Technology Transfer at Universities

BY TYSON WINARSKI, ESQ. AND JOSHUA WALTMAN
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The conquest for intellectual property has placed American universities in a unique strategic position. Faculty and students at American campuses are a vast intellectual resource. Through technology research and distance learning courses, universities are actively mining and profiting from the massive intellectual property resources within their campuses. Universities have adopted a variety of programs to protect and exploit the ideas, information, and technology developed at their campuses. However, these efforts to protect and exploit these resources frequently run contrary to the culture of creativity in American universities. Creativity thrives in an environment where there is a free flow of information and a vigorous exchange of ideas. Protecting and exploiting intellectual property commonly involves maintaining information and ideas in secrecy. This article provides a survey of how universities are addressing these intellectual property opportunities while preserving the environment that makes universities so unique and successful.

Universities have always produced intellectual property as a primary and natural result of fulfilling their mission to educate and achieve the highest level of human knowledge. Until the advent of the information age, universities had a limited economic interest in the intellectual property generated by its faculty and students. Traditionally, faculty members created works of authorship individually with little or no investment from the university or collaboration from colleagues. In addition, these works of authorship generally produced a limited amount of income for the author. However, in today's academic environment, faculty members commonly pursue technologically advanced projects that require significant investment and involvement from the university, government, private sector, and university colleagues. In addition, through patent royalties and distance learning course earnings, these academic creations can generate significant revenue. The challenge for universities is how to manage this money without damaging the unique academic environment.

Modern education is expensive. Underwriting this expense with profits from a program that exploits a university's intellectual property is a natural solution. Developing an intellectual property program that can provide this needed income in a manner that is compatible with preserving the academic environment is a challenge. Utilization of intellectual property must further the university's primary role of higher education. An academically friendly intellectual property program must preserve the free dissemination of new knowledge. Further, this program should provide faculty, staff, and students with an incentive to create and utilize intellectual property. These lofty objectives are in many cases contradictory to producing proprietary technology and information.

Universities form a nexus where government, private industry, venture capitalists, and academia converge in the common pursuit of researching advanced technology. The Bayh-Dole Act passed by Congress in 1980 built the modern foundation for the management of technology at universities. Federal research dollars provide the backbone for research at universities. Prior to 1980, the Federal government owned and rarely patented inventions that arose under federally funded research. Out of concern that federal ownership stifled the commercialization of this technology, the Bayh-Dole Act reshaped the landscape of federally funded university research. Bayh-Dole, enacted as 37 C.F.R. 401, allows universities and other non profit organizations to retain ownership of technology developed with federal funding in exchange for universities assuming substantial obligations. The goal of these obligations is to spur universities into commercializing the technology developed from the federally funded research to benefit the economy and earn income for the university. Meeting these obligations has propelled universities to form Technology Transfer Offices.

The obligations that come with accepting federal research dollars fall into three general categories: 1) employment contracts, 2) university/government relations, and 3) licensing and commercialization. To comply with Bayh-Dole, universities must have written contractual agreements with their employees requiring them to disclose and assign to the university inventions developed under federal grants. When an invention is disclosed in writing to the university by the inventor, the university is required to notify the responsible federal agency of the invention within two months after the disclosure. The university then has a two-year period during which it can elect to retain title in this invention. Note that the university must elect title no later than 60 days prior to any statutory bars under U.S. patent laws. With the election of title, universities then have an obligation to file a patent application, which would include a statement that the U.S. government has rights to the invention. Further, Bayh-Dole requires that universities provide to the responsible federal agency various notices and reports concerning the patent. When licensing these inventions, Bayh-Dole requires universities to give preferences to those small businesses with the ability to practically apply the technology. Those entities that are given an exclusive license have an obligation to substantially manufacture the invention in the United States, unless waived by the responsible federal agency. Assignment of the invention to third parties is not permitted without approval of the responsible federal agency. With respect to licensing revenues, universities are then required to share a portion with the inventor and use the balance to support academic research and education. Technology Transfer Offices have the responsibility of meeting these obligations within universities. [1]

Within the framework of the Bayh-Dole act, universities are free to manage their intellectual property as they see fit. Caltech has imprinted a strong entrepreneurial drive into its tech transfer program. Through its Grubstake Program, Caltech has launched a private endowment that provides funding directly towards the development of Caltech technology to a point suitable for commercialization. When the technology is ready for commercialization, Caltech's office of technology transfer provides substantial assistance toward launching start-up companies. Caltech provides start-ups with assistance for developing and maintaining patent portfolios, develop-

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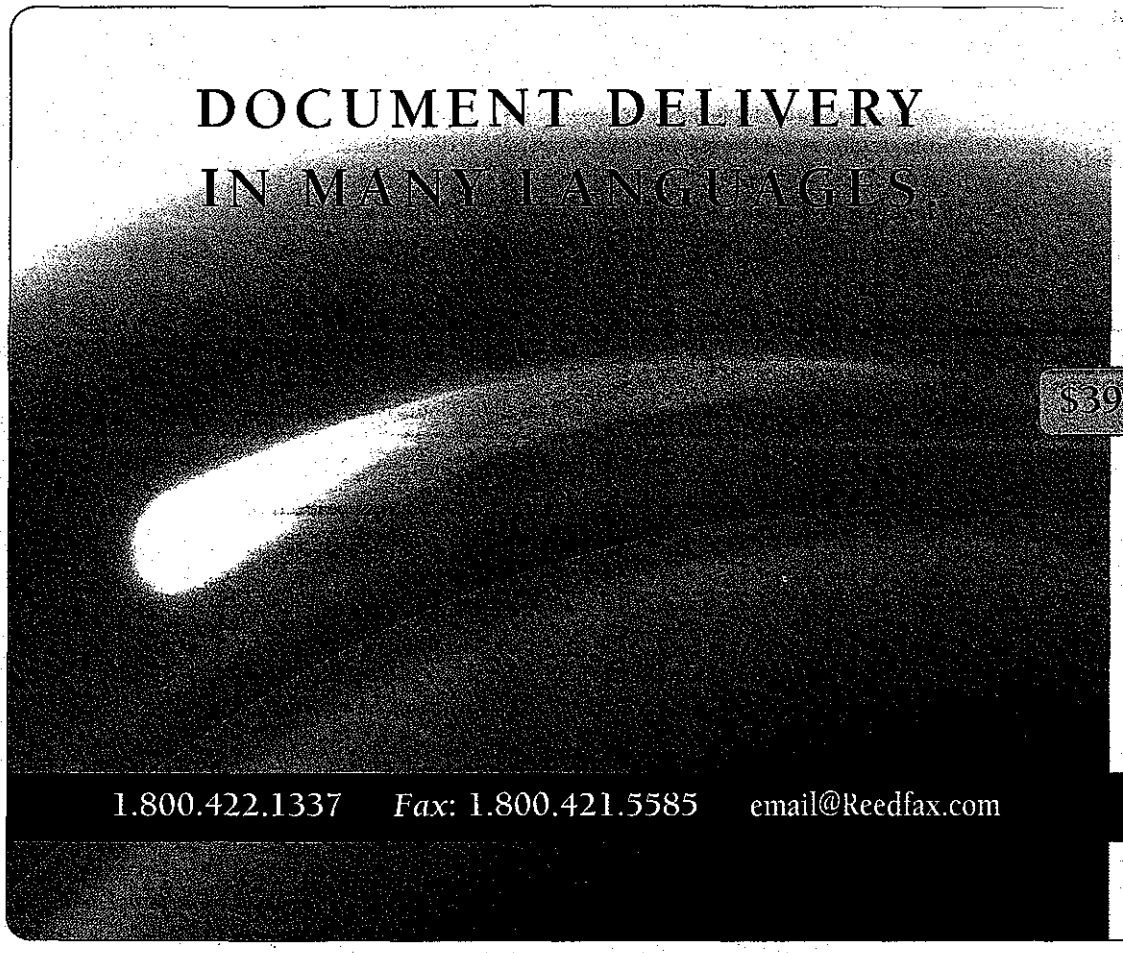

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ing business models and business plans, as well as providing referrals to patent attorneys, corporate counsel, and venture capitalists. The Massachusetts Institute of Technology has unambiguously subordinated its tech transfer program to its mission of education and research. While recognizing the benefits of technology transfer for the public and the institute, M.I.T. regards the free exchange of knowledge and disclosure of M.I.T. research as essential to its broader obligations as a learning institution. M.I.T.'s technology licensing office delays the prompt and open dissemination of M.I.T. research only as long as necessary to define and protect the rights of the parties involved. [2, 3, 4]

One facet of the Bayh-Dole Act that has generated internal controversy within universities is the provision for dividing royalty revenues between the faculty inventors and the institution. University administrators and faculty members tend to have differing views as to what is an "equitable" distribution of revenue. At Harvard University, royalties are divided between the inventor, inventor's department, school, and President and Fellows of Harvard College in the percentages shown in the table below. In addition to receiving 35% of the first $50,000 in royalties and 25% thereafter, the inventor at Harvard can direct the use of half of the department's share of royalties as long as the inventor remains at Harvard. [5]

With the implementation of the Bayh-Dole Act and the surge in technology expenditures over the last twenty years, patent portfolios in American universities have steadily grown. In 1985, 589 issued utility patents were assigned to American academic institutions representing 0.8 percent of all utility patents issued. By 1999, the number of patents assigned to American universities grew to 3,340, comprising 2.2 percent of all utility patents issued. [6] Among the leaders of patenting technology are the University of California (435 patents issued in 2002), the Massachusetts Institute of Technology (136 utility patents issued in 2002), and the California Institute of Technology (108 utility patents issued in 2002). Note that this patent data is based upon a search of the listed assignees for patents issued in 2002 and that the consistency of the name for the assignee listed on the issued patents varies for some institutions. In patenting

	CUMULATIVE REVENUE RECEIVED	
	First $50,000.00	Above $50,000.00
Inventor	35%	25%
Inventor's Department	30%	40%
School (Dean's Office or Vice President)	20%	20%
President and Fellows of Harvard College	15%	15%

From: "Harsche, Pat" <P_Harsche@fccc.edu>
To: "'Baran, Denise'" <dbaran@sherwood-group.com>, "'larry.gilbert@caltech.edu'" <larry.gilbert@caltech.edu>, "'efreise@cableone.net'" <efreise@cableone.net>, "Howard Bremer (E-mail)" <hwbremer@warf.org>, "NTTC Joe Allen (E-mail)" <jallen@nttc.edu>, "'njl@browdyneimark.com'" <njl@browdyneimark.com>, "'niels@stanford.edu'" <niels@stanford.edu>
Date: 2/11/04 3:31PM
Subject: RE: AUTM Plenary Session - Conf. Call

Thank you all for participating in today's conversation and for agreeing to be part of this 30th anniversary celebration. With respect to the plenary session itself, I direct your attention to the schedule below. Robin will talk to Joe Allen about meeting with you all the evening before or morning of the plenary session on Thursday for breakfast.

As I noted, we expect about 1500 people to be in the audience who will be interested in knowing whether the issues leading to the formation of SUPA/AUTM remain relevant today. Some of the issues we identified are:

* incentivising inventors
* putting control of the deal where it can be consummated: local university
* the need for professional development
* the ongoing need to educate legislators at all levels.

With respect to Bayh-Dole itself, the audience will be interested in the rationale for the elements of the legislation - understanding this will allow them to apply those principles to interactions with legislators and their own administrations on the importance of this mechanism.

Again, thank you...I look forward to seeing you all in San Antonio.

Regards,

Pat

****

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-----Original Message-----
From: Baran, Denise [mailto:dbaran@sherwood-group.com]
Sent: Thursday, January 29, 2004 1:30 PM
To: 'larry.gilbert@caltech.edu'; 'efreise@cableone.net'; Howard Bremer

(E-mail); NTTC Joe Allen (E-mail); 'njl@browdyneimark.com'; 'niels@stanford.edu'
Cc: Pat Harsche Weeks (E-mail); Robin L. Rasor (E-mail); Asst to Pat HW - Marianne Weyhmuller (E-mail); Asst to Pat HW - Julie Pippin (E-mail)
Subject: AUTM Plenary Session - Conf. Call

Thank you again for agreeing to participate in the opening plenary session at the 2004 AUTM Annual Meeting, "Celebrating 30 Years of AUTM and the Bayh-Dole Act."

The outline of the session is as follows.

3:30 - 3:35 p.m. Robin welcomes everyone and introduces AUTM President Pat Harsche Weeks
3:36 - 3:39 p.m. Pat introduces Joe Allen
3:40 - 4:00 p.m. Joe Allen reviews the path to the Bayh-Dole Act and then introduces founders of SUPA/AUTM and other invited guests
4:01 - 4:31 p.m. Larry Gilbert, Earl Freise, Howard Bremer, Norm Latker and Niels Reimers reminisce about early days of SUPA/AUTM (5 min. each)
4:32 - 4:35 p.m. Pat introduces Birch Bayh
4:35 - 4:55 p.m. Comments by Birch Bayh
4:50 - 5:00 p.m. Pat thanks speakers and announces the creation of the Bayh-Dole Scholarship

We'd like to schedule a conference call with all of you to coordinate the details of the session. Please let me know your availability for a conference call during the following times. (All times are listed in the Central Standard Time zone.)

Tuesday, Feb. 3
10 a.m.
11 a.m.
Noon
1 p.m.
2 p.m.

Wednesday, Feb. 4
10 a.m.
11 a.m.
Noon
1 p.m.
2 p.m.
3 p.m.
4 p.m.

Thursday, Feb. 5
10 a.m.
11 a.m.
Noon
1 p.m.
2 p.m.
3 p.m.

4 p.m.

Friday, Feb. 6
10 a.m.
11 a.m.
Noon
1 p.m.
2 p.m.
3 p.m.
4 p.m.

Monday, Feb. 9
Noon
1 p.m.
2 p.m.
3 p.m.
4 p.m.

Best regards,
Denise Y. Baran
AUTM - Celebrating 30 Years of Innovation
dbaran@autm.net
847/559-0846 x221

Register online for the 2004 Annual Meeting at www.autm.net

CC: "Harsche, Pat" <P_Harsche@fccc.edu>, "Robin L. Rasor (E-mail)" <robinlr@umich.edu>

From: "Gilbert, Larry" <Larry.Gilbert@caltech.edu>
To: "'Baran, Denise'" <dbaran@sherwood-group.com>, "Gilbert, Larry" <Larry.Gilbert@caltech.edu>, "'efreise@cableone.net'" <efreise@cableone.net>, "'Howard Bremer (E-mail)'" <hwbremer@warf.org>, "'NTTC Joe Allen (E-mail)'" <jallen@nttc.edu>, "'njl@browdyneimark.com'" <njl@browdyneimark.com>, "'niels@stanford.edu'" <niels@stanford.edu>
Date: 2/11/04 5:57PM
Subject: RE: AUTM Plenary Session - Conf. Call

800 breakfast?

-----Original Message-----
From: Baran, Denise [mailto:dbaran@sherwood-group.com]
Sent: Wednesday, February 11, 2004 2:00 PM
To: 'larry.gilbert@caltech.edu'; 'efreise@cableone.net'; 'Howard Bremer (E-mail)'; 'NTTC Joe Allen (E-mail)'; 'njl@browdyneimark.com'; 'niels@stanford.edu'
Cc: 'Pat Harsche Weeks (E-mail)'; 'Robin L. Rasor (E-mail)'; 'Asst to Joe Allen - Paula Pollock (E-mail)'
Subject: RE: AUTM Plenary Session - Conf. Call

As referenced on the conference call today, following are AUTM's current vision, mission and goals as adopted by the board of trustees in October 2001.

VISION: To be the premier organization representing academic technology transfer professionals in the world.

MISSION: To promote, support and enhance the global academic technology transfer profession through internal and external education, training and communication.

GOALS:
1. To create broad understanding of the technology transfer process and its impact on society.
2. To develop and promote best practices in the profession.
3. To enhance the value of AUTM membership.
4. To communicate effectively with members.
5. To make AUTM an international organization.
6. To ensure that AUTM has the organizational and governance structure to achieve its vision and mission.

Robin will be speaking with Joe Allen next week and will organize a time for all of you to meet prior to the session in San Antonio. As a reminder, we would like all of the session participants to be at the stage by 2:45 p.m. on Thursday. This will give us time to run through the order with everyone. The session will be in Salon E.

Please feel free to contact me with any questions.

Regards,
Denise Y. Baran
AUTM - Celebrating 30 Years of Innovation
dbaran@autm.net

847/559-0846 x221

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CC: "'Pat Harsche Weeks (E-mail)'" <p_harsche@fccc.edu>, "'Robin L. Rasor (E-mail)'" <robinlr@umich.edu>, "'Asst to Joe Allen - Paula Pollock (E-mail)'" <ppollock@nttc.edu>

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2	United Airlines 1296	Mar 8	1:50 pm SAT	4:32 pm ORD	Non-stop
	United Airlines 850	Mar 8	5:45 pm ORD	8:35 pm IAD	Non-stop

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1	United Airlines 1111	Mar 4	8:20 am IAD	9:25 am ORD	Non-stop
	United Airlines 467	Mar 4	10:05 am ORD	1:04 pm SAT	Non-stop
2	United Airlines 1296	Mar 8	1:50 pm SAT	4:32 pm ORD	Non-stop
	United Airlines 322	Mar 8	7:05 pm ORD	9:55 pm IAD	Non-stop

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1	United Airlines 851	Mar 4	9:55 am IAD	10:57 am ORD	Non-stop
	United Airlines 679	Mar 4	2:29 pm ORD	5:21 pm SAT	Non-stop
2	United Airlines 866	Mar 8	4:45 pm SAT	7:23 pm ORD	Non-stop
	United Airlines 1077	Mar 8	9:20 pm ORD	11:57 pm IAD	Non-stop

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Leg	Flight info	Date	Depart	Arrive	Stops
1	United Airlines 846	Mar 4	8:50 am IAD	10:00 am LGA	Non-stop
	United Airlines 679	Mar 4	12:00 pm LGA	5:21 pm SAT	1
2	United Airlines 1296	Mar 8	1:50 pm SAT	4:32 pm ORD	Non-stop
	United Airlines 850	Mar 8	5:45 pm ORD	8:35 pm IAD	Non-stop

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From: "Baran, Denise" <dbaran@sherwood-group.com>
To: "'njl@browdyneimark.com'" <njl@browdyneimark.com>
Date: 1/20/04 4:26PM
Subject: AUTM Annual Meeting

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1908
X5600

Mr. Latker,

Thank you for agreeing to participate in AUTM's 2004 Annual Meeting. More than 1,400 academic technology transfer professionals attended the AUTM 2003 Annual Meeting and we expect this year's event to be even more successful.

As discussed, the opening plenary session is at 3:30 p.m. on Thursday, March 4, 2004, at the San Antonio Marriott Rivercenter. The title of the session is "Celebrating 30 Years of AUTM and the Bayh-Dole Act." Please plan to be at the hotel by 2:45 p.m. so that we can discuss your introduction and run through the set-up with you.

You will have five minutes to reminisce about the early days of AUTM (formerly SUPA). Please pick an appropriate story or memory to share with our audience.

As agreed, AUTM will cover the costs of your travel arrangements. To book your airline reservations, call Enterprise Travel at 800/798-0862 or 630/834-9104 and identify yourself with AUTM. They will bill your tickets directly to AUTM.

Your registration fee for attending the meeting has been waived. However, please complete a registration form and fax it to us at 847/480-9282. The form can be printed from our Web site at http://www.autm.net/index_2004annual.html <http://www.autm.net/index_2004annual.html> . Please note on the form that your registration fee has been waived.

Also, I will need to know your arrival and departure dates/times so that we can arrange for your hotel reservations at the Marriott.

I look forward to seeing you in San Antonio. Please contact me with any questions at dbaran@autm.net or 847/559-0846, ext. 221.

Regards,
Denise Y. Baran
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dbaran@autm.net
847/559-0846 x221

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1-800-433-7380

1	United Airlines 923	Mar 4	12:50 pm IAD	1:59 pm ORD	Non-stop
	United Airlines 679	Mar 4	2:29 pm ORD	5:21 pm SAT	Non-stop
2	United Airlines 1296	Mar 8	1:50 pm SAT	4:32 pm ORD	Non-stop
	United Airlines 850	Mar 8	5:45 pm ORD	8:35 pm IAD	Non-stop

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Leg	Flight info	Date	Depart	Arrive	Stops
1	United Airlines 323	Mar 4	2:47 pm IAD	3:58 pm ORD	Non-stop
	United Airlines 1109	Mar 4	7:35 pm ORD	10:30 pm SAT	Non-stop
2	United Airlines 1296	Mar 8	1:50 pm SAT	4:32 pm ORD	Non-stop
	United Airlines 322	Mar 8	7:05 pm ORD	9:55 pm IAD	Non-stop

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Leg	Flight info	Date	Depart	Arrive	Stops
1	United Airlines 383	Mar 4	5:40 pm IAD	6:48 pm ORD	Non-stop
	United Airlines 1109	Mar 4	7:35 pm ORD	10:30 pm SAT	Non-stop
2	United Airlines 432	Mar 8	9:18 am SAT	11:58 am ORD	Non-stop
	United Airlines 382	Mar 8	1:15 pm ORD	4:08 pm IAD	Non-stop

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