negating Invention, 2011 BYU LAW REVIEW 1091 (2011)

Note, *A Call for the End of the Doctrine of Realignment*, 107 MICHIGAN LAW REVIEW 525 (2008)

SCIENTIFIC JOURNAL ARTICLES & ESSAYS

The Myriad Decision at 10, 25 ANNUAL REVIEW OF GENOMICS & HUMAN GENETICS (forthcoming 2024) (with Henry T. Greely & Robert Cook-Deegan)

Regenerative Medicine: Case Study for Understanding and Anticipating Emerging Science and Technology, 2023 NAM PERSPECTIVES (2023) (with Debra Mathews et al.)

Neurotechnology and Noninvasive Neuromodulation: Case Study for Understanding and Anticipating Emerging Science and Technology, 2023 NAM PERSPECTIVES (2023) (with Debra Mathews et al.)

Telehealth and Mobile Health Case Study for Understanding and Anticipating Emerging Science and Technology, 2023 NAM PERSPECTIVES (2023) (with Debra Mathews et al.)

Regulating Direct-to-Consumer Polygenic Risk Scores, 330 JAMA 691 (2023) (with Jin K. Park and Christine Y. Lu)

Assessing—and Extending—California’s Insulin Manufacturing Initiative, 329 JAMA 533 (2023) (with Eli Y. Adashi & I. Glenn Cohen)

- Handle with Care: The WHO Report on Human Genome Editing*, 52 HASTINGS CENTER REPORT 10 (2022) (with I. Glenn Cohen & Eli Y. Adashi)
- Immaculate Conception? Priority and Invention in the CRISPR Patent Dispute*, 5 CRISPR JOURNAL 174 (2022)
- Ethical, Legal, and Social Issues of the Earth BioGenome Project*, 119 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA e2115859119 (2022) (with Katharine B. Barker et al.)
- The Earth BioGenome Project 2020: Starting the Clock*, 119 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA e2115635118 (2022) (with Harris A. Lewin et al.)
- Preprint Servers and Patent Prior Art*, 23 EMBO REPORTS e54439 (2022)
- Governing Human Germline Editing Through Patent Law*, 326 JAMA 1149 (2021) (with I. Glenn Cohen & Eli Y. Adashi)
- Biological Controls for Standardization and Interpretation of Adaptive Immune Receptor Repertoire Profiling*, 10 ELIFE e66274 (2021) (with Johannes Trück et al.)
- Response—Transparency is Key to Ethical Vaccine Research*, 370 SCIENCE 1423 (2020) (with Christi J. Guerrini et al.)
- Self-Experimentation, Ethics, and Regulation of Vaccines*, 369 SCIENCE 1570 (2020) (with Christi J. Guerrini et al.)
- The FDA De Novo Medical Device Pathway, Patents, and Anticompetition*, 38 NATURE BIOTECHNOLOGY 1028 (2020) (with Mateo Aboy)
- Models of Technology Transfer for Genome-Editing Technologies*, 21 ANNUAL REVIEW OF GENOMICS & HUMAN GENETICS 509 (2020) (with Gregory D. Graff)
- Controlling CRISPR Through Law: Legal Regimes as Precautionary Principles*, 2 CRISPR JOURNAL 299 (2019)
- Patent Eligibility Reform and the Public Health*, 97 MILBANK QUARTERLY 654 (2019)
- Regulating Genetic Biohacking*, 365 SCIENCE 34 (2019) (with Patricia J. Zettler & Christi J. Guerrini)
- Inferred Allelic Variants of Immunoglobulin Receptor Genes: A System for Their Evaluation, Documentation and Naming*, 10 FRONTIERS IN IMMUNOLOGY 435 (2019) (with Mats Ohlin et al.)
- The CRISPR-Cas9 Patent Appeal: Where Do We Go From Here?*, 1 CRISPR JOURNAL 309 (2018)
- Fortune and Hindsight: Gene Patents' Muted Effect on Medical Practice*, 126 BRITISH MEDICAL BULLETIN 37 (2018) (with Ryan Abbott)
- The CRISPR Patent Landscape: Past, Present, and Future*, 1 CRISPR JOURNAL 5 (2018)
- CRISPR, Patents, and the Public Health*, 90 YALE JOURNAL OF BIOLOGY & MEDICINE 667 (2017)
- Patent Protection for Microbial Technologies*, 364 FEMS MICROBIOLOGY LETTERS fnx205 (2017)
- Key Challenges in Bringing Somatic Cell Therapy into the Clinic*, 9 GENOME MEDICINE 85 (2017) (with Dianne Nicol et al.)
- Inventive Steps: The CRISPR Patent Dispute and Scientific Progress*, 18 EMBO REPORTS 1047 (2017)
- Response—Patent Pools for CRISPR Technology*, 355 SCIENCE 1274 (2017) (with Jorge L. Contreras)

- CRISPR, Surrogate Licensing and Scientific Discovery*, 355 SCIENCE 698 (2017) (with Jorge L. Contreras)
- The Rise of the Ethical License*, 35 NATURE BIOTECHNOLOGY 22 (2017) (with Christi J. Guerrini et al.)
- Who Owns Gene Editing? Patents in the Time of CRISPR*, 38 BIOCHEMIST 26 (2016)
- Protecting Products Versus Platforms*, 34 NATURE BIOTECHNOLOGY 462 (2016)
- Pursuit of Profit Poisons Collaboration*, 532 NATURE 172 (2016)
- The Changing Life Science Patent Landscape*, 34 NATURE BIOTECHNOLOGY 292 (2016) (with Arti K. Rai)
- The History of Patenting Genetic Material*, 49 ANNUAL REVIEW OF GENETICS 161 (2015) (with Henry T. Greely)
- Stem Cell Patents After the America Invents Act*, 16 CELL STEM CELL 461 (2015) (with Christopher Thomas Scott)
- Law, History and Lessons in the CRISPR Patent Conflict*, 33 NATURE BIOTECHNOLOGY 256 (2015)
- Myriad Stands Alone*, 32 NATURE BIOTECHNOLOGY 620 (2014) (with Christopher Thomas Scott)
- 23andMe, the Food and Drug Administration, and the Future of Genetic Testing*, 174 JAMA INTERNAL MEDICINE 493 (2014) (with Patricia J. Zettler and Henry T. Greely)
- The Future of Gene Patents and the Implications for Medicine*, 173 JAMA INTERNAL MEDICINE 1569 (2013) (with Henry T. Greely)
- Federal Trade Commission v. Actavis, Inc. and Reverse Payment or Pay-for-Delay Settlements*, 31 NATURE BIOTECHNOLOGY 316 (2013)
- What If Extinction Is Not Forever?*, 340 SCIENCE 32 (2013) (with Henry T. Greely)
- Differential Requirements for MCM Proteins in DNA Replication*, 2 PLOS ONE e833 (2007) (with Gilles Crevel et al.)

BOOK CHAPTERS

- Innovation Law and COVID-19: Promoting Incentives and Access for New Healthcare Technologies*, in COVID-19 AND THE LAW: DISRUPTION, IMPACT, AND LEGACY (Katherine Kraschel et al. eds. 2023) (with Rachel E. Sachs et al.)
- IP and FDA Regulation of De Novo Medical Devices*, in THE FUTURE OF MEDICAL DEVICE REGULATION: INNOVATION AND PROTECTION (I. Glenn Cohen ed. 2022) (with Mateo Aboy)
- Finding a Regulatory Balance for Genetic Biohacking*, in CONSUMER GENETIC TECHNOLOGIES: ETHICAL & LEGAL CONSIDERATIONS (I. Glenn Cohen et al. eds. 2021) (with Patricia J. Zettler & Christi J. Guerrini)
- AIRR Data Under the E.U. Trade Secrets Directive*, in THE HARMONIZATION & PROTECTION OF TRADE SECRETS IN THE E.U. (Jens Schovsbo et al. eds. 2020) (with Timo Minssen)

REPORTS, LETTERS, & BLOGS

- [Amicus Brief](#), *In re Xencor, Inc.*, Case No. 23-2048 (Fed. Cir. Oct. 4, 2023)

Letter, *Fit to Print?*, NEW YORKER, at 3 (Feb. 13 & 20, 2023)

The Role of Patents and Licensing in the Governance of Human Genome Editing: A White Paper, July 30, 2021 (with Duncan Matthews et al.)

Featured, *Voices of Biotech Leaders*, 39 NATURE BIOTECHNOLOGY 654 (2021)

Reining in Drug Patents Isn't a Silver Bullet Against High Drug Prices, STAT NEWS, Mar. 12, 2021

Rogues and Enforcers, 3 CRISPR JOURNAL 344–345 (2020)

Regulating Genetic Self-Experimentation as Biomedical Research, REGULATORY REVIEW, July 30, 2019 (with Patricia J. Zettler & Christi Guerrini)

The CRISPR Patent Decision Didn't Get the Science Right. That Doesn't Mean It Was Wrong., STAT NEWS, Sept. 11, 2018

What the CRISPR Patent Dispute Is All About, SCIENTIFIC AMERICAN, Dec. 12, 2016

Biotech Trial of the Century Could Determine Who Owns CRISPR, MIT TECHNOLOGY REVIEW, Dec. 7, 2016

CRISPR Dispute to Be Decided by Patent Office, MIT TECHNOLOGY REVIEW, Jan. 12, 2016

Letter to U.S. Senate Committee on the Judiciary Concerning Inter Partes Review and Orange Book-Listed Patents, June 18, 2015 (with Arti K. Rai)

Letter, *Readers' Letters*, SAN JOSE MERCURY NEWS, Feb. 26, 2015, at 12A (on patent reform)

Letter, *Contrasting Perspectives on the Price of Medicines*, THE NEW YORK TIMES, Jan. 15, 2015, at A20

Don't Worry About Baltimore's Patent Drought, BALTIMORE SUN, Feb. 18, 2013, at 15A

DNA Profiles vs. Sequences, CLEVELAND PLAIN DEALER, Dec. 2, 2012, at G1

Letter, *DNA Privacy Is a Lesser Priority*, LOS ANGELES TIMES, Feb. 1, 2009, at A23

Letter, *Patents Cover "Seeds of Doubt,"* HOUSTON CHRONICLE, Dec. 19, 2008, at B10

Letter, *Whose Genes Are They Anyway?*, THE NEW YORK TIMES, Feb. 19, 2007, at A18

Letter, *The Value of Common Sense*, THE NEW YORK TIMES, Dec. 6, 2006, at D5

An Opportunity Slipped Through Judicial Fingers, MICHIGAN LAWYERS WEEKLY, Aug. 21, 2006, at 4

Various Contributions, FORBES

Various Contributions, STANFORD LAW & BIOSCIENCE BLOG

Various Contributions, SCOPE (Stanford University School of Medicine)

Various Contributions, WRITTEN DESCRIPTION

AWARDS, FELLOWSHIPS, & GRANTS

University Scholar Award, University of Illinois System, 2024

Carroll P. Hurd Award for Scholarly Excellence, University of Illinois College of Law, 2024

NIH R01, *A Sociotechnical Approach to Improving Security and Privacy in the Genomic Data Ecosystem*, 2022–2025 (\$561,699)

Emerging Leader in Health & Medicine Scholar, National Academy of Medicine, 2018–2021

Otto L. Walter Distinguished Writing Award, New York Law School, 2018

Class of 2017 Teaching Award, New York Law School, 2017

Finalist, ATRIP Essay Competition for Young Researchers in IP Law (2016)

Thomas Edison Innovation Fellow, Center for the Protection of Intellectual Property, 2016–2017

Winner, *Green Bag Lunchtime Law Quiz*, Feb. 23, 2015 (Justice Stanley Forman Reed)

Leonardo Da Vinci Research Grant, Center for the Protection of Intellectual Property, 2013

PROFESSIONAL SERVICE

ADVISORY COMMITTEES

Board of Editors, CRISPR JOURNAL (Mary Ann Liebert Publishers), 2017–present

Academic Advisor, National Academy of Medicine, Committee on Emerging Science, Technology, and Innovation (“CESTI”), 2020–2022

Member, Adaptive Immune Receptor Repertoire Community, Bioresources Working Group, 2017–2021; Legal and Ethics Working Group, 2019–2022

Co-Chair, Earth Biogenome Project, Ethics, Legal, and Social Issues Sub-Committee, 2020–2021

Community Representative, Institutional Biosafety Committee, New York Genome Center, 2016–2020

Brief Judge, Henry M. Campbell Moot Court Competition, University of Michigan Law School, 2012–2016

Advisor, *Les Enjeux Économiques, Environnementaux, Sanitaires et Éthiques des Biotechnologies à la Lumière des Nouvelles Pistes de Recherche* [Referral on the Economic, Environmental, Sanitary and Ethical Issues of Biotechnologies in the Light of the New Avenues of Research], *Office Parlementaire d'Évaluation des Choix Scientifiques et Technologiques, Assemblée Nationale* [National Assembly] (France), 2016

Member, Genetic Rescue Working Group, Revive & Restore, The Long Now Foundation, 2012

FACULTY SERVICE

University of Illinois at Urbana-Champaign

Chair, Faculty Awards, 2024–2025

Faculty Development Committee, 2024–2025

Illinois Proof of Concept Program Committee, 2024, 2023

Director, Intellectual Property and Technology Law Program, 2023–present

Faculty Advisor, JOURNAL OF LAW, TECHNOLOGY & POLICY, 2020–present

Promotion and Tenure Committee, 2023–2024

Diversity, Equity, and Inclusion Committee, 2023–2024

College of Law Dean Search Committee, 2022–2023
Discipline Committee, 2022–2023
Admissions Committee, 2022–2023
Faculty Senate, 2021–2023
Campus Operations Senate Subcommittee, 2021–2023
Ad Hoc Promotion Committee, 2021–2022
Curriculum Committee, 2021–2022
Translational Capital Building Project Committee, 2021
Chair, Clerkship Committee, 2020–2021
Lectures and Retreat Committee, 2020–2021

New York Law School

Advisor, NYLS PTO Clinic, 2014–2020
Faculty Development Committee, Scholarship Colloquia, 2014–2019
Graduation Awards Committee, 2017, 2019
Institutional Review Board, 2017–2018
Academic Status Committee, 2017–2018
Advisor, Giles Rich Memorial Moot Court Competition NYLS Team, 2015
IP Externship Advisor, 2015
Discrimination and Harassment Committee, 2014–2015

PEER REVIEW

Agriculture & Human Values; American Journal of Bioethics; American Journal of Human Genetics; American Journal of Law & Medicine; BioDrugs; Bioethics; BMC Medical Ethics; BMJ; Cambridge Prisms; Cambridge University Press; Canadian Journal of Bioethics; Cell Regeneration; Citizen Science: Theory and Practice; Columbia Law Review; Complexity; Crop Breeding & Applied Biotechnology; Drug Design, Development & Therapy; Drug Discovery Today; Expert Opinions on Therapeutic Patents; F1000; Frontiers in Genetics; Health Affairs; Human Genomics; Inquiry; JAMA; Johns Hopkins University Press; Journal of Cannabis Research; Journal of Law & the Biosciences; Journal of Law, Medicine & Ethics; Jurimetrics; McGill Journal of Law & Health; MIT Press; Nature Biotechnology; Nature Reviews Drug Discovery; New England Journal of Medicine; New England Journal of Medicine Catalyst; Neuroethics; Pharmaceutical Patent Analyst; PLoS One; Molecular Diagnosis & Therapy; Princeton University Press; Regulation & Governance; Resources, Conservation & Recycling; Routledge; Science; Science & Technology Studies; Stanford Law Review; Trends in Biotechnology; Vaccine; WGU/Wiley; Yale Journal of Biology & Medicine; Yale Journal of Health Policy, Law & Ethics; Yale Law Journal

ACTIVE MEMBERSHIPS

American Association for the Advancement of Science, International Association for the Advancement of Teaching and Research in Intellectual Property (ATRIP), Board of Editors in the Life Sciences

TEACHING

Advanced Topics in Patent Law (Spring 2025)

Patent Law (Fall 2024, Fall 2023, Spring 2023, Fall 2022, Fall 2021, Fall 2020, Fall 2018, Fall 2017, Spring 2017, Fall 2015, Fall 2014)

Property (Fall 2024, Fall 2023, Spring 2023, Spring 2022, Spring 2021, Spring 2019, Spring 2017, Fall 2016, Spring 2016, Spring 2015)

Genomics and the Law (Fall 2022, Fall 2021, Fall 2020)

Patent Litigation (Spring 2019, Spring 2015)

Intellectual Property (Fall 2018, Fall 2016, Spring 2016, Fall 2014)

FDA Law (Fall 2015)

Independent Study (various)

TALKS & PRESENTATIONS

FDA v. Alliance for Hippocratic Medicine

University of Illinois College of Law Summer Workshop (July 16, 2024)

Biosolutions: Regulation and IP in Food and Plant Innovation

University of Copenhagen Inter-CeBIL Annual Retreat (June 20, 2024)

Intellectual Property and the Legal Protection of Inventions: A Primer

University of Illinois Institute for Genomic Biology Early Innovators Program (June 11, 2024)

A Sociotechnical Approach to Improving Security and Privacy in the Genomic Data Ecosystem

University of Illinois Institute for Genomic Biology GSP Lunch (Mar. 28, 2024)

Stanford Center for Law and the Biosciences, BioLawlaPalooza (May 18, 2023)

The Science of Antibody Patenting Post-Amgen

University of Illinois College of Law, Intellectual Property and Technology Law Program (May 1, 2024)

Infringement by Label

University of San Diego School of Law, PatCon XII (Apr. 13, 2024)

Northwestern Pritzker School of Law, PatCon XI (Apr. 14, 2023)

The Myth of DNA Trade Secrecy

Emory University School of Law Faculty Colloquium (Feb. 21, 2024)

IP Scholars Conference, Cardozo School of Law (Aug. 3, 2023)

Stanford Center for Law and the Biosciences, BioLawlaPalooza (May 20, 2023)

East Central Illinois Women Attorney Association (May 17, 2023)

Suffolk University Law School, WIPIP 2023 (Feb. 3, 2023)

Loyola University Chicago Wiet Conference on Life Science and the Law (Sept. 16, 2022)

University of Houston Law Center, Genetics and the Law Seminar (Sept. 7, 2022) (remote presentation)

University of Copenhagen Faculty of Law, CeBIL Seminar (June 16, 2022)

University of Iowa College of Law, Innovation Business & Law Center Speaker Series (Mar. 4, 2022)

Regulatory Sandboxes for Innovative Health Technologies

University of Tasmania Regulation of Innovative Health Technologies Workshop (Nov. 25, 2023)

Regulating Nucleic Acid Platform Therapies: A Comparative Analysis

2023 Center for Molecular Medicine Cologne Symposium (Cologne, Germany) (Sept. 20, 2023)

University of Copenhagen CeBIL Seminar (May 4, 2023)

Amgen, Inc. v. Sanofi

University of Illinois College of Law Faculty Workshop (June 29, 2023)

The Antibody Patent Paradox

Washington University St. Louis School of Law, Advanced Patent Law (Apr. 3, 2023)

University of Illinois College of Law Faculty Workshop (Jan. 26, 2023)

Yale Law School, Yale Law Journal Workshop (Oct. 27, 2022)

Temple University Beasley School of Law, Issues in Patent Law (Apr. 6, 2022) (remote presentation)

Boston College Law School, PatCon X (Apr. 2, 2022)

Local Drug Manufacturing for the Public Health

Texas A&M University School of Law, Creativity and Innovation Is Local Symposium (Mar. 31, 2023)

Investiture Speaker, *Sean Seymore, Centennial Professor of Law* (Vanderbilt University) (Mar. 23, 2023)

Patents as Governance for Human Genome Editing

Penn State University, Biomedical Engineering, Law, and Policy (Feb. 23, 2023) (remote presentation)

Arizona State University Sandra Day O'Connor College of Law, GETS 2022 (May 19, 2022)

University of Oxford Law and Technology Seminar (Dec. 1, 2021) (remote presentation)

Northwestern Pritzker School of Law, Bioethics and the Law (Nov. 5, 2021) (remote presentation)

Museum of Science, Preparing for Human Genome Editing Technologies (Mar. 19, 2021) (remote presentation)

Innovation Institutions and COVID-19: Law and Policy

University of Illinois College of Law CLE (Aug. 4, 2022)

Racial Justice in COVID-19 Innovation Law and Policy

University of Illinois College of Law, Racial Justice Practicum (May 17, 2022) (remote presentation)

Participant, *Public Genome Editing Technologies Public Forum Results Review Workshop*

Arizona State University PGET Forum (Jan. 31, 2022) (remote presentation)

Commentator, *Patent Forfeiture* (Sean Seymore)

Notre Dame Law School Patent Scholars Roundtable VII (Jan. 14, 2022)

Ethical, Legal, and Social Issues in IP for Genomics and COVID-19

World Health Organization Science Council, Accelerating Access to Genomic Technologies for Global Health Workshop (Dec. 2, 2021) (remote presentation)

Regulating Genomic Sequencing

University of Illinois Carl R. Woese Institute for Genomic Biology, Spotlight Lecture (Nov. 9, 2021) (remote presentation)

Rewriting Definitions in Rewriting Nature: Lessons from FDA Law

Boston University Law Review Symposium on *Paul Enríquez, Rewriting Nature* (Nov. 5, 2021) (remote presentation)

Finding a Regulatory Balance for Genetic Biohacking

Harvard Law School, Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics, Consumer Genetics Technologies Book Launch (Nov. 2, 2021) (remote presentation)

EpiPen, Patents, and Life and Death

Harvard Law School, International Intellectual Property, Public Health, and Access to Medicines (Sept. 28, 2021) (remote presentation)

Seoul National University, Invited Special Lecture (Sept. 23, 2021) (remote presentation)

Harvard Medical School, PORTAL Weekly Meeting (May 14, 2021) (remote presentation)

Stanford Center for Law and the Biosciences Winter Workshop (May 12, 2021) (remote presentation)

Minerva Surgical, Inc. v. Hologic, Inc.

University of Illinois Summer Supreme Court Roundup (July 29, 2021) (remote presentation)

Regulatory Issues for N-of-1 Therapies

Harvard Medical School Annual Bioethics Conference (June 10, 2021) (remote presentation)

Implementation Issues in IP for Synthetic Biology

National Academies of Science, Engineering, and Medicine, U.S. Army Synthetic Biology Roundtable (May 19, 2021) (remote presentation)

Moderator, Effective Scientific Communication

National Academy of Medicine Emerging Leaders in Health and Medicine Forum (Apr. 21, 2021) (remote presentation)

The ELSI of CRISPR

University of Utah, Genetics and Medicine: Ethical, Legal and Social Issues (Apr. 8, 2021) (remote presentation)

Patents as Governance for Human Genome Editing

Museum of Science, Preparing for Human Genome Editing Technologies (Mar. 19, 2021) (remote presentation)

Commentator, Unclean Patents (Sean Seymore)

Vanderbilt Law School Patent Scholars Roundtable VI (Jan. 15, 2021) (remote presentation)

COVID-19 Innovations: Upending Bayh-Dole's "Assumptions"

Texas A&M University, Scowcroft Institute of International Affairs, 6th Annual Pandemic Policy Summit (Dec. 1, 2020) (remote presentation)

University of Indiana Maurer School of Law, Patents and Politics of COVID-19 (Sept. 10, 2020) (remote presentation)

The Great CRISPR Patent Dispute

University of Denver Sturm College of Law, Patent Law Guest Lecture (Nov. 23, 2020) (remote presentation)

Emory University School of Law, TI:GER Guest Lecture (Oct. 4, 2019) (remote presentation)

ABA Biotechnology Law Committee Lunch Talk (Wash., D.C. Mar. 9, 2017) (remote presentation)
University of Tasmania Centre for Law and Genetics (Hobart, Tas., Austl. Nov. 13, 2016)
University of Buffalo Law School, Law & Genetics Guest Lecture (Oct. 10, 2016) (remote presentation)
University of Buffalo Law School, Law & Genetics Guest Lecture (Feb. 22, 2016) (remote presentation)
Stanford Center for Law and the Biosciences, Lunch Talk (Jan. 12, 2016) (remote presentation)

Sandboxing the Public Health

University of Illinois College of Law, 10-10-10 Workshop (Nov. 19, 2020) (remote presentation)

Lessons Learned from Actavis Post-Lundbeck/Generics

CeBIL, University of Copenhagen, Pay-for-Delay Post-*Lundbeck* (Nov. 17, 2020) (remote presentation)

Biosecurity: Law, Limits, and Best Practices

Wellcome Sanger Institute, BioDiversity 2020 (Oct. 9, 2020) (remote presentation)

Genomics and the Law: Sex, Crime, and Property

Carl R. Woese Institute for Genomic Biology, Chambana Science Cafe (Oct. 7, 2020) (remote presentation)

Intellectual Property for Genome Editing: Human Therapeutics vs. Agriculture

University of Illinois College of Agricultural, Consumer & Environmental Sciences, ABE i4 Seminar (Sept. 11, 2020) (remote presentation)

COVID-19 and Drug Shortages

University of Iowa College of Law, IBL Center Summer Speaker Series (June 25, 2020)
University of Arizona James E. Rogers College of Law (Apr. 11, 2020) (remote presentation)

How Can the U.S. Address Coronavirus Drug Shortages?

University of Oklahoma College of Law, Mini-Conference on Coronavirus and the Law (Apr. 15, 2020) (remote presentation)

FDA's De Novo Device Pathways, Patents, and Anticompetition

Santa Clara University School of Law, WIPIP 2020 (Feb. 8, 2020)

Adaptive Intellectual Property

UNH Law, IP Lunch & Learn (Jan. 27, 2020)
University of Illinois College of Law Faculty Workshop (Dec. 3, 2019)
Harvard University Edmond J. Safra Center for Ethics, Fellows Seminar (Nov. 19, 2019)
Harvard Law School, Health Law Workshop (Nov. 4, 2019)

Section 101 and Medical Diagnostics

Harvard Law School, Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics, Year in P/Review (Dec. 6, 2019)

Regulatory and Ethical Challenges of Precision Medicine

University of Michigan Medical School, ELSI-LHS Conference (Nov. 7, 2019)

Patent Eligibility Reform and the Public Health

The National Academies of Science, Engineering, and Medicine, Committee on Science, Technology, and Law (Nov. 1, 2019)

The CRISPR IP Landscape

Suffolk University Law School, IP Symposium (Oct. 29, 2019) (with James Velema)

The Complexity of the CRISPR Patent Licensing Landscape for Agriculture

Colorado State University/OECD (Keystone, Co. Oct. 24, 2019)

Trade Secrecy and Scientific Communities

DePaul University College of Law, IPSC (Aug. 9, 2019)

University of Copenhagen Faculty of Law, RIBS (June 11, 2019)

Arizona State University Sandra Day O'Connor School of Law, GETS (May 24, 2019)

Boston University School of Law, BioIP (Apr. 26, 2019)

Panelist, *43rd Meeting of the Drug Discovery, Development, and Translation Forum*

National Academy of Medicine (July 30, 2019)

Intellectual Property Strictures and Big Data

National Academy of Medicine, Emerging Leaders Forum (July 17, 2019)

Regulating Genetic Biohacking

University of Copenhagen Faculty of Law, CeBIL (June 12, 2019)

The Pick-and-Shovel Play: Bioethics for Gene-Editing Vector Patents

Stanford Law School, BiolawLaPalooza (Mar. 30, 2019)

University of Crete Department of Economics, TECHNIS Seminar (Mar. 29, 2019) (remote presentation)

New York Law School, Faculty Workshop (Feb. 19, 2019)

University of Utah S.J. Quinney College of Law, Law and Bioscience Colloquium (Jan. 30, 2019)

University of North Carolina Center for Bioethics, Reading Group (Mar. 20, 2018) (remote presentation)

Genome Editing: Rights and Wrongs

Harvard Medical School, Health Policy Forum (Mar. 8, 2019)

Panelist, *R(x)EFORM: Addressing High Prices for Prescription Drugs*

NYU School of Law, Health Law & Policy Society Lunch (Mar. 5, 2019)

CRISPR, Patents, and the Public Health

Georgetown University Law Center, Institute for Technology Law & Policy (Mar. 1, 2019)

Saint Louis University School of Law, 2018 Distinguished Lecture in Health Law (Nov. 5, 2018)

Commenter, *Patenting New Uses for Old Inventions (Sean B. Seymore)*

Vanderbilt University Law School, IP Scholars Roundtable (Feb. 22, 2019)

Form Follows Function—Antibody Patents After Amgen v. Sanofi

U.C. Irvine School of Law, Biosimilars Conference (Feb. 8, 2019)

Patent Protection for Biotech Startups

SUNY Downstate Health Sciences University, Medical Entrepreneurship Series (Feb. 4, 2019)

The Legal and Ethical Implications of CRISPR

Vanderbilt Law School, Health Law Society Lunch (Jan. 9, 2019)

Patent Protection for Biotech Startups

New York Genome Center, Genomic Innovation Guest Lecture (Dec. 6, 2018)

Patents, Prices, and Gene and Cell Therapy

University of Pennsylvania Leonard Davis Institute, Symposium on Gene and Cell Therapies (Sept. 28, 2018)

IP, Surrogate Licensing, and Precision Medicine

University of Cambridge, Christ's College, CeBIL Annual Conference (Sept. 7, 2018)

What CRISPR Says About Patent Law and the Patent System

gsk, Visiting Lecture Series (July 17, 2018)

Stanford Center for Law and the Biosciences, Lunch Talk (May 15, 2018)

U.C. Berkeley School of Law, IP, Technological Disruption, and Social Justice (Apr. 16, 2018)

IP for Plant Genome Editing: Complexity, Breadth, and Licensing

Iowa State University, Loomis/CBC Symposium (May 9, 2018)

Legal Issues Surrounding AIRR Sequence Data

Stanford Center for Law and the Biosciences, BiolawLaPalooza (Mar. 23, 2018)

University of Copenhagen Faculty of Law, CeBIL Kickoff Event (Mar. 5, 2018)

Patent Eligibility and CRISPR: A History

University of Buffalo Law School, Law & Genomics Guest Lecture (Feb. 26, 2018) (remote presentation)

Bioethics Issues for Biotech Startups

New York Genome Center, Genomic Innovation Guest Lecture (Dec. 7, 2017)

The AIRR Data Commons and Patentability

AIRR Community Annual Conference (Wash., D.C. Dec. 4, 2017)

The IP Dimensions of CRISPR for Plant Innovation

8th Annual IP Protection for Plant Innovation Conference, International Seed Federation (Amsterdam, Neth. Nov. 29, 2017)

U.S. Exemptions to Patent Infringement

University of Copenhagen Faculty of Law, CeBIL Web Series (Nov. 29, 2017) (remote presentation)

Patent Protection for CRISPR: An ELSI Review

University of Copenhagen Faculty of Law, CeBIL (Nov. 20, 2017)

Knowledge Ecology International, Gene Therapy Pricing Symposium (Wash., D.C. Sept. 15, 2017)

Syracuse University College of Law, New York State Science & Technology Law Center (Sept. 14, 2017)

New York Law School, Faculty Workshop (Sept. 12, 2017)

University Patent Licenses in the CRISPR Era

George Washington University School of Law (Nov. 8, 2017)

Panelist, 2017 Patent Cases—Year In Review

Ninth Annual Berkeley-Georgetown Conference on the Role of Courts in Patent Law and Policy (Wash., D.C. Nov. 3, 2017)

Patents for the People

American Society for Bioethics and the Humanities Annual Conference (Kansas City, Mo. Oct. 19, 2017)

IP, Surrogate Licensing, and Precision Medicine (with Jorge L. Contreras)

Loyola University Chicago School of Law, Weit Life Sciences Law Scholars Conference (Oct. 13, 2017)

Sovereign Immunity Defenses in Biopharma Patent Litigation Law

Barclay's Generic Pharmaceuticals and Biosimilars Symposium (New York, N.Y. Oct. 10, 2017)

Cancer's IP

University of Pennsylvania Law School, Law:STEM Junior Scholars Conference (Oct. 7, 2017)

Syracuse University College of Law, Faculty Workshop (Sept. 14, 2017)

New York Law School, Faculty Workshop (Jan. 24, 2017)

Yale Law School Information Society Project, Ideas Lunch (Jan. 19, 2017)

Texas A&M University School of Law, IP Roundtable (Oct. 9, 2016)

Stanford Law School, IPSC (Aug. 11, 2016)

Boston College Law School, PatCon (Apr. 8, 2016)

Panelist, TC Heartland v. Kraft Foods & Sandoz v. Amgen

Chicago-Kent College of Law, Supreme Court Year in Review (Sept. 27, 2017)

Form Follows Function—in Patent Claims

Benjamin N. Cardozo School of Law, IPSC (Aug. 11, 2017)

University of Michigan Law School, RIBS (Apr. 28, 2017)

Stanford Law School, BiolawPalooza (Apr. 20, 2017)

Northwestern Pritzker School of Law, PatCon (Apr. 7, 2017)

Patent Protection for Microbial Technologies: Lessons from CRISPR

Federation of European Microbiological Societies 2017 Congress (Valencia, Spain July 12, 2017)

Academic Research to Commercial IP: The Evolution of RNAi and Emergence of CRISPR/Cas

New York BIO Annual Conference (May 11, 2017)

Patent Pools: Basics, History, and Biotech

New York BIO Annual Conference (May 11, 2017)

University Patent Licenses in the CRISPR Era

McGill University Faculty of Law, IP and Life Sciences Lecture Series (Mar. 24, 2017)

St. John's University School of Law (Feb. 6, 2017)

The CRISPR Patent Battle: Implications for Downstream Innovation in Gene Editing

NYU School of Law, Engelberg Center on Innovation Law & Policy (Mar. 21, 2017)

Panelist, CRISPR Patent Battle Post-Argument Discussion

American University Washington College of Law (Dec. 6, 2016)

Participant, *Bridges II: The Law-STEM Alliance & Next Generation Innovation*
Northwestern Pritzker School of Law (Oct. 28, 2016)

Moderator, *NYC Area Junior Law Faculty Forum*
New York Law School (Oct. 21, 2016)

Moderator, *Securing Long-Term Investment in R&D*
George Mason University School of Law, Center for the Protection of Intellectual Property
(Snoqualmie, Wash. Aug. 4, 2016)

Panelist, *CRISPR's Brave New World*
World Science Festival (June 4, 2016)

Patenting Human Cells, Tissues, and Organs
American Bar Association (New York, N.Y. Apr. 15, 2016)

Inter Partes Review and Orange Book Listed Patents: The Numbers
BIO IP Counsels' Conference (San Antonio, Tex. Mar. 31, 2016)
WilmerHale Annual IP Counsel's Event (New Brunswick, N.J. Oct. 6, 2015) (remote presentation)

Patent Litigation, Patent Regulation: A Framework
University of Washington School of Law, IPSC (Feb. 19, 2016)
George Mason University School of Law, Faculty Workshop (Feb. 2, 2016)
University of Illinois College of Law, IP Colloquium (Jan. 27, 2016)
New York Law School, Faculty Workshop (Jan. 19, 2016)
NYU School of Law, Tristate IP Scholars Conference (Jan. 15, 2016)

Patent Law's Reproducibility Paradox
University of Tulsa College of Law, Faculty Workshop (Dec. 4, 2015)
New York Law School, Faculty Workshop (Nov. 17, 2015)
Rutgers School of Law, NYC Area Junior Law Faculty Forum (Newark, N.J. Sept. 11, 2015)
DePaul University College of Law, IPSC (Aug. 7, 2015)
University of Kansas School of Law, PatCon (Apr. 11, 2015)

Litigating Patented Medicines: Courts and the PTO
Stanford Law School, PTO and the Courts Symposium (Apr. 18, 2015)

The History of Patenting Genetic Material
George Washington University Law School/USPTO, WIPIP (Alexandria, Va. Feb. 6, 2015)

Moderator, *The Ebola Crisis and Global Health Law*
Public Health Association for New York City (Dec. 11, 2014)

Administrating Patent Litigation
Maurice A. Deane School of Law at Hofstra University, IP Colloquium (Oct. 20, 2014)
New York Law School, Faculty Workshop (Sept. 30, 2014)
Vanderbilt University Law School, IP Scholars Roundtable (Apr. 25, 2014)
University of San Diego School of Law, PatCon (Apr. 5, 2014)
Benjamin N. Cardozo School of Law, IPSC (Aug. 9, 2013)
Stanford Law School, Fellows Workshop (July 29, 2013)

Intellectual Property Incentives in the Regulation of Genetic Testing

Stanford Center for Law and the Biosciences (Oct. 13, 2014)

Intellectual Property and Personal Genomics

Stanford School of Medicine, A Conversation on Personal Genomics Conference (June 5, 2014)

Patents, CoreValve, and Life and Death

Stanford Center for Biomedical Ethics, SCBE Lunch (May 28, 2014)

Commenter, *Rethinking Patent Standing* (Michael Burstein)

Stanford Law School, Patent Trolls and Patent Reform Conference (Mar. 22, 2014)

Guest Lecture, *Copyrights & Fair Use*

Stanford Graduate School of Business, Thinking Like a Lawyer (Feb. 21, 2014)

23andMe, the Food and Drug Administration, and the Future of Genetic Testing

Stanford Center for Law and the Biosciences, Journal Club (Feb. 21, 2014)

Predictability for Preemption in Patentable Subject Matter

Vanderbilt University Law School, Vanderbilt Journal of Entertainment and Technology Law Symposium (Jan. 24, 2014)

Stanford Center for Law and the Biosciences, Fellows Workshop (Jan. 20, 2014)

The Natural Complexity of Patent Eligibility

University of San Diego School of Law, Faculty Workshop (Nov. 13, 2013)

Florida State University College of Law, Faculty Workshop (Nov. 12, 2013)

University of Pittsburgh School of Law, Faculty Workshop (Nov. 11, 2013)

Emory University School of Law, Faculty Workshop (Nov. 7, 2013)

New York Law School, Faculty Workshop (Nov. 4, 2013)

Northern Kentucky University Salmon P. Chase College of Law, Faculty Workshop (Oct. 29, 2013)

University of Cincinnati College of Law, Faculty Workshop (Oct. 28, 2013)

Chicago-Kent College of Law, PatCon (Apr. 12, 2013)

Seton Hall University School of Law, WIPIP (Feb. 23, 2013)

Stanford Law School, Fellows Workshop (Feb. 11, 2013)

Stanford Center for Law and the Biosciences, Journal Club (Feb. 7, 2013)

Myriad: Past, Present, and Future

Stanford Law School, Law, Science & Technology Colloquium (Oct. 9, 2013).

Stanford School of Medicine, Human Genetics Journal Club (Sept. 25, 2013).

American Chemical Society (South San Francisco, Cal. Sept. 19, 2013).

Silicon Valley Intellectual Property Law Association, Three Schools Dinner (Santa Clara, Cal. Apr. 25, 2013).

Panelist, *This House Believes Genes Should Be Patented* (Debate)

UCSF, Oxbridge Biotech Roundtable (Oct. 7, 2013)

Gene Patents at the Supreme Court: AMP v. Myriad Genetics

Stanford Center for Biomedical Ethics, SCBE Lunch (June 26, 2013)

Stanford Center for Law and the Biosciences, Journal Club (Apr. 16, 2013)

Panelist, *The Myriad Decision and Patented Innovation in the Biotech Industry*

George Mason University School of Law, Center for the Protection of Intellectual Property (June 18, 2013) (remote presentation)

Intellectual Property and De-Extinction

Stanford Center for Law and the Biosciences, De-Extinction: Ethics, Law & Politics (May 31, 2013)

National Geographic Society, Revive & Restore (Washington, D.C., Oct. 24, 2012)

Patenting the Undead

Stanford Center for Law and the Biosciences, Undeath and Taxes! (Apr. 15, 2013)

Moderator, *Ethical, Legal, and Social Issues in Genetic Testing*

Stanford School of Medicine, Genetics 202 (Nov. 15, 2012)

“Exceptional Cases” in Patent Law: MarcTec LLC v. Johnson & Johnson

Gibson, Dunn & Crutcher LLP (New York, N.Y., Jan. 26, 2012)

The U.S. Supreme Court’s Impact on Biotechnology

Columbia University, Department of Biology, Biotech Evening Lecture Series (Mar. 24, 2010)

SELECTED MEDIA & INTERVIEWS

The New York Times, Wall Street Journal, Washington Post, L.A. Times, Chicago Tribune, Financial Times, Reuters, St. Louis Post-Dispatch, Wired, Technology Review, STAT News, National Geographic, Fortune, Nature News, Nature Medicine, Science, The Lancet, Bloomberg Radio, New York Law Journal, WGN, Chicago Today, GenomeWeb, Champaign News-Gazette, Regulatory Affairs, The Scientist, Backchannel, Business Insider, Inside Counsel, The Recorder, Chemical Engineering News, GigaOM, Greenwire, Biotechniques, Stanford Daily, Stanford News, Daily Californian, Daily Pennsylvanian, The Citizen (South Africa), and NPR’s All Things Considered and Marketplace

LEGAL EXPERIENCE

INDEPENDENT CONSULTING

2013–present (Patent Litigation, FDA Law)

GIBSON, DUNN & CRUTCHER LLP (NEW YORK, N.Y.)

Associate, 2009–2012 (on leave 2010-2011)

Summer Associate, 2008

2011 Frank Wheat Award for Pro Bono Service

U.S. DISTRICT COURT FOR THE EASTERN DISTRICT OF NEW YORK

Law Clerk for The Hon. Nicholas G. Garaufis, 2010–2011

U.S. DISTRICT COURT FOR THE DISTRICT OF COLUMBIA

Judicial Intern for The Hon. Paul L. Friedman, Summer 2007

SCIENTIFIC EXPERIENCE

NATIONAL ACADEMY OF MEDICINE

Emerging Leader in Health and Medicine, 2018–2021

NEW YORK GENOME CENTER

Institutional Biosafety Committee, 2016–2019

COLUMBIA UNIVERSITY

Department of Biology, 2004–2005

UNIVERSITY OF EDINBURGH

Institute of Cell Biology, Summer 2003

MONTREAL GENERAL HOSPITAL

Department of Medicine, Division of Medical Genetics, 2003

MCGILL UNIVERSITY

Department of Biology, Summer 2002

BELLAIRS RESEARCH INSTITUTE (BARBADOS)

Summer 2002

MONTREAL NEUROLOGICAL INSTITUTE

Winter 2002

MOUNT SINAI MEDICAL CENTER

Department of Hematology, Summer 2001

BAR ADMISSIONS

State of Illinois; New York State; District of Columbia (inactive); U.S. Court of Appeals for the Federal Circuit; U.S. District Courts: Eastern District of Texas, Eastern District of New York, Southern District of New York; U.S. Patent and Trademark Office