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PATENT YOUR GENOME

Nobel laureate David Baltimore urges all Americans to “patent their genomes” so as to protect their unique identities and valued traits. That was the thrust of Dr. Baltimore’s keynote address at the *At the Crossroads* conference held on the campus of Caltech on December 9, 2000. Dr. Baltimore, President of Caltech, was co-winner of the 1975 Nobel Prize in Physiology or Medicine for his discovery of the retrovirus “reverse transcriptase.”

Dr. Baltimore’s talk focused on possible legal issues that can arise with advances in genetic research. As the map of the human genome nears completion, major technological advances in medicine are just over the horizon. How will these advances be promoted and protected? The customary answer is through our intellectual property regime, largely relying on patents. (continued on page 2)



Dr. David Baltimore



RICHARD POSNER HEARS LANDMARK APPEAL

The courtroom at Ramo Auditorium was filled with spectators on December 9, 2000 as Judge Richard Posner read his decision from the bench in the seminal (if hypothetical) case of *Closed Corporation v. Open Sesame*. Renowned lawyers Donald Baker and Terry McMahon argued the appeal before a special session of the United States Court of Appeals for the Fourteenth Circuit. Video highlights of trial court proceedings were shown to the packed courtroom.

The trial judge had been noted jurist Diarmuid O’Scannlain. At an evidentiary hearing at the October, 1999 *At the Crossroads* conference, Judge O’Scannlain ruled that Closed could continue its patent infringement suit against Open despite the fact that the defendants’ only presence in California had been via the Internet. O’Scannlain also ruled that Closed could serve court documents on Open and its members by email and by posting them on Open’s Internet news group. It was these rulings that Open appealed to the Fourteenth Circuit.

Judge Posner affirmed the trial court. He held that Open Sesame, although a loosely organized coalition of online and often anonymous computer programmers, was an unincorporated association with a principal place of business. That place of business was the Internet itself. That made the group both suable and subject to service over the Internet. Moreover, since the injury they allegedly caused to Closed, a California Corporation, was felt in that state, Open could be sued there. (continued on page 3)

Upcoming Events...

MAY 29, 2001

Yuen Fellow Series presents Karl Auerbach, Board of Directors, Internet Corporation for Assigned Names & Numbers (ICANN).

FALL, 2001

Yuen Fellow Series presents Professor Lawrence Lessig, Stanford Law School.

NOV. 9 & 10, 2001

Law, Technology & the Human Genome: The 3rd annual At the Crossroads conference will feature major public policy presentations and a mock trial on patenting the human genome. Loyola and Caltech students will present the case, assisted by prominent lawyers and scientists.

This year's *At the Crossroads* conference will be "Law, Technology and the Human Genome." As the title suggests, the conference will focus on the legal issues surrounding recent advances in genetic research. The conference will be held November 9 & 10 on the Caltech campus.

Law, Technology & the Human Genome

Revolutionary advances in decoding the human genome hold great promise for the future of the human race by helping us to better understand, improve, and prolong life. Along the way, profound questions of law and morality will be raised; vast fortunes will be won and lost; and fundamental ideas about life and society will be challenged.

Part of the Program for Law & Technology's mission is to equip present and future policymakers with the tools and awareness to grapple with emerging issues at the intersection of law and technology. Nowhere do these issues more closely coincide than with human genome research.

Virtually every discipline within law will be affected. Can the genetic blueprint of DNA molecules be reduced to ownership? Can life be patented? What rights will cloned beings have? Who will have access to the vast stores of genetic information in countless databases around the globe? Can individual gene sequences legally be used to predict propensity toward crime or disease and thereby justify discriminatory treatment? These are just some of the questions to be answered.

The Law of the Genome is unfolding before our eyes. We'd like to help assure that whatever emerges is the product of reasoned and informed discourse between scientists and lawmakers. The next *At the Crossroads* conference will focus on this exciting and revolutionary area.

Yuen Fellow Series

The Yuen Fellow Series is a major component of the Program for Law & Technology. The Program brings prominent experts to Caltech and Loyola. Students, faculty, and the general public are invited to discuss emerging issues in law and science.

Our first Yuen Fellow for 2000-2001 was Judge Richard Posner. His December 8 workshop on "Antitrust in the New Economy" explored how law adjusts to new economic models, especially those found in the new high tech industries.

Responding to Judge Posner were Mark Lemley (Boalt Hall); Bentley MacLeod (USC Economics and Law); John Wiley (UCLA Law School); and Simon Wilkie (Caltech Humanities & Social Sciences). Daniel Lazaroff (Loyola Law School) moderated.

Yuen Fellows for 2001 include Karl Auerbach, Board of Directors, Internet Corporation for Assigned Names and Numbers (ICANN) and Professor Lawrence Lessig, Stanford Law School.

Patent Your Genome

(continued from first page)

Nearly all human genes have already been patented or are pending before the Patent & Trademark Office (PTO). Partial gene segments are also being patented.

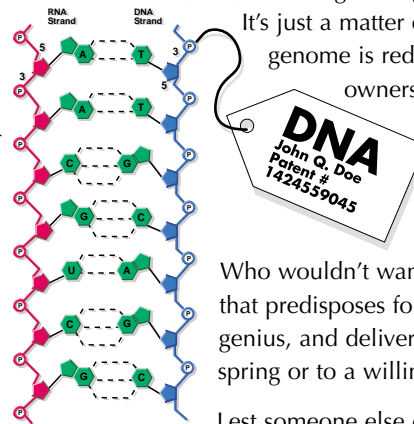
It's just a matter of time before the entire human genome is reduced to property ownership.

Some of our genomes will contain the secrets of biological advantage, such as natural immunities and talents.

Who wouldn't want to capture the gene sequence that predisposes for athletic ability or musical genius, and deliver that sequence to one's offspring or to a willing buyer?

Lest someone else capitalize on our genes, we better patent them to protect our interest in them. Just stating this proposition reveals its controversial nature. But our patent laws may seem to permit and even encourage this unique form of self-preservation.

This topic and similar issues in law and genomics will be the focus of the next *At the Crossroads* conference.



New Courses at Caltech and Loyola

The primary goal of the Program for Law & Technology is to educate lawyers and scientists about each other's fields. To further this end, three courses are new this spring on the two campuses:

Law 134: Law & Technology (Caltech)

This course provides a sophisticated introduction to and exploration of the intersection of science and the law, focusing on the intellectual property system and the various means through which the conduct and products of scientific research are regulated. The course will analyze and compare American, international, and theoretical alternative systems, in part by means of economics modeling. The latter portion of the course will explore a particular scientific area in depth, typically using guest lectures or co-teachers to convey the science element (examples include the human genome project; the Internet and cyberspace; the law of the sea; and outer space exploration).

Over 100 students are now taking Law 134, making it one of the largest classes at Caltech.

At the Crossroads - Distance Learning: Caltech and Loyola are exploring distance learning options so that students at the two schools may take courses jointly through real-time cross campus interaction. Such collaborations will also facilitate participation in the student exercise at fall *At the Crossroads* conferences.

Biotechnology Law Seminar (Loyola)

This seminar explores recent advances in human genetics and their impact on law in the areas of intellectual property, regulation of science and technology, legal ethics, and access to genetic information. It includes lectures on biological science to provide a knowledge base for the study of human genome research regulation, patent protection for genetic discoveries, and economic transactions in genetic property and technology.

Telecommunications Law (Loyola)

This course has been expanded to include new communications technologies such as Third Generation wireless Internet connectivity. In addition to the regulatory framework, students study the technological and economic bases of emerging industries.

Visit the Program website: <http://techlaw.lls.edu>

Landmark Appeal *(continued from first page)*

The underlying dispute between Closed and Open is yet to be adjudicated. It is whether the "open source" computer operating system designed by

Open's members infringes Closed's patent for a similar program - the popular "Views" operating system. Views is the world's best selling program, but its proprietary source code makes life difficult for programmers outside the Closed network. Many third-party applications run poorly on

Views. Even when programmers use Closed's developer tools to write their programs, lack of access to the source code means conflicts are likely. As a result, many in the programming world have

rebelled against Views, as well as Closed's marketing practices, and developed their own friendlier open source operating system.



Closed claims that the graphical user interface (or "GUI") used by the Open operating system has the look and feel of Views. Even though independent programmers don't have access to Views' code, that is not necessary for their product to violate Closed's patent.

With Posner's ruling, the case is now remanded to the United States District Court for the Western District of California for trial. Observers of the case expect the parties to settle.

On the Web

The Program's website: <http://techlaw.lls.edu> contains the latest information about Program events. It also serves as an archive for past conferences, documents (e.g., mock trial pleadings), and other materials. The website is currently featuring video clips of several events which took place on Dec. 9, 2000:

.....
 Dr. David Baltimore – Patenting Your Genome (keynote address)

.....
 Oral Argument in *Closed Corporation v. Open Sesame* (mock appeal)

.....
 Hon. Richard A. Posner – Bench ruling on appeal in *Closed Corporation. v. Open Sesame*

.....
 Highlights of 1999 conference and mock trial, with expert testimony by Edward Felten and Linus Torvalds

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About the Program for Law & Technology

We are in the midst of a scientific and technological revolution. The Internet has transformed communication and fueled the explosive growth of e-commerce. Mapping the human genome will forever alter medicine, heredity, and the understanding of life. Nanotechnology will blur lines between organic, mechanical and electrical systems. As we enter a new millennium marveling at the emergence of brave new worlds, we can easily fail to appreciate their profound impacts on the practice and teaching of law.

The Program for Law & Technology at California Institute of Technology and Loyola Law School, conceived by a joint alumnus, Henry C. Yuen, President & Chief Executive Officer, Gemstar-TV Guide International, Inc., aims to cure this oversight. The Program brings students, scientists, engineers and lawyers together to explore new developments at the intersection of law and technology.

The Program features:

Courses - on law and technology at Caltech and Loyola

The Yuen Fellow Series - brings world-renowned lawyers and scientists to the two campuses

Periodic workshops and presentations - cover topics of interest to lawyers and scientists

An annual conference *At the Crossroads of Law & Technology* - features mock trials, public lectures, and academic presentations

Like the legal-scientific crossroads we are exploring, the Program for Law & Technology is in its infancy. We invite you to participate in upcoming events and even to help the Program with your ideas and input. Feel free to contact the Program co-chairs.

Please contact us through our website at:

<http://techlaw.lls.edu>