

COMMERCIALIZING IP Protecting R&D

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November 2010

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Trade Secrets / Confidential Information

- Subject matter can be wide ranging
 - Technical information such as processes, software code, machine designs, chemical formulas, and compositions
 - Information such as databases (research, customer lists, suppliers) and marketing plans



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R&D = IP

All R&D starts out as trade secrets and stays that way indefinitely unless you

- File patent application
- Disclose the secret (e.g. defensive publication, marketing, academic publication)

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Commercializing IP

- Determine full extent of IP generated
- Assess patentability and make decision whether to register rights (commercial justification)
- Determine inventors and secure ownership
- File applications for registration
- Freedom to Operate analysis and action plan
- Technology transfer office helps with all of the above

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Patents

- Right to exclude others from making, using and selling an invention



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Patent Pros

- block competitors-market exclusivity-incentive to invent
- IP is an asset -buy, sell, license, security for loan
- investors like IP protection in a business plan

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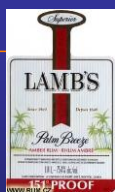
Patent Cons

- expense of patenting (investment/cost-benefit analysis)
- can discourage collaborations between competitors
- can delay publication of ideas (less knowledge out there?)



Trade Marks

- Words, designs etc. to distinguish goods or services from those of others
- Right to exclude others from using same or confusingly similar trade mark



Industrial Designs/Design Patents

- Protects aesthetic features of an object
- Right to stop others from using the registered design or any design not substantially different



Copyright

- Exclusive right to reproduce and publish an original work
- Literary, dramatic, artistic and musical works
- Protects form of expression, not underlying idea or concept

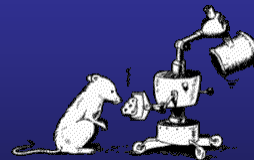
Patent vs Trade Secret

- Is it even patentable?
 - subject matter eligibility
 - new, inventive, useful
 - enablement/support
(how good is your data?)
- Is other protection applicable?
 - copyright, industrial design, trade mark

WHAT CAN YOU PATENT

Subject Matter - Straightforward

- Mechanical devices
- Computer hardware
- Chemical compounds and processes



Subject Matter - Grey Areas

- Business methods
- Software
- Methods of medical treatment
- Higher life forms (eg. transgenic plants)
- Diagnostics

Can be variable results between US, CA, EP
Focus on US - usually most important market

NEW
INVENTIVE
USEFUL

Novelty

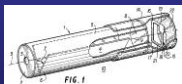
- Not disclosed to the public:
 - before patent application is filed (most countries)
 - more than one year before filing (Canada, U.S., Australia)

Disclosures

- Any communication not made in confidence that allows one to reproduce the invention
- Papers
- Abstracts/Posters
- Oral presentations

Invalidating Disclosures

- a) kaleidoscope designer #1 demo at a party before competing designer #2 files patent application for a similar, independently developed design



- b) poster for methods of preparing soy fiber foods displayed at a meeting of chemists (2 days) and at a university (1 day)

Disclosures

Patenting does not preclude publishing

- if done in the right order!
- Use confidentiality agreements
- Don't make enabling disclosures
- *Contact your technology transfer office*

Novelty

- Ensure not published by others
- Conduct Internet search, patent search

Inventiveness

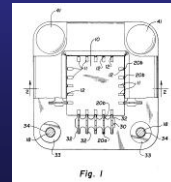
- Would one be led easily to invention based on state of the art?
 - Inventiveness is very fact specific
 - No hindsight analysis

Data Requirements

Enablement / Support / Utility

When is the Invention Ripe for Patenting?

- No requirement to make prototype for mechanical devices
- File patent applications when you can 'draw it up'



Enablement

- Primarily an issue for biotech, chemistry
- Especially relevant to medical treatments
 - if not enough data, then not patentable
 - if enough data, but stretched too far, can be invalid

Invention Looks Patentable

What Next?

Patent Application or Trade Secret?

Consider:

- Commercial value
- Patentability (narrow/broad);
- Ability to keep secret/reverse engineer
- Enforceability

Ultimate risk is that the secret gets out

Trade Secrets - Leakage



- If you decide to file a patent application:
 - sooner is better, once invention ready for patenting
 - first to file vs first to invent

Inventorship

- Inventorship (US) - conception and reduction to practice
- Patent can be invalid if wrong inventorship
- Identify inventors and get control of their rights (assignment, license)

Who is an Inventor?

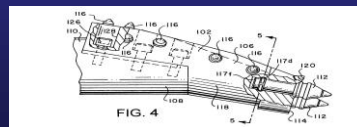
GSK scientists conceived the idea that AZT could stop HIV; did basic testing on mouse cells

GSK worked with two NIH scientists to do advanced testing with human cells.

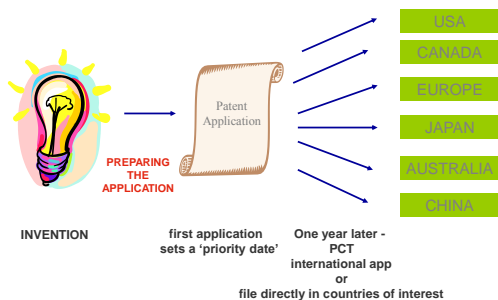


Drafting the Application

- Avoid “quick & dirty” patent applications (e.g., filing a manuscript)
- Priority date may not stand up
- Drill bit for horizontal directional drilling



File the Application



Proactive IP Management

- conventional grants
- contact tech transfer office
- file patent application describing invention and variants
- publish after patent application filed
- look for potential licensees or grants with industrial angle

Reactive IP Management

- publish
- contact tech transfer office after publication
- file manuscript as provisional patent application



Freedom to Operate

- Having a patent does not give the right to use an invention - only gives ability to stop others
- A patented invention can potentially infringe a third party's patent
- Conduct freedom to operate patent searches

NAVIGATING PATENT STRATEGY WITH A UNIVERSITY

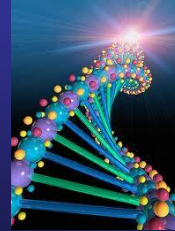
GENES

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GENES



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On January 3, 2010, Dr. No discovered a new gene from a desert chick pea that he named ohno.

Preliminary research indicates that ohno is a cell membrane protein that helps maintain cell structure in arid conditions.

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Dr. No published an abstract and delivered a brief lecture in May 2010.

Offered co-inventorship and authorship to colleague over a drink.

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What was in that abstract and lecture??

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After prior art searches, the **first patent application** is filed in the US on July 11, 2010.

Dr. No publishes his data in the *Journal of the Chick Pea Society* after the first patent application is filed.

Transgenic plants being developed by his start-up company.

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MORE UNIVERSITY IP ISSUES

Prof. Pierre Elliot Mulroney developed a Canada-wide historical database of election voting outcomes by poll and district.

He consulted his tech transfer office.

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They decided *not* to file a patent application.
There was no clearly patentable aspect and the cost-benefit analysis did not justify the expense.

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They created a Tm: VOTOGRAPHICS.

Copyright on database screen layout.

User manual is marked "© Pierre Elliott Mulroney, 2010. All rights reserved".

The database is accessed by users under license for a fee per search.

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Later, he created a wireless exit poll handheld device...

- stores exit poll voting data and voter demographic info; real time updates.
- unique software processes plus an aerodynamic and counterbalanced housing for use on the East coast where other devices failed b/c they occasionally blew from a user's hand into a puddle.

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The technology transfer office filed a patent application before the device was publicly disclosed on the web.

They registered the sleek appearance of the device as an industrial design.

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- Freedom to operate was assessed widely by reference to:
 - prior, similar devices
 - software patents for similar data processing
 - hand held device shells
 - wireless communication technology

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- The database made a modest profit only during election cycles.
- Launch of the handheld device took longer than hoped. Commercialization costs were \$70K before a licensee was found.
- The device had mixed commercial success. Politicians hated its brutal honesty. Ad agencies loved it.

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