



BPEP

Berkeley Postdoc Entrepreneur Program (BPEP)

BPEP Mission: To foster entrepreneurship in the UC Berkeley postdoctoral and scientific community in order to move innovations from the laboratory to the marketplace.

Goals

- Provide an entrepreneurship toolkit for postdocs through on-campus workshops
- Collaborate with business leaders for mentoring
- Assist building (bio-)technology start-up companies
- Connect technology know-how with business skills



GREENSTART



OUR PURPOSE



- Jumpstart seed stage cleantech to create a vibrant ecosystem where entrepreneurs thrive
- Launch 500+ cleantech startups in first ten years
- Increase chances of success for each startup that goes through the Greenstart Accelerator



BPEP 2: IP, Legal Issues, Patents

- The Basics – Peter Fiske
- The University Perspective - Lynne Hollyer
 - Associate Director - UC Berkeley Industry Alliances Office
- The discussion
- The beer

Michael Katz
Executive Director
IPIRA



IP, Legal Issues & Patents

The Basics...

Dr. Peter S. Fiske

October 6, 2011

BPEP #2

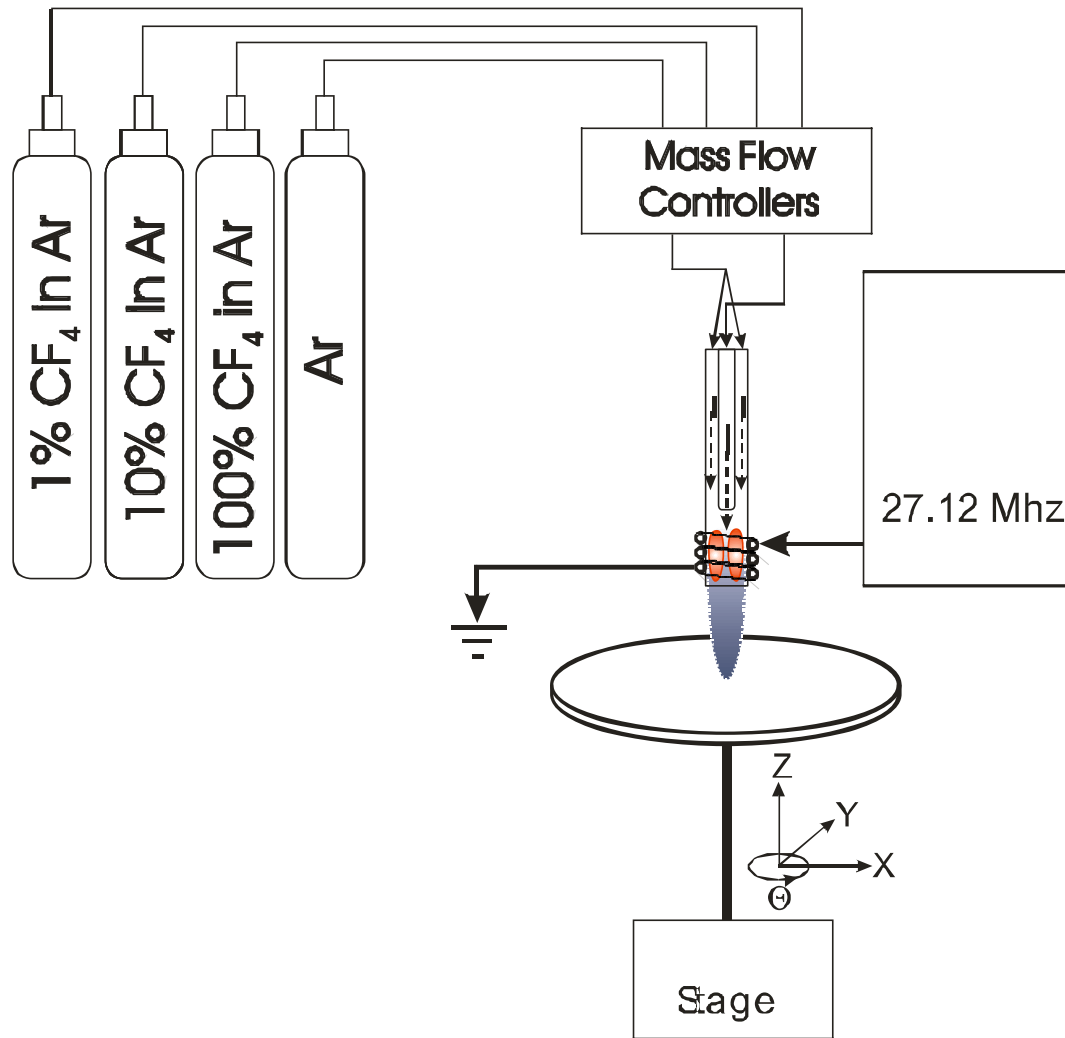
First: a disclaimer

The opinions expressed in this lecture are solely those of Dr. Fiske and not his employer, the University of California, the State of California, the government of the United States, or other sentient creatures in our solar system. Dr. Fiske is not a lawyer, nor does he claim to be a lawyer, nor is he representing himself as an authority in legal matters in any capacity. Some of the statements contained in this presentation may not be suitable for children, people with compromised immune systems, people with opposable thumbs, pandas and those who work with pandas.

When I first encountered IP issues, here's what I thought:

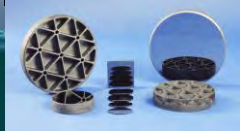
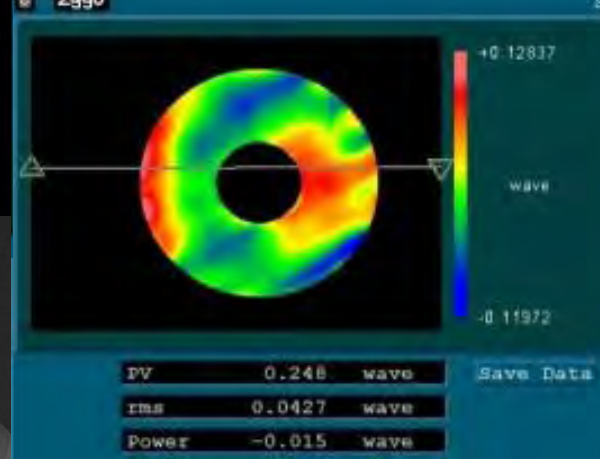
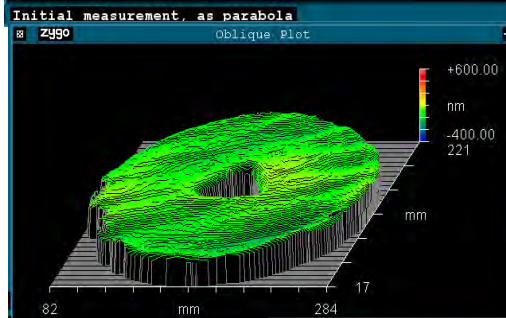
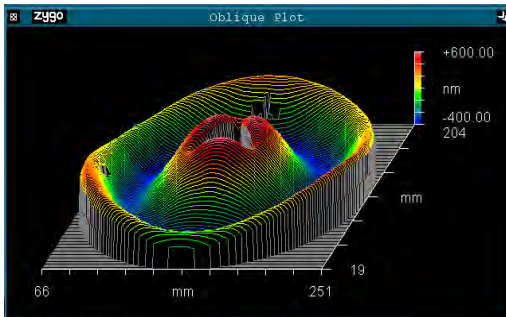
- You cannot commercialize any technology without a patent
- Any patent that is close to your invention invalidates your IP claims
- Obtaining a patent will completely protect my IP
- We need to patent as soon as possible to prevent being scooped

Some history from my first year..



RAPT

INDUSTRIES



www.raptindustries.com

Some of my experience

- Dealt with all aspects of IP while running RAPT Industries
 - Filed 13 US and many more international patents
 - Critically evaluated competitive IP
 - Took 2 WONDERFUL classes at Haas
 - Intellectual Asset Management
 - Law and the Business Environment
 - Successfully negotiated a license for RAPT IP
 - Hundreds of hours spent with legal counsel
 - Managed NDAs, employment agreements

Highly likely you will do this too...

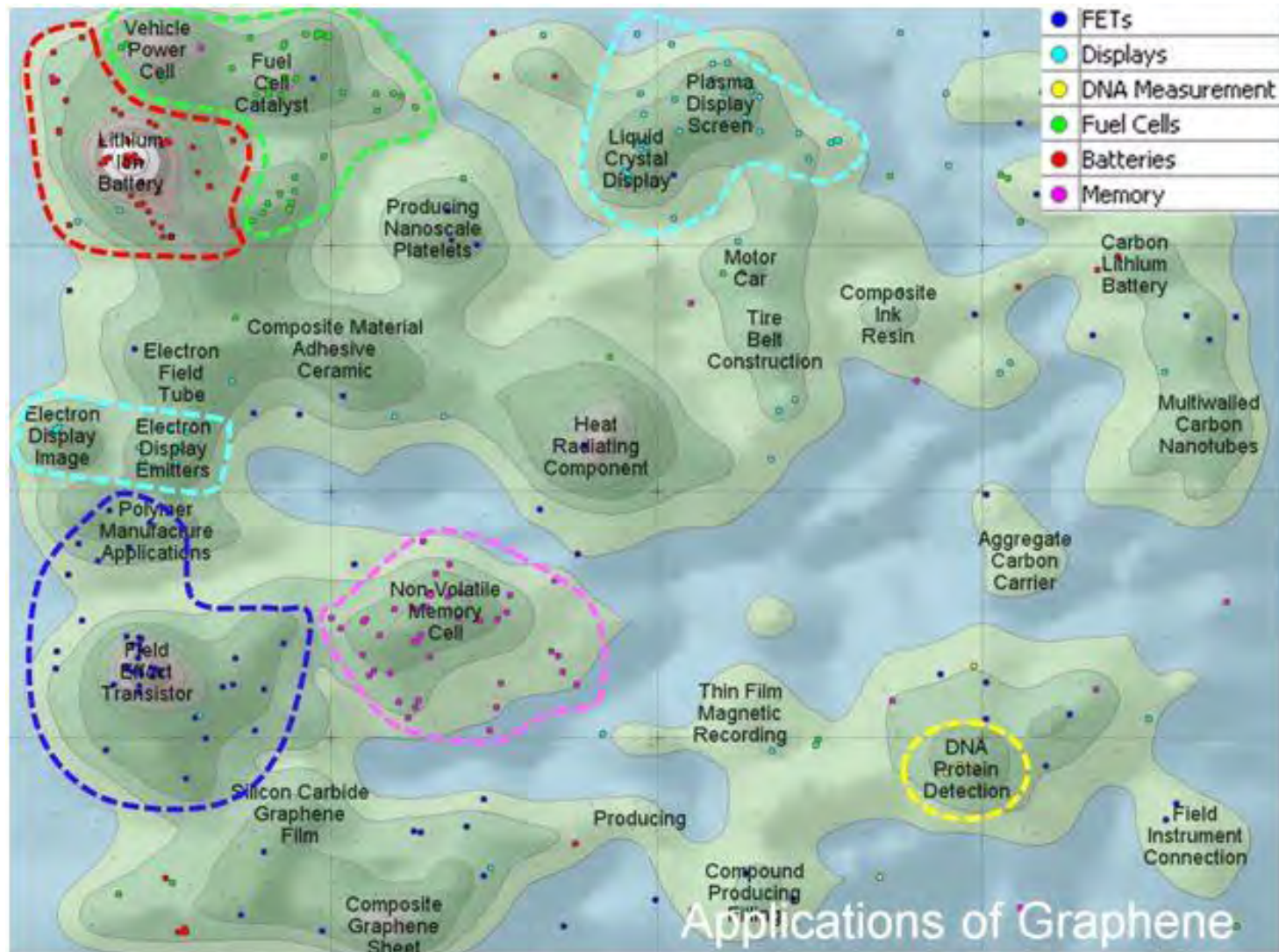
Patents are a valuable research tool...

RAPT Industries, Patent Search related to Flame Plasma Cleaning - Updated 4/10/2002									
Search Criteria	Pat No.	Date Filed	Inventors	Assignee	Title	Abstract	Application	Notes	
Abstract: atmospheric plasma									
	6,342,215	2001-01-23	Nishikawa, Takao [Japan, JP]; Akigami, Hiroaki; Hara, JP; Sasaki, Shintaro [Japan, JP]	Saiho Kasei Corporation [Nagasaki, JP]	Method and apparatus for atmospheric pressure plasma surface treatment, method of manufacturing ink jet printing head	Gas discharge is carried in a predetermined discharge gap of atmospheric pressure or a pressure above atmospheric pressure, and an organic material which is liquid at room temperature and which is previously contained in the discharge gap is applied to a surface of a treated member in a discharge apparatus by a plasma jet from the gas discharge in a specific pulsed operation. During the applied pulsed operation, a polymerized film of organic material is formed on the surface of the treated member. Repeatedly repeating the organic material on the kind of the discharge material and optionally making flow, a water repellent film, a hydrophilic film or a film having a high surface energy is formed on the surface of the treated member according to the polymerization speed of the organic material and can be increased, on the polymerization can be limited. Further, the adhesion of an organic polymerized film on the film can be improved with respect to a treated member forward of an organic material tank or glass or some reaction organic material of the organic material to the kind of gas in use while being cleaned.	several plasma and gas treatment	Patent search for information to find if there is the ability to replicate liquid into the plasma stream. The liquid might be nothing new - that's how most industrial plasmas are formed. But the device may vary and also depending on application.	
	6,262,523	2000-08-08	Schwab, Gary S. [Los Alamos, NM]; Weisler, Isaac [Los Alamos, NM]; Sakagami, Shiro E. [Washington Beach, CA]; Nishi, Takao F. [Los Angeles, CA]	The Regents of the University of California [Los Alamos, NM]	Large area atmospheric-pressure plasma jet	Large area atmospheric-pressure plasma jet. A plasma discharge that has been applied at atmospheric pressure and near room temperature using 15-50 MHz of power is described. Unlike plasma torches, the discharge produces a sheath of plasma on the walls of the discharge. It also produces a core of plasma in the center of the discharge. In the central discharge, the plasma can be used to clean by applying the plasma to the surface of the substrate. The jet of ions that is produced and the positive operation that are made of applying using ionizing metals and other materials is generated which extending to 10 cm beyond the spread of the electrode. Films and coatings may also be formed by these operation. During in general in the apparatus by using an ionization mechanism, which facilitates, by using high flow rate and stability, and by properly spacing the separated electrode. Because of the atmospheric pressure operation, there is the possibility of a great amount of ionization being directed from the surface plasma discharge to the back of the workpiece, unlike the situation for low-pressure plasma sources and conventional plasma processing methods.	plasma etching	We saw about Gary Schwab's work. We did a patent search by that time for plasma jet technology in a CCP. Gary's technology is also really because it's solid - which has some for etching plasma which is more like about 7-10 Torr in pressure and active ion density at the point of the jet.	
	6,111,111	8-Jan-93	Brownson, Ross W. [Los Alamos, NM]; Schwab, Gary S. [Los Alamos, NM]	The Regents of the University of California [Los Alamos, NM]	Atmospheric-pressure plasma decontamination for biological surfaces	An atmospheric-pressure plasma decontamination method is described. The apparatus is useful for decontaminating sensitive equipment and substrates such as medical imaging, optical and optical fibers, which have been contaminated with chemical and/or biological surface agents, such as bacteria, spores, viruses, fungi, etc. and the like. There is an overall procedure for decontaminating such equipment. The procedure involves cleaning the surface of the material and food in a discharge. There is a decontamination or sterilization process supported inside the discharge. The surface operation including cleaning and food is the negative operation and supported by a high-pressure plasma discharge in the DC, such as a discharge and directed into the center of flow thus resulting in a directed ionizing mechanism. The reaction operation and organic substances. This reaction typically kills and/or neutralizes the contamination without damaging most equipment and materials. The plasma gases are neutralized through a cleaning system maintained the face of bottom and the possibility of a great amount of ionization.	plasma etching (see definition 5,351,272)	I don't know if that's how to form the decontamination.	
	6,221,268	2000-08-08	Li, Xia [Bellevue, WA]; Tanihara, Hiroyuki [Bellevue, WA]	The Boeing Company [Seattle, WA]	Surface modification using an atmospheric pressure glow discharge plasma source	A method for producing stable atmospheric pressure glow discharge plasmas using RF excitation and the use of said plasmas for modifying the surface layer of materials. The plasma generated by this process and the surface modification capabilities depend on the type of gas used and their electrical conductivity. These plasmas can be used for a variety of applications, including etching of organic material from the surface layer of organic substrates, as an environmentally benign alternative to industrial etching operations which normally employ toxic and expensive, as a method of stripping paint from surfaces, for the surface modification of semiconductors prior to ultraviolet bonding operations, for use as a cleaned etcher of electronic boards and assemblies and in microelectronic fabrication, and for the identification of toxic waste in medical applications.	plasma etching (see definition 5,328,527)	only a single claim of the abstract (see definition 5,328,527, 6,254,941)	
	6,218,640	2000-08-08	Schiffman, Steven J. [Portland, OR]	The Boeing Company [Seattle, WA]	Atmospheric pressure induction plasma apparatus	An induction plasma torch operating at atmospheric pressure is used for surface glow discharge processing. Said torch employs a flow of plasma and a magnetic field. This torch is used in particular with the photoresist etching and processes in which it has the advantage of high electrical conductivity and low plasma density.	plasma etching		
	6,214,243	2000-08-08	Li, Xia [Bellevue, WA]; Tanihara, Hiroyuki [Bellevue, WA]	The Boeing Company [Seattle, WA]	Surface modification using an atmospheric pressure glow discharge plasma source	A method for producing stable atmospheric pressure glow discharge plasmas using RF excitation and the use of said plasmas for modifying the surface layer of materials. The plasma generated by this process and the surface modification capabilities depend on the type of gas used and their electrical conductivity. These plasmas can be used for a variety of applications, including etching of organic material from the surface layer of organic substrates, as an environmentally benign alternative to industrial etching operations which normally employ toxic and expensive, as a method of stripping paint from surfaces, for the surface modification of semiconductors prior to ultraviolet bonding operations, for use as a cleaned etcher of electronic boards and assemblies and in microelectronic fabrication, and for the identification of toxic waste in medical applications.	modification 5,328,527	ask to RPT if there is this is DC plasma as well and distinguishable from ours.	
	6,114,218	1-Feb-99	Wieland, George [Tucson, AZ]; Pineda, Santiago B. [Tucson, AZ]; Walker, Wolfgang [Tucson, AZ]	Signa Technologies International, Inc. [Tucson, AZ]	Steady-state glow-discharge plasmas of atmospheric pressure	A plasma torch in an electrodeless system with a layer in one of the electrodes. The plasma layer is formed with gases of average size with an order of magnitude of the mean free path of the plasma of atmospheric pressure. The plasma jet is trapped into the electrodeless chamber in the atmospheric pressure and allowed to diffuse through the plasma layer through forming a uniform glow-discharge plasma. The film material to be treated is exposed to the plasma jet and before this electrode and a second electrode covered by dielectric layer. Because of the narrowness of the pores of the porous metal,	film treatment	Glow discharge was described in the patent.	

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Patent analysis can provide great competitive insight



Levels of IP Strategy

- Defensive – “stake a claim”
- Cost Center – “reduce IP costs”
- Profit Center – “license what you can”
- Integrated – “company-wide focus”
- Visionary – “trans-company – future-oriented

Today – here's what I think:

- There are many paths to commercializing an invention that do not involve a patent
- Patents are not a “fixed asset” – they are a “ticket to play”
- Almost always, there is room to move around someone else's patent
- Patents are expensive and time-consuming and of finite duration. When and how to protect IP should be carefully considered

The basics

Intellectual Property (IP) is any product or result of a mental process that is given legal protection against unauthorized use. Different types of intellectual property are protected in different ways. Properly protected, intellectual property can give a firm a strategic competitive advantage.

Different forms of IP

Patent – a government-granted right to exclude others from making, using, or selling an invention

Copyright – a legal right to prevent others from copying the original expression embodied in a creative work or any other work of authorship fixed in a tangible medium.

Trademark – a set of words and/or symbols that identify the source of goods and services and embody the “goodwill” of the business

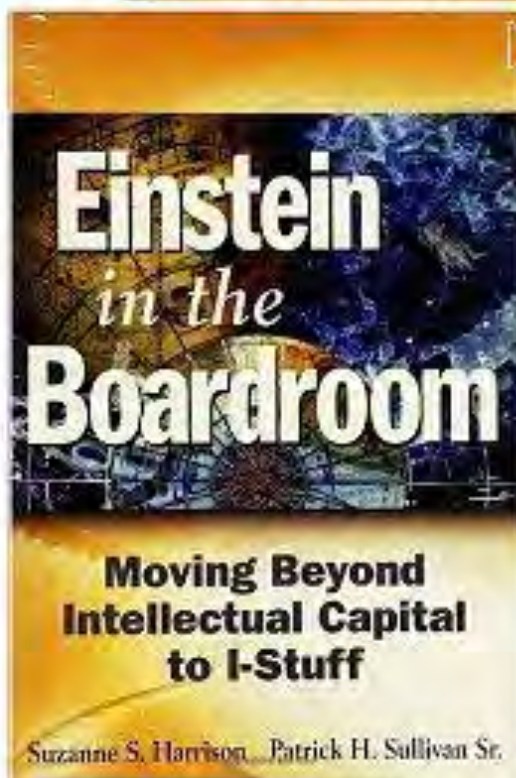
Trade Secret – information that gives a business an advantage over others who do not have the information

Know-how – detailed information on how to make or do something (can be a trade secret)

Patent v. Trade Secret

- Does disclosing the invention complicate other aspects of IP?
- Is it easy to detect use of the IP in a product?
- Would “codifying” the IP increase value to the firm?

Click to **LOOK INSIDE!**

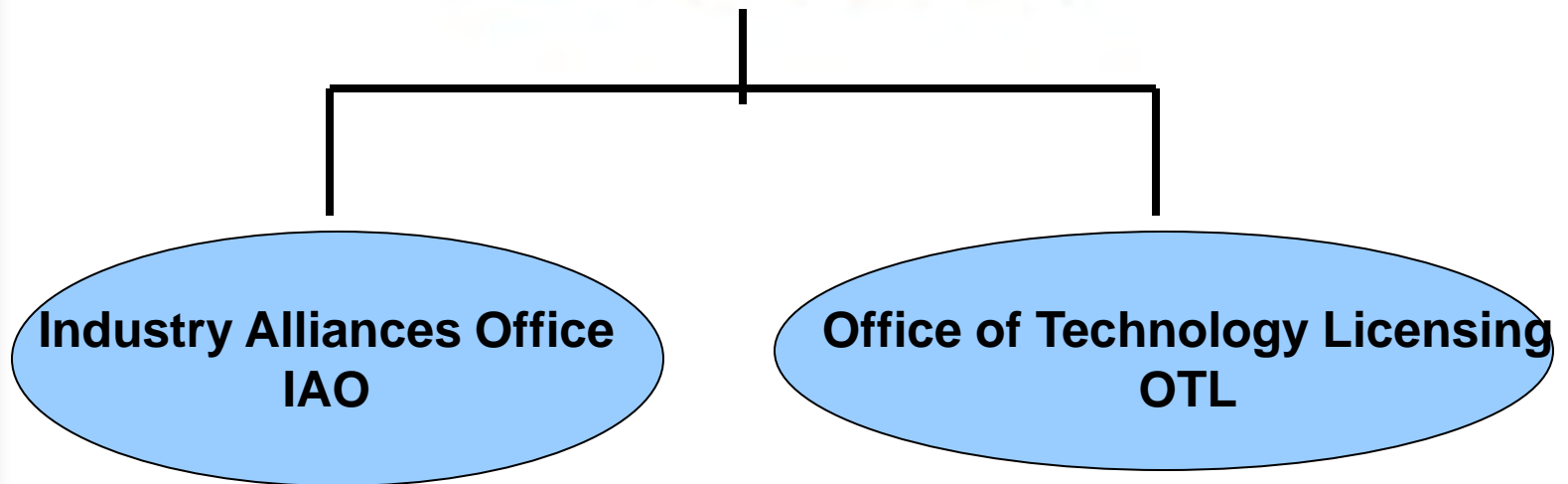


University of California IP Management and Technology Licensing



Lynne Hollyer
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IPIRA Consists of Two Offices





What We Do at IPIRA

- The IAO manages incoming intellectual property and research materials, and industry funding for research project for the 1,575 full and part time faculty at Berkeley.
- The Office of Technology Licensing manages the outgoing technology portfolio, including invention disclosures, patenting and licensing.



What Did IPIRA do Last Year?

- In FY 2011, the IAO completed 297 Research Agreements totaling just over \$32.5M, not including the \$35M per year that we get from the EBI
- IAO signed 263 Material Transfer agreements for research materials in 2011
- In FY 2011, the OTL signed 28 licenses and 13 options to licenses for Berkeley technologies, about half to start up companies
- In FY 2011 Faculty filed 189 invention disclosures
- Licensing revenue fluxuates between \$3M and \$5M a year



Some Vocabulary

- Invention-at UC we define an invention as something “conceived and reduced to practice.
- Patent Acknowledgement-the form all employees sign to acknowledge their understanding of their IP obligations to their employer
- Invention Disclosure-the form submitted to the OTL that describes the invention and informs the office of any obligations to funders
- Provisional Patent-is a U.S. national application for patent filed in the USPTO without a formal patent claim, or any information disclosure (prior art) statement. It lasts for 12 months and cannot be extended
- Patent-intellectual property right granted by the US government to an inventor “to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States” for a limited time in exchange for public disclosure of the invention when the patent is granted.
- License-gives permission to another to use an invention in exchange for payment



The Patent Acknowledgement

- All UC employees sign the UC Patent Acknowledgement as a condition of employment.
- When an employee signs the the Patent Acknowledgement they acknowledge their obligation to assign all inventions conceived or developed while employed by the University or during the course of using University research facilities or in connection with any use of a gift, grant or contract received by the University.
- The employee also acknowledges their obligation to promptly disclose inventions to the Office of Technology Licensing.



UC IP Management Principles

- If in the performance of your job you create an invention using University resources, the University owns it
- Sponsors can review publications in advance of publication or presentation to identify a patentable invention they would support but do not have the right to approve them.
- Sponsors of research (the federal, state or local government, non-profits, companies) are granted a right to use research results and a first option to license patentable technologies
- Sponsors pay the patent costs, the University will not file a patent application without a sponsor to fund it.
- The University manages the patent process with an outside patent firm
- Our primary goals are to protect academic freedom and make the knowledge obtained through research available for the public good.



Why Do Employers Own IP?

- n The facilities and resources that are used to create the invention have been provided and are subsidized by the employer whether a university, for profit company or government. The employee is hired to perform a job and is paid to perform that job.



What Does it Mean to “Disclose”?

- Under US Patent Law, an inventor has one year after disclosure of an invention to file a patent application
- In Europe, an inventor must file a patent application before disclosure since once an invention is disclosed the right to file is lost.
- A disclosure of research results to a sponsor is not a “disclosure” since it is confidential.
- A public disclosure is a patent application, presentation, poster, article, web posting or any instance wherein your results are made available non-confidentially.
- Since Europe is around 50% of the market for most products and services, its prudent to file before disclosure.



Confidential Information

- n Your confidential information-if during the course of a project you learn or invent something that you will want to publish or use in an invention disclosure, that's your confidential information. If you are planning to file a patent application you need to be especially careful not to have your confidential information disclosed to a third party. If the information is disclosed, you lose your right to file for a patent.
- n A collaborator or sponsor may provide you with confidential information or trade secrets and you are bound to keep that information confidential and may not include it in a publication.
- n Your results using a third party's confidential information are yours and you can discuss your results but not the specific information from the company.