

# DUKE LAW MAGAZINE

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UNITED STATES PATENT OFFICE

## the Intellectual Property BOOM at Duke Law School

Also: Duke Law welcomes five new faculty  
The Duke Blueprint to LEAD

UNITED STATES PATENT OFFICE

# THE INTELLECTUAL PROPERTY

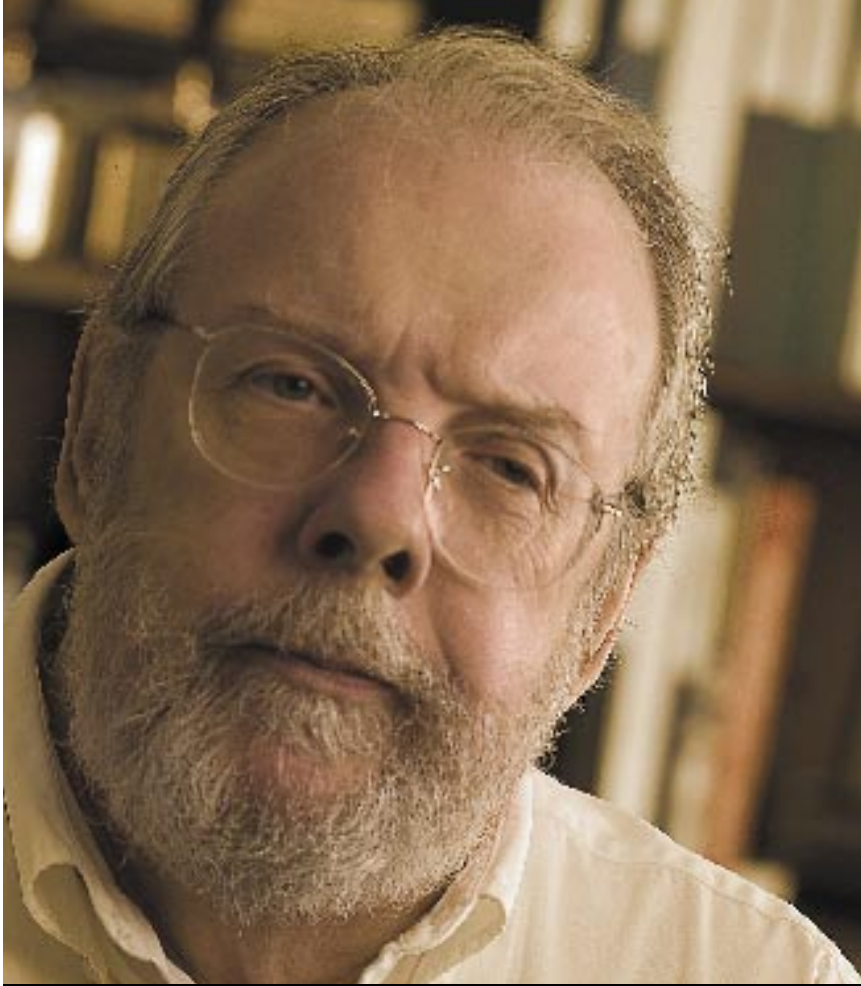
# BOOD

## AT DUKE LAW



**D**avid Lange not only started the intellectual property program at Duke Law School; he *was* the program for over 25 years.

When Lange joined the faculty in 1971, intellectual property wasn't generally thought of as a distinct legal discipline; rather, practitioners tended to see themselves as emphasizing some sub-specialty such as copyrights, trademarks, or patents. Lange was a pioneer, who had represented media clients before coming to Duke, and was invited by the late Edward Rubin '37, then a distinguished member of the California entertainment bar, to become a founding member of the first American Bar Association Forum Committee on the Entertainment and Sports Industries in the mid-1970s. >>



PROFESSOR DAVID LANGE

It was the advent of new technologies, beginning with cable television in the late 1960s and continuing with photocopiers and audio and video technologies in the 1970s, that both altered the control copyright proprietors had over their markets and indicated the need to take intellectual property at large more seriously, Lange explains. The globalization of trade in the '80s contributed to the wide adoption in America of the terminology used elsewhere—"intellectual property," or IP—and a new approach to related issues, he says. Then the explosion of digital technologies in the '90s, and particularly the appearance of the personal computer and the Internet, accelerated the pace at which IP issues were taking center stage among law firm clients' professional needs. As the new millennium approached, intellectual property had achieved a place in the legal profession few could have anticipated 30 years before.

To keep the curriculum current with this

changing area of law, Lange just kept adding to his teaching load. Jennifer Jenkins '97 recalls taking, among other intellectual property courses, a great survey course, classes in entertainment, telecommunications, and trademark law, and one on independent film production. "IP at Duke was David Lange in all his brilliance," she remembers.

Lange himself says "the program was bursting at the seams and student demand was very, very great. One person simply could not keep up with the need."

That's when Duke Law School made a serious commitment to intellectual property, recruiting leading scholars Jerome Reichman and James Boyle to the faculty in 2000.

Reichman, Bunyan S. Womble Professor of Law, is an expert in science and innovation policy as well as international intellectual property issues, such as how the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) of

1994 might be used to benefit developing countries. Boyle, William Neal Reynolds Professor of Law, writes about legal issues in cyberspace and about the history and theory of intellectual property.

With these three scholars as anchors of a new and ambitious IP focus, other faculty became attracted to Duke. Arti Rai, one of the country's top specialists in the field of patents, biotechnology, and pharmaceuticals, joined the faculty in 2003, supplying the legal expertise for Duke University's initiatives in the genomic sciences. Stuart Benjamin, a prominent expert in telecommunications law, also joined the faculty in 2003. Tracy Lewis, Martin Black Professor of Economics at the Fuqua School of Business and director of its Innovation Center, received a joint appointment to the Law School in 2004.

To provide greater institutional visibility and support, the Center for the Study of the Public Domain (CSPD) was established,

## “The students are central to what we do here, and not just as passive consumers.”

James Boyle

and also made some key hires. In August of 2002, Jennifer Jenkins was appointed as director of the CSPD. Jenkins teaches a seminar in Intellectual Property, the Public Domain, and Free Speech and runs the CSPD’s “Arts Project.” (See related story page 38.) The CSPD also appointed Anthony So as senior fellow in health and science policy in March 2004. So, who also has an appointment at the Sanford Institute of Public Policy Studies, is spearheading the CSPD’s efforts on access to medicines. (See related story page 36.)

The expertise of these faculty members is further supplemented by that of distinguished lecturers and adjunct faculty, many of whom work in the biotech and digital companies of the Research Triangle.

“Our coverage of the intellectual property field is now second to none,” states Lange.

But the intellectual property program’s relationship to its students is more than that of a well-stocked store with a wide range of offerings for its customers. “The students are central to what we do here, and not just as passive consumers,” explains Boyle. “I think that is one of the hallmarks of David’s approach, and I think the people who have come to teach at Duke came, in part, because they share it.” Student activities around intellectual property have burgeoned in recent years; there is, for example, an active Intellectual Property and Cyberlaw Society, whose annual “Hot Topics” conference has attracted considerable praise, and an online student journal, the *Duke Law and Technology Review*, whose innovative iBrief format is now much imitated. (See related story page 24.) Yet this just scratches the surface, according to Boyle.

“First of all, we have so many students with interdisciplinary interests. Twenty-five percent of our students are joint-degree candidates, and so you have an incredible richness in the classroom. One does not need any particular background for general

intellectual property study, but when you are discussing operating systems, or gene sequences, or ideas about authorship in literature, it is great to have people in the class who can speak up about that subject from a non-law perspective. The second thing is that Duke has started attracting students because of our strength in intellectual property. So you have people in our classes who arrive already excited by the material, maybe on the arts side or because they have dealt with some issue of rights over computer programs or access to medicines. They come with a strong set of ideas about the policies in the area. And third, there are a lot of students to whom all of this is brand new. Each of those groups has something to offer in class discussion, but it is the combination that is particularly exciting.”

Garrett Levin ’06 says he chose Duke Law primarily because of its exceptional intellectual property program.

“I was a documentary film editor before coming to law school, and I wanted to learn as much as I could about IP. The commitment the Law School has shown in assembling the IP faculty convinced me that there aren’t many places that are doing the high quality work that happens here with Professors Boyle, Lange, Reichman and Rai.”

### Building excellence

Dean Katharine Bartlett says intellectual property scholars have been recruited with a view to building a first-rate program and making the intersection of law, science, and innovation a strategic focus of the Law School.

“There are amazing strengths at this University in the sciences, engineering, business, medicine, and policy. The science and technology emphasis in the Law School leverages these assets and our own to create one of the most exciting IP presences in the country.”



## INTELLECTUAL PROPERTY CURRICULUM and RELATED COURSES 2004-2005

**Advanced Copyright: Digital Technologies and Others**  
**Antitrust**  
**Bioethics**  
**Copyright Law**  
**Current Issues in International Law**  
**Entertainment Law**  
**First Amendment**  
**Independent Feature Film Production, Finance, and Distribution**  
**Intellectual Capital and Competitive Strategy**  
**Intellectual Property**  
**Intellectual Property, the Public Domain, and Free Speech**  
**International Intellectual Property**  
**International Trade Law**  
**Law and Literature**  
**Patent Claim Drafting**  
**Patent Law and Policy**  
**Trademark Law and Unfair Competition**  
**Telecommunications Law**

## Center for the Study of the Public Domain

The story of Duke Law's CSPD also starts with David Lange. Professor Boyle credits Lange with framing an essential issue for intellectual property scholars in his 1981 article, *Recognizing the Public Domain*.

"He argued that scholars were focusing all of their attention on intellectual property, not focusing on the dangers of over-protecting material and impoverishing the public domain, because they assumed that it was plentiful and would always be there," explains Boyle. "He concluded 'and that, of course, is what they said about the buffalo. And where are the buffalo now?'" It is that notion of the dangers of ignoring the role of the public domain that prompted the founding of the CSPD.

"Any thoughtful intellectual property scholar would say that the balance between IP and the public domain is vital to having a vibrant, successful system for innovation, whether in culture or in inventions, yet around the world, there was not a single institution devoted to the study of the public domain," says Boyle. "It's as if we had a thousand schools of Industrial Development and not a single School of the Environment. It's not that one should restrain industrial development, but if you want to have sustainable development, you have to understand the environment as well. At its best, that is what good intellectual property policy does. Sometimes creating a property right can actually expand the public domain; without patents, for example, which require disclosure and which eventually expire, we would have to rely on trade secrets, with the risk that the invention never becomes freely available. The key thing is to make sure that the expansion of rights serves, rather than hinders, the goals of the system."

Professor Jerome Reichman agrees. "If over-protectionist intellectual property rules make it hard to get the basic inputs to innovation, it will end up hurting our own innovation efforts rather than help-

# Of iBriefs, MP3s, and Public Interest: Student initiatives in IP at Duke

**The explosion of scholarship and initiatives in intellectual property at Duke Law School has not come solely from the faculty; over the past four years, students have demonstrated spectacular intellectual engagement and creativity, both in and out of the classroom. Three examples follow.**

## IP/Cyberlaw Society's 3rd annual "Hot Topics" symposium

Peer-to-peer music file-sharing is an unquestionably "hot topic." An estimated 50 to 60 million people currently engage in file-sharing, it's the subject of numerous bills pending on Capitol Hill, and hundreds of lawsuits and criminal prosecutions are aimed at shutting the practice down. It was, then, a fitting topic for a half-day panel discussion and debate, part of the Intellectual Property and Cyberlaw Society's 3rd annual "Hot Topics in Intellectual Law Symposium" held March 26.

"The issue of file-sharing is of importance not only to the recording and music industries, but functions as a referendum on copyright law itself," said Professor David Lange in introductory remarks. "Never before our time have individuals massively confronted copyright in their everyday lives in the way that we now do." Panel moderator Raymond Ku, professor of law at Case Western Reserve University School of Law and the associate director of the Center for Law, Technology and the Arts, agreed with that assessment, noting that copyright treats creators, distributors, and the public differently.

"Peer-to-peer changes the equation. The publisher and distributor drop out of the picture and are replaced by the public," said Ku.

The student-organized panel included Dean Garfield, vice president of legal affairs for the Recording Industry Association of America, which has sued to stop file-sharing, and Jason Schultz, a staff attorney for the Electronic Frontier Foundation, who called for voluntary collective licensing as a way to compensate artists and copyright holders, without shutting down the practice. Other views came from Jim Burger, who represents technology companies on IP, communications, and government policy matters, and Mark Ishikawa, who described himself as an internet "private investigator" hired by copyright holders to detect infringers and pursue them under the Digital Millennium Copyright Act (DMCA).

"Users should have no reasonable expectations

of privacy when they are using peer-to-peer networks," said Ishikawa, adding that he can easily track down the date, time, and Internet provider address of any file exchange.

"I thought [the students] did a very professional job of bringing together people with vastly different viewpoints on a controversial issue," said participant Schultz. He said the informal contributions of Judge Randall R. Rader of the United States Court of Appeals for the Federal Circuit gave additional depth to the panel.

The file-sharing debate was followed by an exploration of the crucial issue of specificity in the language of patent claims, with the keynote address delivered by Judge Rader, a top jurist and teacher of patent law. It continued in breakout sessions led by practitioners and academics in such areas as nanotechnology, biotechnology, antitrust in software product markets, and recommendations for patent reform.

According to Grant Yang '05, past president of the IP and Cyberlaw Society, "Hot Topics" is designed to appeal to academics, practitioners, and students with diverse interests. Rising 2L David Breau, the incoming president, feels the March program succeeded well in that regard. "People were engaged and interested—attorneys as well as students."

## Duke Law and Technology Review: An Online Pioneer

The staff of the *Duke Law and Technology Review* (DLTR) celebrated its final faculty approval as a permanent Duke Law School journal this spring, the last step in a four-year process.

Entirely a student initiative, DLTR takes a highly innovative approach to the law journal format, as well as to issues relating to technology and the law. Published online with over 300 regular subscribers, DLTR pioneered the iBrief, which crosses an op-ed style with a traditional journal's rigorous standards of research and analysis.

"At 10-15 pages, iBriefs are designed to be more accessible than traditional law journal

**“Striking the right balance between what is protected by exclusive rights and what remains free for all to use and build upon is vital to the functioning of the IP system, and the innovation and creativity it seeks to promote.”**

Jennifer Jenkins

ing them,” offers Reichman, whose work takes an international view. “As more and more innovation comes out of today’s developing countries such as China and India, it’s going to increase enormously the costs of innovation here, especially by small- and medium-sized firms who will not be able to get affordable access to the inputs they now take for granted.”

Boyle, Lange, and Reichman convened the Conference on the Public Domain in November 2001, which jump-started activity and discussion on the role of the public domain in all spheres of innovation. Attracting scholars and creators in such areas as science, history, environmental systems, art, law, software, film, and music, it represented the first large-scale inquiry into the issue of whether the trend towards expanded intellectual property rights would best stimulate innovation and investment in the face of new technologies. The consensus of concern at the conference is what led to the establishment of the CSPD at Duke in 2002, funded by a generous \$1 million gift from an anonymous donor. Boyle, Lange, Reichman, and Arti Rai all serve as faculty co-directors of the CSPD.

From the start, the CSPD has sought to highlight the public domain as an essential part of the intellectual property system. Jenkins, the CSPD’s director, puts it this way: “The Center aims to preserve the same thing—innovation—that the IP system is designed to facilitate. Striking the right balance between what is protected by exclusive rights and what remains free for all to use and build upon is vital to the functioning of the IP system, and the innovation and creativity it seeks to promote.”

### Public Interest Opportunities

In recent years, Duke Law students have worked on an array of pressing public interest issues in the intellectual property area.

Through seminars that offer the opportunity to work with public interest organizations, students have participated in a series of practical projects. One of these projects—researching privacy issues on a computer operating system for the Electronic Privacy Information Center—eventually led to action by both the Federal Trade Commission and European Union. Another project allowed students to prepare and present a formal 50-page comment to the Federal Communications Commission.

This spring, during a seminar on intellectual property, the public domain, and free speech, students worked on thorough analyses of issues surrounding proposed legislation that would provide broad legal protection for databases. Their papers examined Commerce Clause limits on this legislation, existing protections for databases under copyright as well as contract law, differences between the current proposal and established misappropriation doctrines, and an in-depth study of the legal database industry’s methods for protecting its databases.

“I felt I was doing something that could actually make a difference,” says Kerri Smith, who participated in the seminar. “It was amazing what a law student could do in analyzing challenging, complex issues that were both interesting academically and important from a policy perspective.”

Working closely with Professors David Lange, Jeff Powell, James Boyle, and Fellow Daphne Keller, several students also assisted in the research and drafting of a Supreme Court *amicus* brief in *Eldred v. Ashcroft*, the case challenging Congress’ most recent 20-year extension of the copyright term. While the challenge to the term extension was ultimately unsuccessful, the *amicus* brief was cited by Justice Stephen Breyer in a strong dissent.

Students continue to perform public interest work through independent studies and research positions with the Center for the Study of the Public Domain. Several students are currently working with the CSPD’s Arts Project on articles and multimedia materials that illustrate the impacts of intellectual property law on creative processes.

“The work that they are doing involves legal analysis, but it also gathers artists’ stories and perspectives,” says Jennifer Jenkins, director of the Project. “The interdisciplinary nature of this work has allowed students with artistic backgrounds to apply these in their legal education—with great results.” ♣

articles,” says editor-in-chief Ryan King ’05. “Any educated person should be able to read them without being bogged down by a lot of legalese, but a technology lawyer should be able to pick them up and find the pieces relevant and interesting.”

DLTR covers topics relating to intellectual property, business law, free speech, privacy, telecommunications, and cybercrime, among others. Articles currently posted at <http://www.law.duke.edu/journals/dltr> include a summary and analysis of the FCC’s new wireless local number portability rules, a review of how patent infringement cases could be affected by the “complexity exception” of the Seventh Amendment, which allows a judge to deny a jury trial in a civil case if he or she feels the issues are too complex to allow a jury to offer an informed decision, and the issue of patenting computer data structures. DLTR is attracting contributions from international practitioners, as well as students, from a broad spectrum of disciplines.

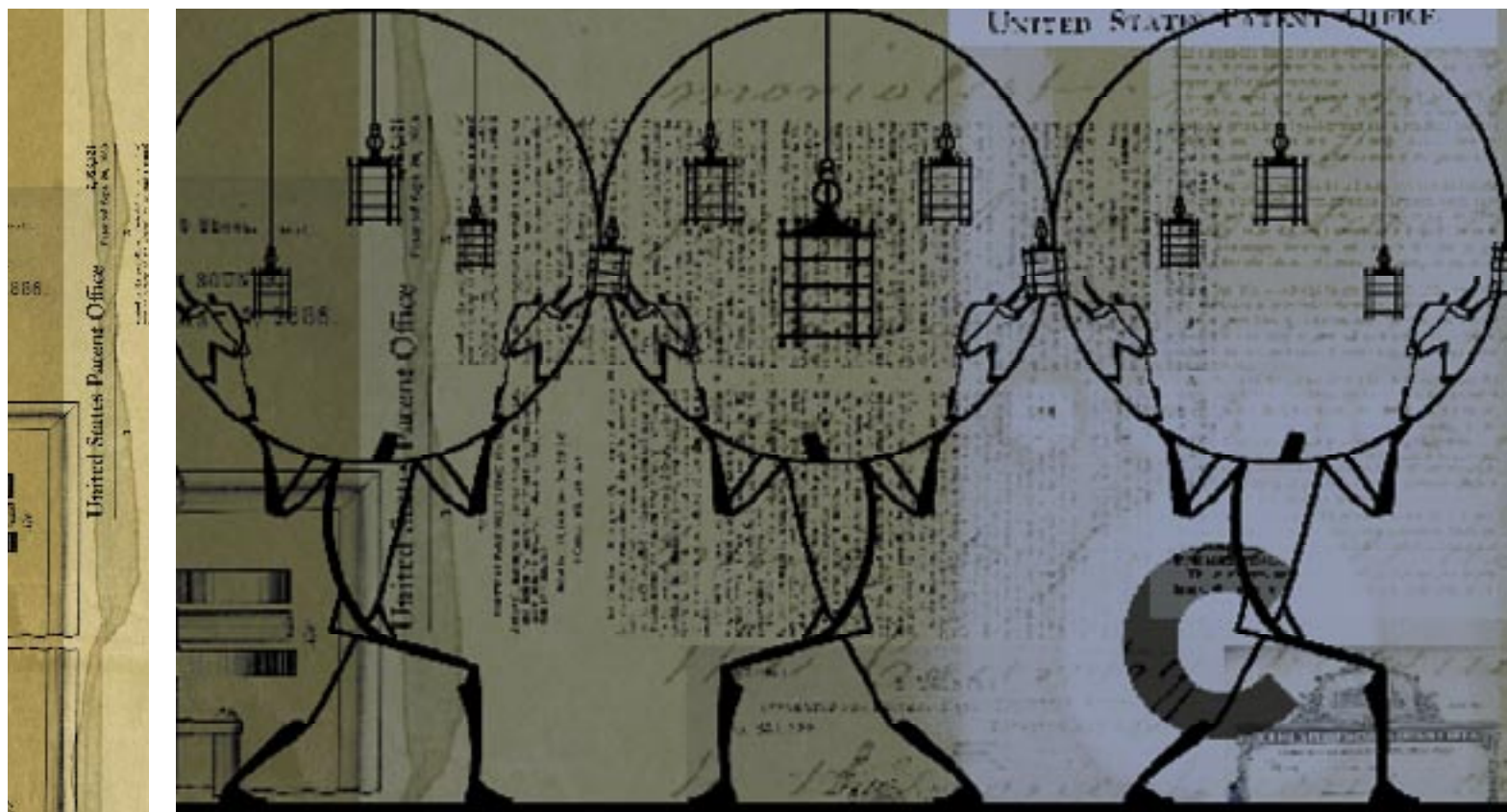
“Practitioners are starting to find us, as contributors as well as readers,” says King. “The shorter format and freer style lends itself well to their contributions.”

Continuity and frequency of publication allows DLTR to be the first to cover controversies in technology regulation, and to continue to follow the issues as they evolve, says Kerri Smith ’05, DLTR’s managing editor.

“Traditional journals take a year to publish, so we can be the first to cover an issue,” said Smith of DLTR’s plans to publish an iBrief every two weeks throughout the academic year.

King credits the last board of DLTR with establishing a regular and frequent publication schedule, and securing approval as a permanent journal. With a vastly expanded staff, the result of an aggressive drive to recruit top 2Ls and 3Ls, King says quality will be the focus in the coming year, the goal being tightly written articles on timely issues that are put through a rigorous 10-step editing process.

“There are very few all-electronic journals in law. DLTR was one of the first and immediately set high standards both for its innovative approach and the quality of its writing,” says Richard Danner, senior associate dean for information services and Archibald C. and Frances Fulk Ruffy Research Professor of Law. “As a largely student-written journal, DLTR counters the trend of most law journals to publish fewer student contributions, thereby increasing the value of participation for Duke Law students. The journal ties in directly with the Law School’s academic priorities, and it was an easy matter for the faculty to grant final approval last year.”



### CSPD events: from international trade to documentary film

Just as there are intricate, reciprocal connections among natural systems—changes in one often spur reactions elsewhere—so are there intricate connections in areas traditionally governed by intellectual property rights. One major success of the CSPD has been exploring those connections through interdisciplinary conferences, meetings, an ongoing lecture series, and continuing research.

In April 2003, the CSPD hosted the Conference on International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime, a major conference on the harmonization of international IP rights since the TRIPS Agreement of 1994. Organized by Jerome Reichman and Keith Maskus, professor and chair of the Department of Economics at the University of Colorado at Boulder, and primarily funded by the Rockefeller and John D. and Catherine T. MacArthur Foundations, the conference brought together legal scholars, economists, and political scientists to address the proper

balance between private and public rights and interests in an incipient transnational system of innovation, to serve both developing and developed economies. Of particular focus were issues relating to the ability of governments to provide such critical public goods as health, education, and environmental protections in a global regime that increasingly relies on massive privatization of technical inputs.

Papers presented at the conference have resulted in this summer's Symposium issue of the *Journal of International Economic Law* and a collection, *International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime*, forthcoming from Cambridge University Press. The conference was successful in raising the visibility of a wide range of policy issues, some of which have been pursued in subsequent international meetings.

Proliferating property rights and their effects on arts and culture are the focus of the CSPD's Arts Project, which in April 2004 hosted a conference called "Framed!: How Law Constructs and Constrains Culture." Held in conjunction with "Full-Frame," one of the nation's leading docu-

mentary film festivals, it was a forum for lawyers, musicians, and world-renowned documentarians to discuss the increasing conflict between copyright and creativity. Panel discussions explored issues such as hurdles faced by filmmakers in clearing rights and renewing limited licenses for images and music, and how the line between permissible borrowing and theft in music has shifted in recent years.

In 2003, the CSPD also launched an interdisciplinary lecture series on "The Information Ecology," which has featured presentations by scholars from Duke and around the country on innovation economics, genomics, telecommunications, media policy, electronic privacy, and a variety of other subjects. Upcoming speakers in the Information Ecology series include James Love, director of the Consumer Project on Technology, who will speak about alternative ways of funding research and development that would promote access to essential medicines.

The breadth of the CSPD's approach yields both theoretical and practical benefits. "One of the real advantages has been the wealth of detail it has generated about

**“Diverse as all these projects are, there is a common theme here, a Duke signature: great scholarship translated into policy proposals that actually make the world a better place.”**

**Dean Katharine Bartlett**

the way intellectual property actually works in different areas of creativity,” explains Boyle. “This not only leads us

to a better understanding of innovation, but it is also practically fascinating because of the possibilities for productive transplants: There may be practices in one area, say in music or software, which inspire you to wonder whether an approach like that could work in science or medicine. Arti Rai’s work on open-source drug discovery, which borrows ideas from software development, is one example. Jerry Reichman’s comprehensive study of compulsory licenses in different areas of industry is another. The idea is really the stitching together of issues raised across cultural and scientific arenas. That gives you practical insights, which in turn gives you more theoretical insights—it’s a dialectic, a back and forth process where you get a more sophisticated understanding of both.”

### Major developments in public genomics and access to medicines

The CSPD’s activities in the areas of science, health, and distributive justice got two major boosts in 2004.

First, partly due to a generous \$100,000 donation from an anonymous donor, the CSPD was able to collaborate with Duke University’s Center for Genome Ethics, Law and Policy (GELP) and the Sanford Institute to set up the Program on Global Health and Technology Access, to be directed by Dr. Anthony So. (See related story page 36.) The program will work to solve patent problems impeding drug development and distribution.

“Our goal is to provide the global poor with better and more affordable access to essential medicines such as HIV/AIDS drugs,” states So. Related projects will

**CSPD**  
<http://www.law.duke.edu/cspd>

**Framed!**  
<http://www.law.duke.edu/framed>

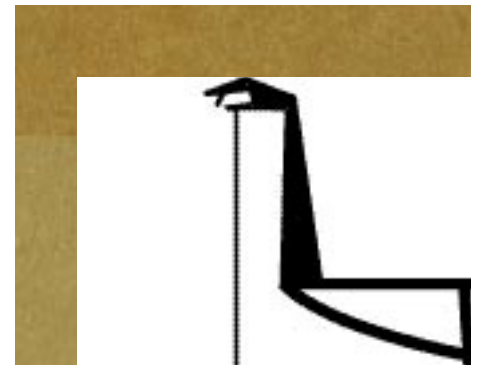
include Professor Rai’s open-source approach to inventing drugs that fight tropical diseases. (See related story page 30.)

Second, a number of

Duke Law faculty were part of an extremely ambitious, five-year, \$5 million grant application to the National Institutes of Health and the Department of Energy, for the “Centers of Excellence” Program in Ethical, Legal and Social Aspects of the Human Genome. The grant, which was coordinated by Dr. Robert Cook-Deegan, director of GELP, is expected to result in the establishment of a Center for the Study of Public Genomics at Duke and designation of Duke as one of the prestigious national Centers of Excellence. The new Center will focus intensively on the effects of intellectual property on genomic research, development and medicine. Its projects will include Professor Rai’s application of open-source data sharing to genomics research, and Professors Reichman and Lewis’ research on promoting scientific innovation with compensatory liability rules. (See related stories, pages 28, 30, 33.)

**F**rom science to music, from film to genomics, the profusion of activities can be almost dizzying. David Lange’s virtuoso one-man band is now at least a string quartet and well on its way to being a full orchestra. In the process, the development that Lange masterminded has really exceeded expectations.

“We are very proud of what the intellectual property program has achieved,” says Dean Bartlett. “Diverse as all these projects are, there is a common theme here, a Duke signature: great scholarship translated into policy proposals that actually make the world a better place.” ♪

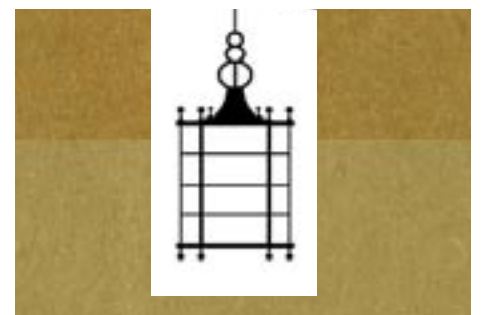


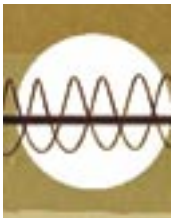
## COLLECTED PAPERS FROM CSPD CONFERENCES

*Collected Papers: Duke Conference on the Public Domain*, 66 Law & Contemp. Probs. (2003)  
<http://www.law.duke.edu/journals/lcp/indexpd.htm>

*Selected Papers: Conference on International Public Goods and the Transfer of Technology Under a Globalized Intellectual Property Regime*, 7 J. Int’l Econ. Law, Issue 2 (2004)  
[http://www3.oup.co.uk/jielaw/hdb/Volume\\_07/Issue\\_02/](http://www3.oup.co.uk/jielaw/hdb/Volume_07/Issue_02/)

INTERNATIONAL PUBLIC GOODS AND THE TRANSFER OF TECHNOLOGY UNDER A GLOBALIZED INTELLECTUAL PROPERTY REGIME, Ed. Maskus and Reichman (forthcoming from Cambridge University Press, 2005)





## Dynamic law and hot science

Duke Law School faculty integral to new Center for the Study of Public Genomics

Duke University is poised to establish a new interdisciplinary Center for the Study of Public Genomics. An announcement is expected at press time regarding a \$5 million, five-year grant to the Duke Institute for Genome Sciences and Policy's Center for Genome Ethics, Law and Policy (GELP) from the National Institutes of Health and the Department of Energy to establish the new Center. This will make the Institute for Genome Sciences and Policy a formally designated national Center of Excellence for Ethical, Legal and Social Implications Research.

Duke Law School faculty are "absolutely central" to the new Center's core research projects, says GELP Director Robert Cook-Deegan, MD, who has close ties to the Center for the Study of the Public Domain. Cook-Deegan's own research contribution to the Center will be policy histories of DNA sequencing, micro-array technologies, and the information-sharing practices for each. Duke Law Professor Arti Rai will investigate how open-source data shar-

**"Some companies love patents, but at the same time hate gene patents. They want to patent their technologies, but don't want to have to pay royalties on every single DNA segment they use."**

Robert Cook-Deegan

ing, modeled on software, might be applied to genomics research as an alternative to the patenting tradition. Jerome Reichman, Bunyan S. Womble Professor of Law, and Tracy Lewis, Martin Black Professor of Economics and director of the Innovation Center at the Fuqua School of Business, who has a cross-appointment at Duke Law School, will explore how a regime of compulsory liability rules could work as an alternative to property rights in the context of genomic science and industry. (See related stories, pages 30 and 33.) The Center also includes faculty from Duke's Sanford Institute of Public Policy, School of Medicine, and Department of English, as well as Georgetown University's Kennedy Institute of Ethics, with its DNA Patent Database.

"To do good work in this area, you need business, law, science, and ethics," Cook-Deegan says. "Duke has pulled this all together; it's extraordinary."

By design, the new Center will look at alternatives to the traditional intellectual property framework.

"If there's anything that resonates as belonging to all of us, it's our genes," observes Cook-Deegan, noting that some pioneering genomics researchers argue for the practical value of a robust scientific commons, an area of focus by Duke Law scholars such as Rai, Reichman, and William Neal Reynolds Professor of Law James Boyle.

"At the same time, you have another set of players operating in the private sector, doing the same experiments, generating the same data, but handling it in a completely different way. There's a chance here to compare how those different frameworks play out," Cook-Deegan explains.

The genetic field is unusual in part because of a limited number of genes—about 22,000 in the human genome—that produce approximately 100,000 proteins. Argues Cook-Deegan, "If you allow exclusiv-

ity over genes, then you are really building fences around things that everybody needs access to in order to make scientific progress. When you have a system bounded by nature, there is the potential for bottlenecks. Bottlenecks and exclusive property rights are a volatile mix.”

While early genetic innovations of the mid-1970s were not patented, the norms shifted rapidly toward patenting in academia, partly as a result of the Bayh-Dole statute of 1980 that gave universities the rights to the intellectual property they create with federally supported research, according to Cook-Deegan. “When biotechnology and pharmaceutical firms started pouring research and development money into molecular biology in the 1980s, their business models depended on patents. Everybody was patenting, but for somewhat different reasons.

“The default premise has shifted over 30 years from a certain skepticism regarding the value of patents to ‘we love patents.’ And patents have been applied to more and more things, including fairly basic methods—genes in their purified forms, cells, cell-lines, software, even methods used in computers—all sorts of things people produce in molecular biology laboratories.

“Only through litigation can the validity of these patents be tested,” Cook-Deegan adds. Since litigation usually only becomes worthwhile once products get to market—generally a 15- to 20-year cycle in pharmaceuticals—that process is just getting underway.

“The surge in DNA patenting really began in 1994,” says Cook-Deegan, citing data from Georgetown’s DNA Patent Database (<http://dnapatents.georgetown.edu>), a unique data resource for the new Center. “And the peak may have passed, based on drops in DNA patent counts each year since 1999.”

The cumulative nature of innovation in genomics makes intellectual property a critical concern. “Some companies love patents, but at the same time hate gene patents,” explains Cook-Deegan, offering as an example companies that make DNA “chips,” which necessitate the use of hundreds of thousands of gene segments. “They want to patent their technologies, but don’t want to have to pay royalties on every single DNA segment they use.”

Other companies base their entire business plans on strong patents on genes—they find genes and patent them so that

they get licensing fees. “These companies have a huge stake in opposing patent reform that might limit their intellectual property,” argues Cook-Deegan.

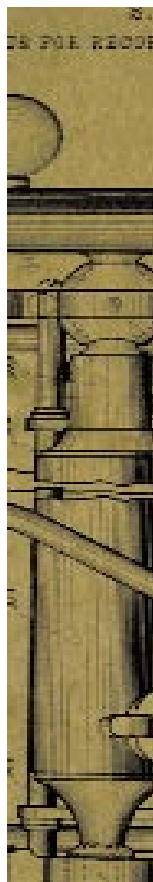
“Somebody has to be looking out for the public interest, and this is part of the Center’s role.”

Cook-Deegan cites examples where private and public interests have found an acceptable balance. Gene splicing, or recombinant DNA, was one of the two seminal genome technologies of the 1970s. The “Cohen/Boyer” patent was held jointly by Stanford University and the University of California (Berkeley) until its expiration in 1997, covering both a powerful research tool and production mechanism. Instead of exclusively licensing the technology to a single company, the universities licensed it relatively cheaply for commercial users to ensure that it generated revenue, and built in a de facto research exemption—academics could use it for free.

“The patent generated a quarter-billion dollars that the universities plowed back into research, but the patent did not block extremely wide adoption of the method, and it had little if any effect on prices of the drugs made using recombinant DNA.

“The crucial issue is not just what is patentable or not, but how the patents are used and licensed. Patents don’t inherently help or hinder innovation,” explains Cook-Deegan. “Patents can do both, and sometimes a single patent can do both at the same time, but in different ways for different applications.

“A consensus is emerging that patents



GELP DIRECTOR ROBERT COOK-DEEGAN

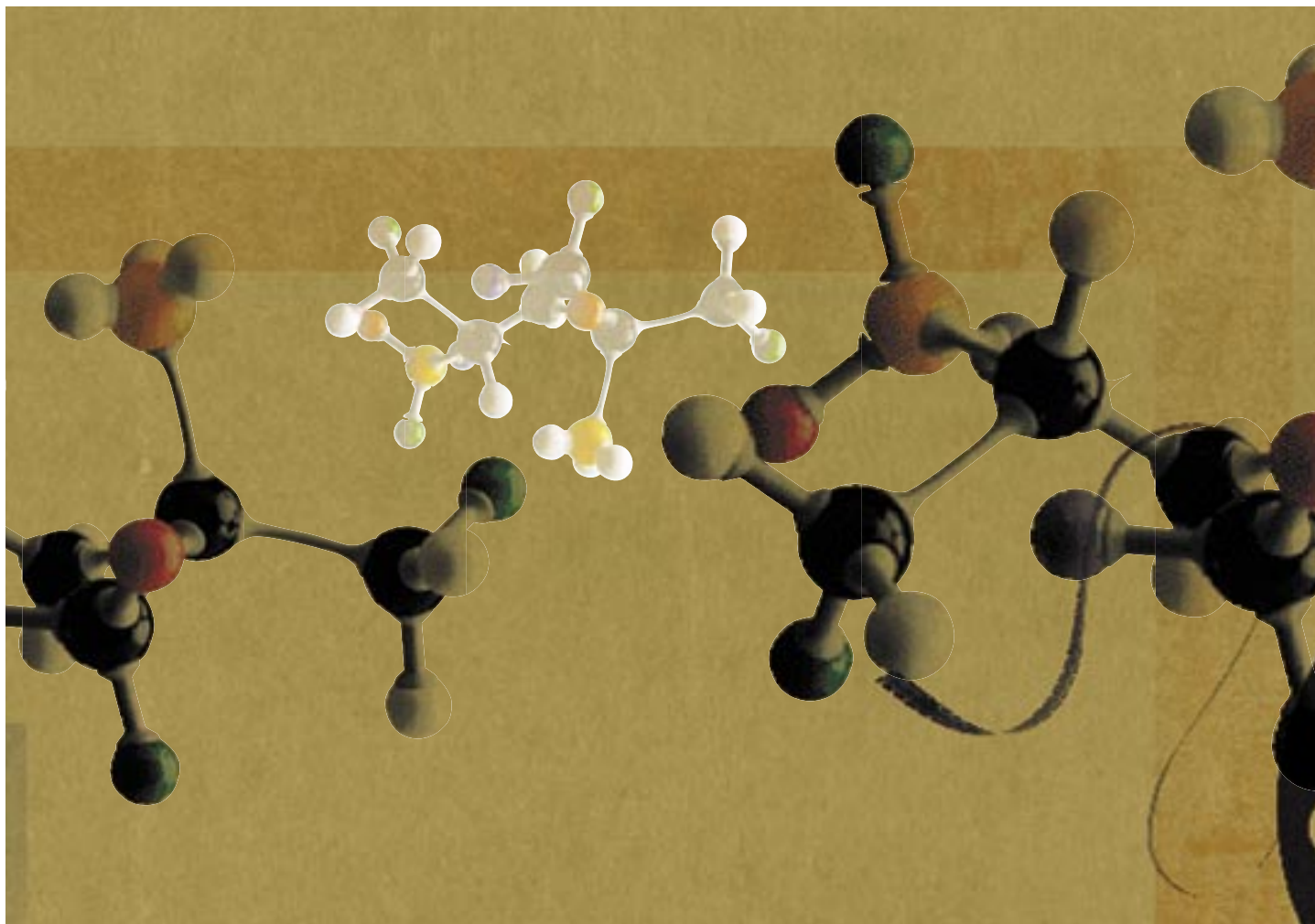
are not working well in DNA diagnostics,” he continues. “Groups that were doing some DNA tests have stopped because of the intellectual property; prices are higher, and incentives to innovate are lower. The patents basically cover an association between DNA sequence and disease—a

basic discovery—but the genetic test that follows may not require extensive investment to develop. Any lab can do the DNA test just knowing the association. The patent holder has little stake in doing the test cheaper,

faster, or more accurately because price and profit are driven by the monopoly, not the technology. Why spend money to slim down a cash cow?

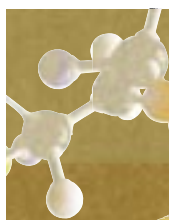
“We’re hoping to add to the debate a mix of people who are thinking of it from the perspective of the system as a whole and the public interest, not just vested interests,” says Cook-Deegan. “The vested interests may reach decisions that are fine for all of us most of the time, but when they aren’t, we’ll be watching.” ♡

Learn more about the Center for Genome Ethics, Law, and Policy, its upcoming programs and events, and the new Center for the Study of Public Genomics: <http://www.law.duke.edu/gelp>



**“With open and collaborative approaches generally, there may be room for creativity or the possibility of creativity that wouldn’t come if you just had one pharmaceutical company working on a drug.”**

**Arti Rai**



## Open Source: How far can it go?

**Arti Rai looks at open and collaborative drug development models**

**A**n expert in patent law and the norms of biopharmaceutical research, Arti Rai sees some problems in the current system.

“It may be difficult to get a lot of progress in terms of complex diseases like cancer through some of the current structures we have in place, such as the emphasis on individual labs that are small and focus on only one gene or one protein,” she argues.

In the area of tropical diseases, such as malaria, the failure of the biopharmaceutical patent system is primarily economic. “It’s not that the issues are so scientifically complex but rather that there’s little monetary incentive to do research in the area,” explains Rai, who joined the Duke Law faculty in 2003.

Rai has two separate research initiatives that explore how alternative methods of drug development can get around these problems.

On the tropical disease front, Rai, along with collaborators Stephen Maurer of the Goldman School of Public Policy at the University of California, Berkeley, and Andrej Sali, a computational biologist at the University of California, San Francisco, has proposed a unique open approach to drug development in areas where profit expectations do not justify large investments in research and development. In some ways it would resemble the “open source”

movement in software development, which has produced products such as Linux. The proposal was featured in June in *The Economist* magazine's "Technology Quarterly."

"We're trying to put an experimentation model in place that would draw upon the expertise of a large number of people," Rai says, explaining that scientists across different labs would volunteer to work together on data, as opposed to just swapping source code. "Rather than screening for participation at the outset, we would screen output to see whether it was really good or not."

The combination of volunteer labor and public domain or donated research tools would help keep the costs of finding a promising drug candidate down. Such candidates would then go into commercial development based on competitive bidding.

Rai explains that the Tropical Disease Initiative, or TDI, is intended to create more drug candidates for another non-profit organization, Virtual Pharma, to develop. Virtual Pharma looks for good

For more information on the Tropical Drug Initiative, see [http://economist.com/displaystory.cfm?story\\_id=2724420](http://economist.com/displaystory.cfm?story_id=2724420).

drug candidates that aren't being developed because nobody has the monetary incentive to do so. It then funds contract research organizations or pharmaceutical companies to develop those drugs.

"Right now the Virtual Pharma pipeline is somewhat dry. It's done a very good job of trying to address one problem in the research and development value chain, and TDI is going to address another problem, which is keeping the supply pipeline full."

Whether or not TDI-developed drugs would go into the public domain is a bit of an open question. Doing so would keep costs down—so-called "transaction costs" mount quickly when lawyers are involved in negotiating the details of proprietary rights mechanisms and licensing strategies. On the other hand, observes Rai, there may be a small developed-country market for drugs to fight certain tropical diseases, such as malaria, with travelers or military personnel as its likely consumers.

"Putting [the drugs] in the public domain would make it difficult to give addi-

## An empirical look at innovation



PROFESSOR STUART BENJAMIN

What works best to stimulate innovation: a regime that has very strong property rights, or one that doesn't, such as a commons? Are there significant characteristics of specific industries that would make them better or worse candidates for a property regime or some other regime, or for specific organizational structures? These are the questions Law Professors Stuart Benjamin and Arti Rai are tackling with a new research project.

Benjamin and Rai are gathering empirical data to find out how people are actually working and innovating in areas like biomedical research, telecommunications, software, and nanotechnology.

"We want to gather data on which approaches are used, and which ones are successful," explains Rai. "In what sorts of situations has a property rights model worked best, and in what situations have other models been preferable?"

One industry may support more than one model, as the highly proprietary approach of Microsoft and open-source



PROFESSOR ARTI RAI



**“Why does Linux work? Why are so many programmers willing to spend hours of their time for no salary? It may be they get a psychological benefit from not working for a company.”**

Stuart Benjamin

approach of the Linux system indicate in the software industry, Benjamin notes.

“Why does Linux work? Why are so many programmers willing to spend hours of their time for no salary? It may be they get a psychological benefit from not working for a company,” he suggests, noting that their contributions are often made anonymously.

That may not work in other areas, such as cellphone development, Benjamin suggests. “Maybe to design the next generation of cell phones you actually need a hierarchy—someone at the top to say it has to have particular functions.”

Rai has studied the biomedical industry extensively—including open-source projects—and finds that developing cures for complex diseases may require different organizational structures and property regimes than for simple diseases.

Benjamin, an expert in telecommunications law and policy, believes the issue has immediate relevance in the area of radio spectrum—wireless technologies—as the Federal Communications Commission is now trying to decide the extent to which it should be regulated as a commons or could operate more efficiently under private ownership.

There is consensus that totally open access wouldn’t work with respect to spectrum, Benjamin explains, because a lack of regulation would lead to untrammelled interference as ever higher-

powered devices drown each other out. Advocates of a spectrum commons claim to have solved the interference problem with a network of low-powered devices that repeat each other’s messages.

“That requires an entity that creates protocols and ensures that they are followed,” says Benjamin. “The question is a comparative one—does it make more sense to have a private company create that protocol as opposed to the government?”

He argues, in a recent paper, that

private ownership would work best.

“The obvious advantage of private control is flexibility—a private company can make decisions

quickly, and it has a profit motive to make the best decisions it can, unencumbered by an extensive regulatory structure.” Monopolies are likely to be avoided as different networks specialize in different kinds of communications, and can be further undercut by a requirement that networks interconnect with one another, he explains.

“The most crucial point is that we don’t know if these networks are going to work as planned. There’s a big risk of failure, and I would prefer that shareholders, rather than taxpayers, bear that risk.”

There is no blanket answer to what regime works most efficiently across the board, says Benjamin. “The question is, in any given situation, which makes for greater innovation and results in greater ultimate benefit to society?” ♪

Stuart Benjamin’s analysis and policy recommendations regarding spectrum regulation can be found in “Spectrum Abundance and the Choice Between Private and Public Control,” 78 N.Y.U. Law Review 2007 (2003).

tional monetary incentives to the developer, such as the ability to charge higher prices in developed country markets.”

Rai and her colleagues are seeking funding to bring together computational biologists and other life science researchers to discuss basic scientific, legal, and organizational protocols for TDI.

Rai’s second research project regarding open and collaborative practices involves various open biomedical research initiatives, including open source bioinformatics software, open databases, and open “wet lab” biology. One wet lab project on which she is currently focusing is a group of laboratories known as the Alliance for Cell Signalling (AfCS).

Cell signaling, which is relevant to many, if not all, complex diseases, is now known to be a much more complicated process than was previously thought. No single laboratory has the resources to address the complexity involved, so the AfCS is trying something new in biopharmaceutical research, notes Rai. “In lieu of having one huge lab, they are trying to ‘glue’ together eight existing labs.”

The experiment tests a belief held by many economists and organizational theorists that the hierarchy involved in huge pharmaceutical firms stifles creativity, as compared to small biotech companies.

“It may be that a setting like AfCS that takes small labs and then tries to bind them together creates some opportunity for coordination, but also allows some independence. That may be the best, or the worst of both worlds,” she says, noting that such “experiments in doing experiments” are essential. “It’s clear that the old ways of doing things won’t necessarily work in the future, and even if they work in some areas and some diseases, they probably won’t work as well as we’d like for complex diseases.

“With open and collaborative approaches generally, there may be room for creativity or the possibility of creativity that wouldn’t come if you just had one pharmaceutical company working on a drug.” Still, she stresses that collaborative models are complements to more traditional models. “We don’t need to get rid of the old approaches, but some percentage of our budget should involve new approaches and we should evaluate what we’re getting from them.” ♪

**“The beauty of a liability rule is that it’s non-exclusive from the beginning, there is no free riding, and at the same time, it is not like an unexpected compulsory license after the fact. Unless you have a truly pioneering invention, you should not get powerful rights to exclude value-adding improvers who pay their way.”**

Jerome Reichman



PROFESSOR JEROME REICHMAN



## It’s all about the follow-on

Reichman and Lewis revive liability rules

**F**rom an economist’s perspective, Tracy Lewis sees two challenges involved in keeping the innovative process going.

“First, we as a society have to set up incentives for inventors and innovators to go out and discover new ideas and technologies—we have to provide the carrot. Once they make their marvelous discoveries, we have to set up institutions which encourage them or allow them to share their knowledge with others, with consumers, or with future inventors who can build on their initial innovations,” explains Lewis, Martin Black Professor of Economics at the Fuqua School of Business and director of the Innovation Center there. Lewis has a cross-appointment at Duke Law School.

While intellectual property rights, such as patents and copyrights, give innovators a return for their productive efforts, those rights also allow their holders to exclude the use of their property from others who might benefit, including follow-on inventors.

“The problem of follow-on innovation is crucial because virtually all modern technological innovation is cumulative and sequential,” says Jerome Reichman, Bunyan S. Womble Professor of Law.

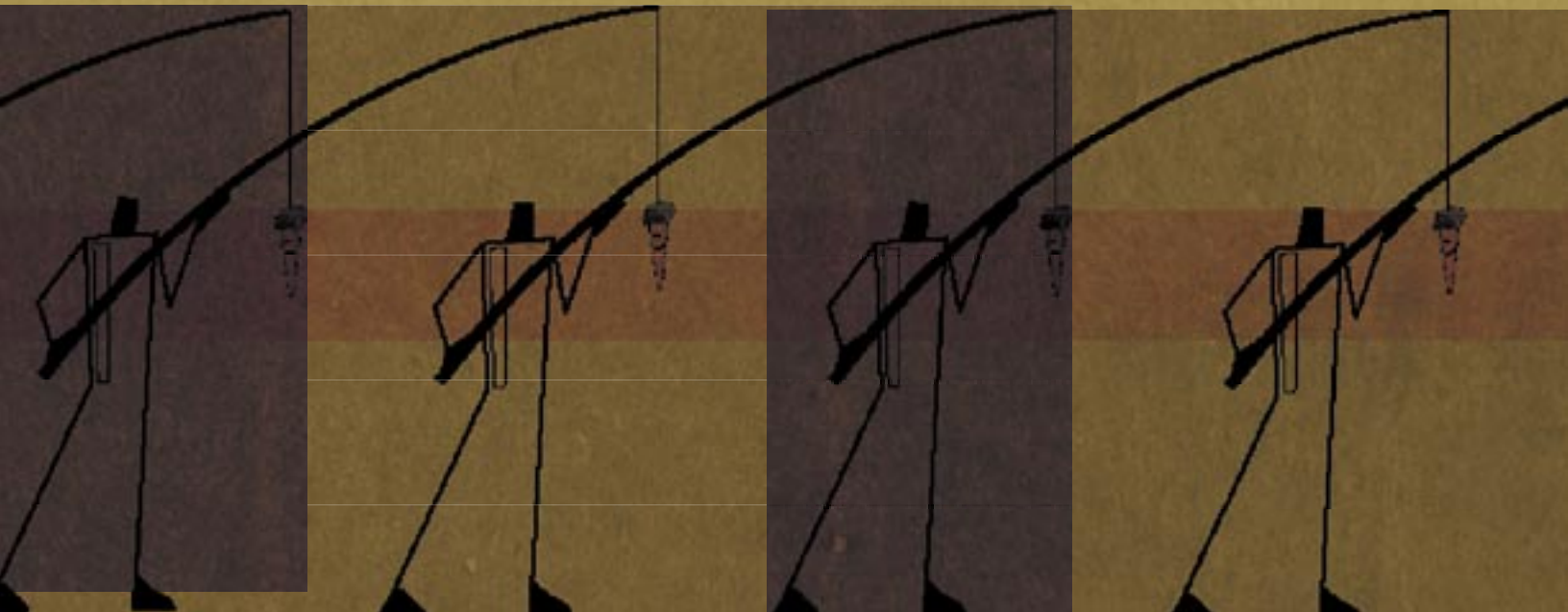
Reichman and Lewis are researching a regime of compensatory liability rules to facilitate follow-on invention that will be applicable over a wide sphere of innovation.

The new Center for the Study of Public Genomics will sponsor two case studies, one investigating how intellectual property is managed and shared in the biopharmaceutical market, and the other investigating the management of bioinformatics and biomedical databases. “These case studies will provide guidance to us in determining how best to implement liability rules in particular applications,” notes Lewis.

Elaborating on the basic problem, Reichman claims that the most valuable forms of innovation today consist of know-how, rather than big inventions. “And the particular characteristic of modern know-how is that it tends to be embodied on or near the face of the product.

“Whereas reverse engineering once bought an innovator lead-time to recoup his investment, now none may be available,” says Reichman. All that is required, in most cases, is duplication.

Reichman laments the proliferation of exclusive property rights over sequen-



tial innovation—often “minuscule variations”—that has taken place in response to the problem of diminished lead-time.

“It makes it harder and harder for improvers to do what is essential. We’re creating thickets of rights and barriers to entry, impoverishing the public domain and making it more and more difficult for anyone to improve.” This is particularly shortsighted, he says, because everyone will be a borrower and a lender at some point.

At the outset, a compensatory liability regime along the lines proposed would confer rights both on the original inventor and the follow-on user, explains Lewis. “The innovator has a right to capture a reasonable return for the good, hard effort that he put into his invention, but he’s not allowed to bar subsequent use of his invention for the purpose of value-adding, follow-on innovation.”

“By the same token, the follow-on user must reasonably compensate the first innovator for his research and development costs,” adds Reichman.

Lewis offers the example of the pharmaceutical drug maker who might need to obtain the licenses for multiple compounds—all of which are covered by independently held patents—to produce a new drug. Each

**“Liability rules signal to other potential users in the economy that they will have access to these very important inventions ... at a reasonable price. That can really stimulate economic activity and open up entire new industries.” Tracy Lewis**

patent holder has the power to shut down production of the new drug by refusing access or demanding an exorbitant price for a license.

“Those issues are often not resolved, because it’s just too difficult to get the simultaneous agreement of all the patent holders,” explains Lewis. “A liability rule established up front will cut through many of these difficulties.

“Liability rules signal to other potential users in the economy that they will have access to these very important inventions and can go ahead and invest and produce complementary products that use the invention, because when needed, they’ll have guaranteed access at a reasonable price,” Lewis says. “That can really stimulate economic activity and open up entire new industries.”

“The beauty of a liability rule is that it’s non-exclusive from the beginning, there is no free riding, and at the same time, it is not like an unexpected compulsory license

after the fact,” says Reichman. “Unless you have a truly pioneering invention, you should not get powerful rights to exclude value-adding improvers who pay their way.”

Both Reichman and Lewis would like to see liability rights encoded in statute, to establish them as a default regime. But, they say, different industries could adapt the model to their own needs, and set industry specific royalty rates and supplemental rules.

“The regime would provide protection against wholesale duplication in head-to-head competition in the same market for a period of years—we have no law that does that now,” argues Reichman.

“But if you do make an improvement on my innovation, two things happen—I become your partner and you owe me a reasonable royalty—and I can eventually borrow back that same improvement for purposes of my own further improvement, in which case I owe you money. The difference between us is an offset between the two improvements.



PROFESSOR TRACY LEWIS

“Transactions aren’t based on litigating about who owns what—we avoid that enormous cost—but on how much the improver owes the first mover. History proves that if that’s all that’s in question, parties will bargain around a liability rule,” says Reichman.

Liability rules are nothing new, he explains, and “it’s never been ‘all or nothing’—exclusive property rights or totally free competition—as many economists and lawyers believe. Historically, exclusive property rights were very hard to get, and most innovation was protected by a form of liability rules that protected trade secrets in unfair competition law, especially in common law countries. Today, however, in the information age, secrecy becomes largely irrelevant, because the product itself reveals the innovative information. This marvelous semi-commons—not a true public domain—was the basis of our whole innovative apparatus for 150 years.

“This isn’t adding intellectual property, but repairing the loss of this crucial functional liability rule that mediated, historically, between the patent and copyright paradigm,” says Reichman. “If we don’t take steps along this line, we’ll just get a flood of more and more anti-competitive rights until we won’t be able to innovate any more.” ♣

## The economists: Lewis and Cohen add further depth to IP at Duke

Intellectual property is a wholly interdisciplinary undertaking at Duke Law School, involving a number of different schools and centers within the University. Some of the closest ties are to the Fuqua School of Business, and specifically with economists Tracy Lewis and Wesley Cohen.

Tracy Lewis, the Martin Black Professor of Economics at the Fuqua School and the director of its Innovation Center, has a secondary appointment to the Law School. In addition to his work on a compensatory liability regime, Lewis is interested in the issue of optimal disclosure of intellectual property.

“When someone develops IP, there is an obvious benefit to society for having them disclose all the details of the product they’ve developed,” explains Lewis. “On the other hand, making someone disclose all of the information that they have puts them at a competitive disadvantage in the marketplace. I’m interested in the optimal trade-off between requirements for liberal disclosure on one hand, and how to write requirements that will actually induce the innovator to make full disclosure.”

Wesley Cohen, Frederick C. Joerg Professor of Economics and Management at the Fuqua School and co-director of the Innovation Center, has done unique empirical studies of patent effectiveness.

Motivated by scholarly predictions for biomedical innovation of an imminent “anti-commons”—excessive fragmentation of property rights that could seriously impede innovation—Cohen and others surveyed 70 researchers in biotechnology, pharmaceutical, and academic research settings. In “Working Through the Patent Problem,” in *Science*, they reported that the anti-commons has not arisen, largely because researchers are cross-licensing, inventing around patents, and pervasively infringing patents on “upstream” research tools.

“While it’s useful to conjecture and think through what intellectual property rights might or might not do from a social welfare perspective, it’s extremely important to find out what is actually happening,” says Cohen, noting that he hopes to follow up this pilot study with a more comprehensive survey. “We never imagined, until we went out and talked to people, how pervasive infringement of research tool patents was.”

Infringement often goes undetected in private laboratories, says Cohen, while university researchers and administrators often

assume, falsely, that their infringements are shielded by academic research exemptions.

In other empirical work that spans the entire manufacturing sector, Cohen has also addressed the question of whether patents stimulate research and development. Overall they do, he claims, working best in drugs, biotechnology, and medical devices to protect the fruits of R&D investment, but also having a positive effect in such areas as semiconductors and communications equipment.

“That doesn’t mean that patent policy couldn’t be revised in ways that make it even more effective as an engine of innovation,” adds Cohen, who has just completed a three-year term on the National Academies’ Committee on Intellectual Property Rights in the Knowledge-based Economy that addressed “implementable” patent reforms. Perhaps the most important of the committee’s recommendations, he said, is that the U.S. government adopt a “post-grant review” period, similar to those in Europe and Japan, where third parties would have the opportunity to challenge the validity of any patent in an administrative proceeding. The objectives are to reduce costly patent litigation, as well as diminish the uncertainty surrounding patent validity much sooner than is currently the case, where validity can only be assessed via litigation.

Cohen hopes to plug other gaps in data regarding patent effectiveness, such as how patenting affects access to specific industries—whether entry is restricted to large corporations whose patent portfolios give them leverage in cross-licensing negotiations—and to what extent patents are essential to stimulate investment in development of research tools that support drug discovery.

“Wes Cohen’s pathbreaking empirical work on how patents actually work in different industries provides an essential foundation for those of us who think about how the patent system should work,” notes Duke Law Professor Arti Rai.

In September, the Innovation Center at Duke University will be hosting a major conference on patents, “Patent Policy: Using, Abusing, and Reforming.” The first in a series of events on innovation and competition, the conference will feature presentations from Lewis, Cohen, and Duke Law Professors Jerome Reichman and Arti Rai. For more information, see <http://faculty.fuqua.duke.edu/centers/innovation/events.htm>. ♣



# From smoke-free temples to technology trusts

Scholar sees impact of IP issues on global health emergencies

**D**r. Anthony So, newly appointed senior fellow in Health and Science Policy at the Center for the Study of the Public Domain, is telling a story about his years at the Rockefeller Foundation, where he worked on global health issues ranging from improving access to medicines to enabling developing countries to respond to the challenges of tobacco use. His work to stem the epidemic of tobacco had taken him to Cambodia, a country where over half the men smoke.

“I had not been back in Phnom Penh in several years—not since the mid-’90s as part of a White House Fellows delegation. Then you could hear gunfire on the streets, and our visit coincided with news of renegade Khmer Rouge units capturing foreigners in Siem Reap. The genocide had robbed the coun-

try of its public health infrastructure. Now the streets of Phnom Penh were noticeably different. Tobacco promotions were everywhere. The Health Minister said that even the nation’s *flags* along one avenue had been replaced by Davidoff cigarette promotions for an upcoming concert.”

Dr. So was in Phnom Penh funding grassroots programs to work on tobacco control, building capacity at the community level. “We had started to work with the Adventist Development Relief Agency (ADRA) on their ‘Smoke-Free Buddhist Monks’ project. After several workshops, the Buddhist monks at the leading teaching temple in Phnom Penh—all two hundred of them—collectively decided to quit smoking. A year later, over 90 percent remained off

cigarettes. The monks declared the temple grounds smoke-free, refused cigarettes as offerings, and when finished with their training, started to spread this message in their home provinces. I remember joining an ADRA outreach team as they set out to one of these temples. An hour and a half outside of Phnom Penh, where the roads were no longer paved, I could still see roadside cigarette stands. Not even Coca Cola had vendors along these rural roads. My only consolation—at the end of this road, there would be...a smoke-free temple.”

His tone is upbeat, but it becomes somber when So turns to some of the current tragedies that global health policy has to deal with, tragedies that are epitomized, but not limited to, the HIV/AIDS epidemic.

“We read about the plague, or the black death—about the depopulation of whole areas, about children left as orphans—and it seems safely removed in history. But we are living through such a period. In 50 years, people will look back and say ‘you had the drugs. Why couldn’t you figure out an affordable and effective way to get them to the people who were dying?’”

His commitment to these issues is sufficiently obvious that one wonders at first why he is at Duke working with a group of intellectual property scholars, rather than continuing his distinguished career at Rockefeller. His answer is that the difficulties in global health are not just medical or scientific. “Think of AIDS as an example. To race against this epidemic, we are going to have to solve legal problems as well as medical ones.”

The idea of legal scholars saving lives seems strange. But as So talks it becomes clear that the legal problems to be solved are complex. Again, he uses the example of AIDS drugs. “If we had a single combination drug pill dosed twice a day as opposed to a handful of drugs taken separately several times a day, we would be in a very different position in terms of patient compliance. In the area of HIV/AIDS this is crucial.” But assembling a single combination pill at an affordable price is not so easy. “Multiple manufacturers may hold patents on drugs needed for combination therapy—such as for AIDS, but also for tuberculosis and malaria—and cross-licensing these patents must happen if the combination therapy is to go to market.” How can that cross-licensing be achieved quickly and cheaply?

One possible answer, on which So is working, is a “technology trust,” an institution that would pool essential intellectual property assets in order to streamline development and contain costs. It is a concept that is still in its early stages, he says.

“Pooling of intellectual property raises all sorts of questions: How do you regulate availability of intellectual property in the trust for those who have joined and those who remain outside,” So says. “How do you handle the antitrust issues that arise, what are the penalties for those who leave the pool? There’s a lot to be worked out.”

Dr. So emphasizes that protecting the economic structures of the developed

**“In fifty years, people will look back and say ‘you had the drugs. Why couldn’t you figure out an affordable and effective way to get them to the people who were dying?’” Anthony So**



DR. ANTHONY SO

world is important in considering proposals like the technology trust. “We have to get the right incentives for continued research and innovation.” But he believes that the importance of the technology trust may not be limited to distributing the fruits of pharmaceutical research, it may play a role in helping to ease barriers to research in the first place. “Science is a cumulative and sequential process. Patents can help drive that process, but if they are granted too broadly or in the wrong areas they can also help to block it. It’s easy to see how not having access to a basic building block of knowledge would make follow-on innovation difficult.”

Facilitating that deeper understanding of innovation is one of So’s research goals—a necessarily interdisciplinary goal that helps to explain the multiple appointments he holds. Apart from his position as a senior fellow at the CSPD, So has also been appointed as director of the new Program on Global Health and Technology Access at the Sanford Institute and serves on the Steering Committee of the Center for Genome Ethics, Law and Policy.

Dr. So says that Duke is one of the best places imaginable to tackle these crucial questions of intellectual property and global health, and he looks forward to working with colleagues such as Jerome Reichman, Arti Rai, James Boyle, Tracy Lewis, Wesley Cohen, and Robert Cook-Deegan. “At any international gathering about intellectual property rights, someone from Duke always seems to be there,” he observes. “Duke has become a real incubator of cutting-edge ideas. That makes it an exciting place.”

James Boyle, William Neal Reynolds Professor of Law, is frankly exultant about luring Dr. So to Duke, away from the other elite academic institutions that pursued him. “It is a great coup. It is not simply that he is a physician with unique policy expertise, or one of the most admired professional philanthropists in international health care, or that he is an inventive scholar whose ‘technology trust’ idea holds real promise. It is that Anthony is a final piece of a puzzle in work we are doing here. He really helps to bring our interdisciplinary efforts together. We are delighted he has joined us.” ♡



JENNIFER JENKINS



## A passion for art and IP

Jennifer Jenkins '97 describes her first class in intellectual property, taught by Professor David Lange, as a transforming experience.

"He began the semester with a discussion of the Ansel Adams photograph 'Moonrise Over Hernandez,' and used it as a springboard for wrangling with some of the fascinating issues that underlie the concept of intellectual property. 'What are the creative elements in this photograph? What should it mean to protect a moonrise, once we decide that it has actually been created? What if someone went to the same site and tried to replicate the work, or, through serendipity, happened to take a similar photo? Is this legal?' At that moment I became intensely interested in intellectual property law. He set my career path in motion."

Jenkins, also a fiction writer and musician, went on to take as many of Lange's other classes as she could. Following graduation, while getting an MA in English at Duke, she collaborated with him on a video, "Nuestra Hernandez," which revisited the Adams photograph as the starting point for a fictional documentary dealing with appropriation. Lange, for his part, calls Jenkins "supremely creative."

When she began working as an associate with Kilpatrick Stockton in Atlanta, Jenkins' artistic background made her a natural to work on intellectual property cases involving musical and literary works. These included the pivotal copyright case surrounding publication of *The Wind Done Gone*, Alice Randall's 2002 novel that parodied the romanticized portrayal of slaveholding society in *Gone with the Wind*. Jenkins' firm was retained after the heirs of Margaret Mitchell had filed for a temporary restraining order and preliminary injunction against Randall's publisher, Houghton Mifflin, on the eve of publication. It was a complex and compelling case that, she says, touched a nerve for her because of the effective ban against publication of Randall's work, which raised issues at the core of the First Amendment's free speech protections.

"Randall had used elements from *Gone with the Wind* for parody, for satire, for social and political commentary and criticism. There was a strong intuitive sense that this kind



**“It became clear to me how critical it is for copyright law to draw the right line between what artists can and cannot use, both in terms of its impact on what – and how – artists are allowed to create, and on the type of creative works we as a culture can enjoy.”**

Jennifer Jenkins

of speech should be permissible. But the role of the prior restraint doctrine in copyright cases was unclear, and while the Supreme Court had articulated a copyright ‘parody’ defense, this defense had not yet been applied to a literary work such as ours. We were in uncharted territory, and there was a lot at stake.”

The case highlighted an ongoing debate as to whether there should be an independent First Amendment defense to copyright claims, or whether free speech concerns are adequately accommodated by copyright doctrines such as fair use. The District Court granted the injunction against the book’s publication, rejecting both fair use and First Amendment arguments. After an expedited appeal, the 11th Circuit vacated this injunction from the bench on the grounds that it was an unconstitutional prior restraint of speech. Then the Court’s full opinion, issued almost six months later, focused on fair use, finding *The Wind Done Gone* to be a parody of *Gone with the Wind*.

Another case that stood out for Jenkins involved the alleged appropriation of a simple synthesizer accompaniment in a hip-hop song. With a solid background in music theory—she plays multiple instruments—Jenkins found herself having to explain such things as the conventions of borrowing in different music genres, and the specific relevance of certain rhythmic variations to the hip-hop genre. “We were trying to mold music to legal doctrine without deforming either in the process.”

Jenkins says her experience in practice cemented her love of intellectual property and her appreciation of how the law must adjust to support creation in different art forms. “It became clear to me how critical it is for copyright law to draw the right line between what artists can and cannot use, both in terms of its impact on what – and how – artists are allowed to create, and on the type of creative works we as a culture can enjoy.”

An outgrowth of that passion is the

Arts Project of the Center for the Study of the Public Domain, which Jenkins established shortly after her return to Duke Law School as the CSPD’s director in 2002. Issues relating to music and the creation of documentary film have been a particular focus, and in early April, she was able to showcase them during a one-day conference called “Framed!: How Law Constructs and Constrains Culture.” Held in conjunction with Durham’s acclaimed Full-Frame Documentary Film Festival, it brought together filmmakers, musicians, and legal experts to discuss the interplay between art and intellectual property.

“One recurring theme was the tension between the artists’ need to protect and make a living from their works, and their need to use protected content in order to create in the first place. The question at the heart of the conference became: How can we strike the balance between providing economic incentives, and ensuring the availability of necessary raw materials, in a way that best nurtures creativity?”

During the conference, world-renowned documentarians recounted experiences with legal hurdles, such as trying to clear rights to images and music in their films. “Documentaries are records of our culture, and our culture is full of legally protected materials—songs, photographs, television shows, logos, signs,” Jenkins explains. “Filmmakers are necessarily going to capture some of this in their footage. But in order to distribute their documentaries through conventional channels, they must often clear the rights to almost all of this content, whether it’s the focal point of the scene, or merely an incidental or fleeting detail.”

In some cases, this means that documentary scenes are actually fictionalized—if a background song is too expensive to license, it will be replaced by one in the public domain. The conversation surrounding the song may in turn be manipulated as well. Particularly troubling are the impacts

of licensing practices on important historical documentaries. Films such as “Eyes on the Prize,” a record of the civil rights movement, are no longer sold or distributed outside of educational settings, due to the prohibitive costs of renewing licenses. “Imagine such a documentary without the music of the 50s and 60s, or the snippets of news and popular programs necessary to give a feel of the time,” says Jenkins. “But since such licenses expire relatively quickly, those records of our culture are literally disappearing from circulation.”

“Framed!” also explored how copyright law and musical composition intersect and often collide at the fine line between creative borrowing and theft. A live demonstration illustrated some of the finer issues of appropriation in music—how different traditions reinforce the practice of borrowing and recombining musical elements, the various motivations for doing so, such as homage or parody, as well as the distinction between “spontaneous” borrowing, as might occur in a live jazz performance, and that of a more premeditated kind. “In the music area, it’s one thing to read the law on the books, and another to see how it actually plays out,” observes Jenkins. “What happens in practice can depend as much on the customs in a given musical genre or the assumptions of a group of artists as it does on the words in the Copyright Act.”

As is fitting for someone immersed in art, IP, and issues relating to the public domain, Jenkins wants to share the CSPD’s work. Among other things, she is now focusing on expanding and packaging the insights from the Arts Project in DVD, print, and even cartoon formats, in order to make them informative, accessible, and entertaining for a wide audience. All online material will be available under Creative Commons licenses. “Through our efforts, we hope to build greater awareness and understanding of the crucial legal and policy issues that help to shape our culture.” ♪



# Protecting the Information Ecology

**D**avid Lange describes his colleague, James Boyle as being “a dynamo—someone who throws off ideas like sparks at a 4th of July celebration.”

Many of those “sparks” have been generated in Boyle’s continuing efforts to broaden the political debate about intellectual property policy. In 2003, he received the World Technology Award in Law for his theoretical work on the “intellectual ecology of the public domain.” The award focused on a series of articles over the last 10 years in which he traces out the analogies between the history of the environmental movement and the current tendency to narrow the public domain, a process Boyle calls “The Second Enclosure Movement.”

But, for all his work on protecting the public domain, Boyle sees himself as “one of the last defenders” of intellectual property.

“If you take the very valid function of intellectual property, which is to encourage people to produce new stuff—new books, new songs, new drugs—and you apply ‘legal steroids’ [such as copyright extensions] to it, so that it just bloats and grows and gets bigger and big-

ger without constraint, two things are going to happen. One is, people are going to lose all respect for it. The other is that you’re actually going to end up impeding the very process of creativity that you were trying to encourage,” said Boyle, speaking last fall at *Duke Magazine’s* Faculty Forum.

Boyle finds ways to bring his theories into the realm of practice—the Center for the Study of the Public Domain being only one example. Another is Creative Commons (<http://creativecommons.org>), a digital non-profit organization of whose board Boyle was a founding member.



## “We have to ‘invent’ the public domain before we can save it.”

James Boyle

Creative Commons is a non-legislative solution to problems posed by copyright law’s current “default” rules. Until relatively recently, authors who wished to protect their works were required to indicate this by including a copyright notice with them. Today’s default rules make copyright protection automatic, whether or not authors intend for their works to be copyrighted, and without providing a mechanism for authors to express alternative preferences.

“On the Internet, the result is a vast morass of potentially useful content that is in legal limbo—with no indication of copyright status or allowable uses,” Boyle explains. “Obviously you can read or watch what is there, but are you allowed to use it in various ways? Can a teacher adapt a calculus exercise for her own school, or a digital filmmaker include a particular fragment of video? The author might be delighted to have you use the material, but it will take you a laborious search to find that out, and even then, you might be unsure.”

Creative Commons provides online licenses that enable copyright owners to specify their intentions with regard to uses of their works—for example, they can make them available only for non-commercial use, or only with attribution. The organization is only 18 months old, but by current estimates, over 1 million of these licenses are already in use, by everyone from individual “bloggers” and artists to institutions such as the Internet Archive and MIT, which has put all of its course materials online under Creative Commons licenses. While acknowledging that Creative Commons may be a “second-best solution” to legislative changes, which are unlikely, Boyle emphasizes its

instructive value for reform efforts.

“We constructed something that embodies the principles which we think are right, rather than offering a criticism of what is wrong,” Boyle says. “Often the most effective form of advocacy is a community of people who simply build an alternative that works. And in this case we are doing exactly what intellectual property is supposed to be doing, allowing authors to create and to share their works under the terms they choose.

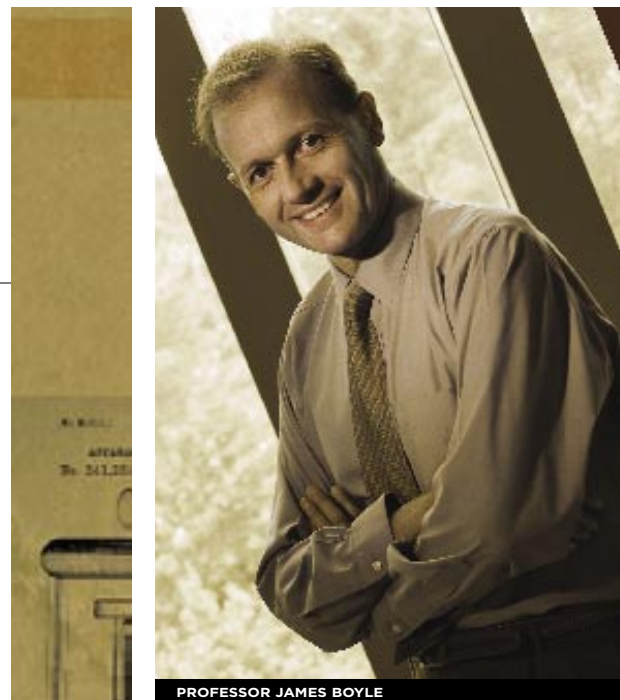
The reaction [including the 2004 “Prix Ars Electronica” and a new \$1 million grant from the Hewlett Foundation] has exceeded even our expectations.”

Creative Commons’ most recent projects range from a music “sampling” license, to an effort Boyle is focusing on particularly, the formation of a new entity called Science Commons, which will try to solve problems of access to scientific data. “That is something that dovetails nicely with the path-breaking work that Jerry Reichman is doing on science, Anthony So is doing on technology trusts and Arti Rai is doing on open source drug discovery. I literally have some

of the world’s leading thinkers on these issues just down the hall. It is an incredible luxury.”

Though it has interesting practical applications, Boyle’s theoretical work itself has

also been attracting interest beyond the ivy tower. A lengthy article in January’s *New York Times Magazine* called “The Tyranny of Copyright?” was devoted to the ideas that he, and a number of other academics, including Larry Lessig of Stanford and Yochai Benkler of Yale, have been propounding about copyright law in

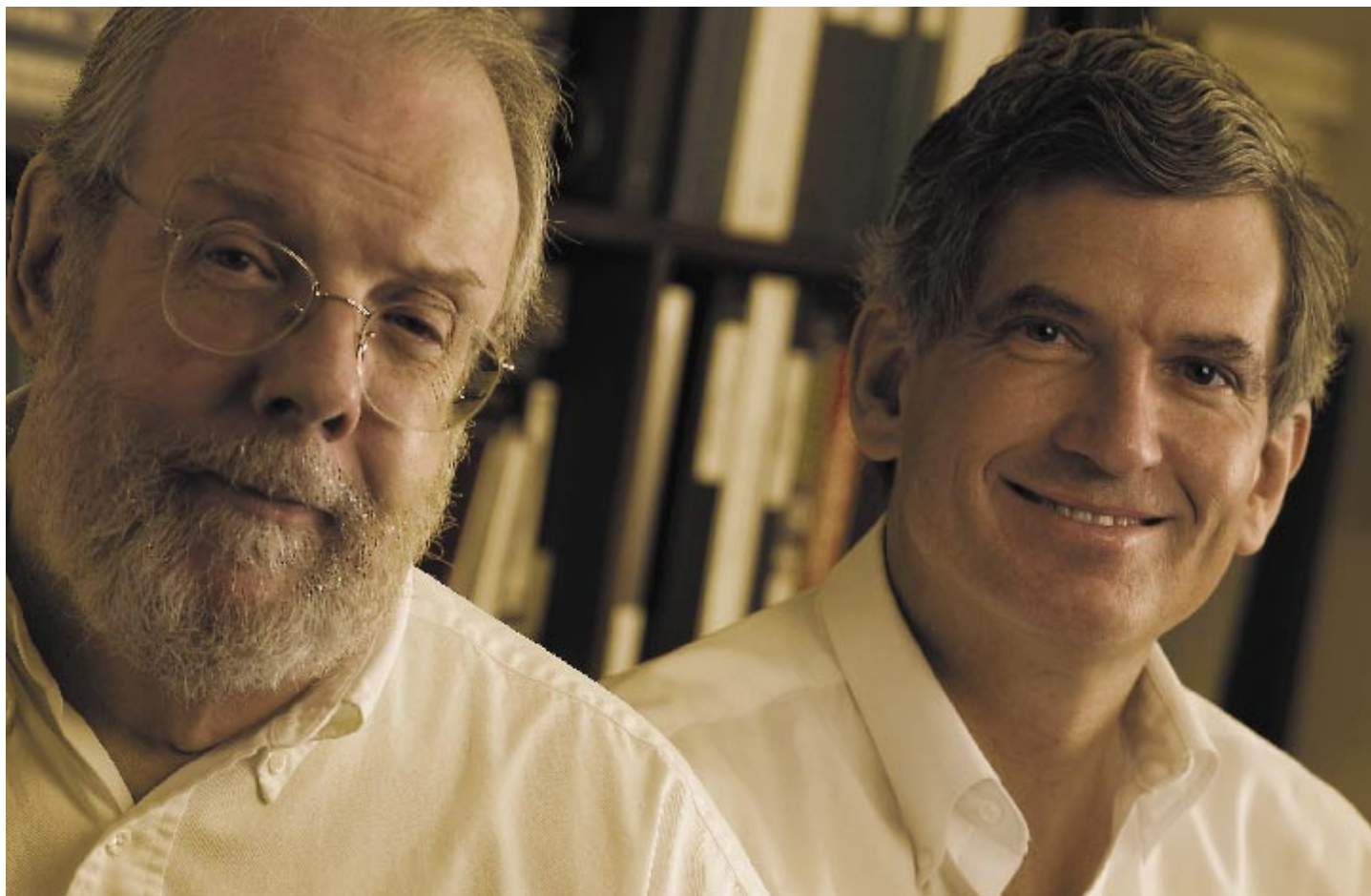


PROFESSOR JAMES BOYLE

the digital era. Why was copyright theory gracing the pages of the *New York Times*? The author, Robert Boynton, labeled these scholars as the leaders of an intellectual reform movement that aims at preserving the Jeffersonian ideal of intellectual property in the age of the Internet, and opposing “the permission society” where each dab of culture is tightly controlled, passively consumed and accompanied by a fee. Boynton’s article concluded this way.

“James Boyle has likened the movement’s efforts to establish a cultural commons to those of the environmental movement in its infancy. Like Rachel Carson in the years before Earth Day, the Copy Left today is trying to raise awareness of the intellectual ‘land’ to which they believe we ought to feel entitled and to propose policies and laws that will preserve it. Just as the idea of environmentalism became viable in the wake of the last century’s advances in industrial production, the growth of this century’s information technologies, Boyle argues, will force the country to address the erosion of the cultural commons. ‘The environmentalists helped us to see the world differently,’ he writes, ‘to see that there was such a thing as “the environment” rather than just my pond, your forest, his canal. We need to do the same thing in the information environment. We have to “invent” the public domain before we can save it.’” ♪

James Boyle is one of four regular columnists for the *Financial Times* online-edition’s “New Economy Policy Forum.” Columnists debate regulatory and legal issues generated by—and also shaping—high-tech industries. The forum is published bi-weekly, on Thursdays, at <http://www.ft.com/techforum>



PROFESSORS DAVID LANGE AND JEFF POWELL

# No Law:

## An Absolute Reading of the First Amendment

Long-time colleagues David Lange and Jeff Powell are co-authoring a book to be called *No Law: Intellectual Property in the Image of an Absolute First Amendment*. Combining their scholarly perspectives from intellectual property and constitutional law respectively, Lange and Powell explore what it would mean for intellectual property if the text of the free speech and press clauses of the First Amendment were to be read as Justice Hugo Black and some others have read it, namely, as an absolute constraint upon Congressional power to abridge freedom of speech or press.

"A central tenet of the Amendment is that government cannot exclude one person from thought and expression in order to favor another," Lange observes. "Yet intellectual property rights, as the law currently understands them, often do exactly what the Amendment prohibits."

"The contemporary interpretation of the Amendment takes its shape from a larger approach to constitutional interpretation exemplified by Justice Holmes," Powell adds. "For Holmes and those who have shared his thinking, constitutional rights are to be understood chiefly through an evolving system of balances, which courts impose and weigh in the course of litigation."

In practice, say the scholars, this approach has come to mean that the First Amendment is governed by exigencies of one sort

or another. In the case of intellectual property the balance has been struck in favor of property regimes that can clearly interfere with individual rights to think and publish as one pleases – this on the understanding that forbidding such interference would destroy the interests protected by intellectual property.

"What we propose is that Holmes' balancing approach to the First Amendment is less satisfactory in this setting than the stricter reading favored by Black," they say. "An absolute approach is preferable as a matter of constitutional construction, and also consistent with continuing concerns for the legitimate interests of intellectual property rights holders. Rights holders would forfeit much of their ability to prohibit appropriations by others, but with Congressional approval could retain an adequate measure of incentives to encourage continued productivity."

While most scholars dismiss Justice Black's absolute reading of the First Amendment as simplistic and unworkable, Lange and Powell hope to show that neither is true.

"We anticipate criticism and opposition," Lange says. "We are willing to be bold, but we think that what we are offering here is fundamentally sound and practical."

*No Law* is to be published by Stanford University Press in 2005. ♣