Today’s Goals

• Describe:
  – Forms of intellectual property
  – UMD’s Intellectual Property Policy
  – IP ownership and rights
• Answer any questions from the group

Intellectual Property & UMD’s Mission

• Education
  – UMD relies on IP of others and creation of new IP by faculty and students.
• Research
  – UMD contributes to the development of new IP and better understanding of existing knowledge.
• Public service
  – UMD shares IP and knowledge for the public benefit.

Remember: UMD is a state agency and UMD employees are State of Maryland employees!
Types of IP

- Written and artistic works
- Hardware and other tangible items
- Software and data
- Certain business processes
- Trademarks
- Data & trade secrets

What is a Copyright? A Patent?

- Copyright
  - The sole legal right to print, publish, perform, film, or record literary, artistic, or musical material, and to authorize others to do the same.
  - Protects the “expression in fixed form,” not the underlying idea.
- Patent
  - The sole right to exclude others from making, using, or selling an invention.
  - Protects the concept as well as the resulting invention.
  - Not necessarily the right to make, use, or sell an invention.

Why Do We Care?

- It’s important for UMD to retain rights to IP that it creates for a variety of reasons:
  - UMD may want to use the IP as a teaching tool;
  - The PI may want to use the IP to continue his/her research;
  - Grad students may need to use the IP for their dissertations;
  - UMD can collect royalties on its IP (and it shares these with the inventor);
  - UMD policy requires the retention of certain rights;
  - Federal law (particularly IRS regulations on “fair use”) makes it important to retain IP rights.
Where is IP Created?

- Industry
- Universities
  - Course preparation (instructor), academic work (students)
  - Sponsored research
  - Visiting scientists
- Faculty start-ups (including at incubators)
- Consulting
  - Work for hire (so be careful what you sign)

Who Owns IP?

- It depends!
- For each situation, must look to:
  - Inventor/creator and his/her employment status;
  - Federal law;
  - University policy; and
  - Contract terms and conditions (including visiting scientist agreements).

IP Ownership: Inventors/Creators

1. First look at each inventor/author and their employment status.
2. Then look at the assignment obligations of each inventor/author.
   a. Where there is more than one assignee, then the IP is jointly owned (discussed later).
3. Then ask the following questions:
   - Is the inventor UMD faculty, staff, or student, or none of the above?
   - Was IP made under a sponsored research agreement (SRA), using resources beyond those customarily provided, within scope of employment of staff, or under another agreement?
IP Ownership: Federal Law

- UMD owns inventions that UMD employees create with federal money.
- Bayh-Dole Act requires:
  - UMD to disclose inventions to the feds;
  - The feds receive a free right to use the inventions;
  - UMD to share revenue with inventors and use the balance of revenue to further research activities; and
  - UMD to give preference to small companies and US companies.

IP Ownership: University Policy

UMD policy & Bayh-Dole
- University owns IP created:
  - Under sponsored research & other agreements (may include journal articles);
  - In the scope of employment; and
  - Outside scope of employment but with use of significant UMD resources (including labs and grad students).
- Employees own IP created:
  - Outside of the University (i.e., in their garage);
  - Outside scope of employment without use of significant UMD resources; and
  - Course materials.
- Students own IP created:
  - In performance of academic requirements and activities; and
  - Outside the University without use of significant UMD resources.
- UMD engages in revenue sharing with inventors.
  - Good reason to disclose your IP!

UMD Policy: Inventor/Author is UMD Faculty

- IP created under a sponsored research agreement (SRA)?
  - If the IP is an invention conceived of or first reduced to practice under a federal award → UMD owns (Bayh-Dole).
  - If the IP is subject to copyright only, and its creation was a requirement of the SRA → UMD owns.
- IP created using resources beyond those usually/customarily provided?
  - If Yes, then UMD owns.
- IP created under another contract?
  - Terms of contract control ownership.
UMD Policy: Inventor/Author is UMD Staff

- IP created under SRA?
  - If the IP is an invention conceived of or first reduced to practice under a federal award → UMD owns.
  - If the IP is subject to copyright only, and its creation was a requirement of the SRA → UMD owns.
- IP created using resources beyond those usually/customarily provided?
  - If Yes, then UMD owns.
- IP created within scope of employment?
  - If Yes, then UMD owns.
- IP created under another contract?
  - Terms of contract control ownership.

UMD Policy: Inventor/Author is UMD Student

- IP created under SRA?
  - If the IP is an invention conceived of or first reduced to practice under a federal award → UMD owns.
  - If the IP is subject to copyright only, and its creation was a requirement of the SRA → UMD owns.
- Is the student also a UMD employee?
  - If Yes, and IP created within scope of employment, then UMD owns.
- IP created under research/academic activities only?
  - If Yes → Student owns.
  - If No, and student did not have written permission to use resources → UMD owns.
- IP created under another contract?
  - Terms of contract control ownership.

UMD Policy: Overview of IP Ownership

For UMD faculty, if:
- IP not created under SRA
- IP not created using Resources Beyond, AND
- Other contract does not give UMD ownership
  → Faculty owns the IP

For UMD staff, if:
- IP not created under SRA
- IP not created using Resources Beyond
- IP was not created w/in scope of employment, AND
- Other contract does not give UMD ownership
  → Staff owns the IP

For UMD student, if:
- IP not created under SRA
- Other contract does not give UMD ownership
- IP was not created in the scope of employment of student employee, &
- IP was created as part of UMD academic/research activities only and if not, was not created using Resources Beyond w/o permission
  → Student owns the IP
IP Ownership: Contract Terms & Conditions

(AKA the Perils of the Visiting Researcher Agreement and Journal Publication Agreement)

- Rights to IP can be transferred via contract, regardless of inventorship, laws, and policies.
  - Harvard University, CalTech, and most research universities
  - J. Craig Venter Institute and most other research institutes
  - Most academic publications
  - Federal government labs
  - Corporate research labs

Who Has Rights to IP?

- Ownership vs. inventorship vs. right to use
  - Inventor or owner?
  - Selling vs. licensing?
- Government sponsor
  - Government rights in data – unlimited, limited (technical data), restricted (software), government purpose rights
  - Government patent rights (ownership or license)
  - Civilian v. military agencies
  - Restrictive markings required! No markings means the feds get unlimited rights.
  - Beware! FAR 52.227-17, Rights in Data – Special Works
  - Grants the feds unlimited rights in all data produced or delivered under the contract
  - Limits contractor’s use of data to performance of the contract
  - Restricts right to copyright assertion (violates UMD policy)

Who Has Rights to IP?

- Industry sponsor
  - Either through contract terms or a license
  - Careful negotiation required from the very start!
- University
  - Student rights in IP
  - UMD, either through ownership or license
UMD's Rights to IP

- Waivers from UMD's IP policy:
  - Often arise during complex corporate sponsored research negotiations.
  - VP for Research can grant waivers of UMD's IP policy, but...
- ...for UMD-owned IP, UMD must retain a license for internal educational and research purposes!
  - Faculty and students (especially grad students) may need to continue working with the IP.

Copyright: One Type of IP

- What can be copyrighted?
  - Written works (includes software)
  - Artistic works (music, movies, and choreography)
  - Other expressions in fixed, tangible form (e.g., architectural design)
- How do you copyright?
  - Copyright "just is" or "simply exists."
  - Not required to assert or apply for protection but registering is a good idea.
  - Using the © puts others on notice about the copyright (but is not necessary to assert rights).

Surprise! That's Copyrighted. Or Is It?

- "Happy Birthday," copyright Warner/Chappell Music, 1935 — charges as much as six figures for its use!
  - But the copyright claim is now disputed.
  - And there's a lawsuit: Good Morning to You Productions Corp. v. Warner/Chappell Music, Inc.
Conan O’Brien Accused of Joke Theft...and It’s No Joking Matter!

Copyright

- For individual works, protection lasts for life of author/creator+ 70 years.
- For company works, protection lasts for the shorter of 95 years from publication or 120 years from creation.
- Federal government (and its employees) cannot copyright, but can be assigned copyright
  - Important when working in gov’t labs or under cooperative agreements

UMD IP Policy Modifies Copyright Law

- Under copyright law, the creator owns the copyright unless:
  - He/she created the work as part of his/her job;
  - The work is commissioned ("work for hire")*; or
  - A written agreement gives copyright to another.
- Under UMD IP policy, UMD owns copyright in works created by:
  - Non-faculty employees (students and staff) as part of their job;
  - Faculty as a required deliverable under a sponsored research agreement; and
  - Employees with the use of significant UMD resources.
Faculty & Students Own Copyright...

- If the UMD IP policy does not give UMD ownership of copyright, then the faculty or student creators/inventors own it.
- The IP policy states expressly that students own copyright in anything they create as part of their academic or research activities, even if they use significant UMD resources.

Exclusions from Copyright Infringement

- Libraries have a right to let users make copies and to make a digital copy of material that is disintegrating, etc.
- Faculty may post copyrighted works on course web sites under specific conditions.

Exclusions from Copyright Infringement

- Fair use exception carves out an area in which individuals other than the owner of a copyrighted work can use the work without infringing on the copyright:
  - Criticism
  - Commentary
  - News reporting
  - Teaching (including multiple copies for classroom use)
  - Scholarship
  - Research
What is a US Patent?

1. A right issued by the
2. US Patent & Trademark Office (USPTO)
3. That gives the inventor (or owner)
4. The right to exclude others from making, using, selling, offering to sell, or importing an invention within the United States for a certain period of time.

What can be patented?

- Tangible items, including “compositions of material”
- Processes (includes software)
- Examples of patentable inventions:
  - Mechanical devices, medical devices
  - Chemical compounds
  - Computer chip designs
  - Diagnostic methods
  - Certain business practices (e.g., Amazon 1-Click, Priceline’s reverse auctions)
  - Certain plants (e.g., Monsanto’s Roundup Ready soybeans)
  - Synthetic DNA (but not genes/naturally existing DNA)
Utility Patents

• What qualifies as a patentable invention?
  – Novel/new (not already existing in nature or made by someone else); and
  – Useful process, machine, article of manufacture, composition of matter, or improvement on such items; and
  – Not obvious to a person with ordinary skill in the invention’s field; and
  – Sufficiently developed so that someone knowledgeable can reproduce and use it.
• Must be reduced to practice
  – Actual reduction: item physically exists
  – Conceptual reduction: described in sufficient detail to create
• Protection lasts for 20 years
• Filing cost: $12,500+; Maintenance costs: up to $7,400 (every 4 years); Cost through life of US patent: ~$30,000
  • Must be filed w/in 1 year of public disclosure (US law)
  • Provisional patent application can be used as placeholder

Publications & Patent Law

• UMD loses lots of foreign patent rights because faculty publish an article, then file a disclosure later.

US Law
  • 1 year grace period to file patent application after inventor’s own public disclosure
    • Post March 16, 2013
  • Publishing an article or describing the invention on a blog/website bars other individuals from receiving a patent on the same invention.

Foreign Law
  • No grace period – inventor must file before any type of public disclosure
  • Publishing an article or describing the invention on a blog/website bars the inventor from receiving a patent.
Initial Patent Application Process

1. Search existing patents to make sure your invention is not similar to a previous patent.
2. Submit drawings of your invention & specifications, descriptions & claims of the invention (claims are the traits that make your new and patentable).
3. Include all pertinent information about the invention.
4. Applicant has to certify h/h belief that h/s is the original and first inventor.

Patent Examination

1. Filing
2. First Action
   a. Restriction Requirement
   b. Rejection
3. Final Rejection
   a. Filing Request for Continued Examination (RCE): requires new search, next Action will be non-final
4. Appeal
5. Allowance
6. Issue

Examination process takes 1-8 years

What does a patent do for the owner?

• Gives the owner the right:
  – To prevent others from using, making, selling, offering to sell, or importing the patented invention in the United States; and
  – To sue those who do use the patented invention for money in civil court; and
  – To get a court order to stop infringing uses.
• Remember that a patent does not necessarily give the owner the right to make, use, or sell an item!
Who Qualifies as an Inventor?

- One who contributes to the conception of the invention
- Conception is the formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention.
  - An idea is sufficiently definite and permanent when only ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation.
- Author on journal paper ≠ inventor on patent

What about Joint Inventors?

- Joint inventorship does not require people to:
  - Work together;
  - Make the same type or amount of contribution;
  - Contribute to each claim

Office of Technology Commercialization (OTC)

OTC is primarily responsible for PROMOTING and PROTECTING University IP.
OTC’s Role

- Marketing
- Licensing
  - Assisting in formation of start-ups
- Ensuring IP rights
  - Patenting
  - Determining who owns IP under UMD policy
  - Determining whether to keep ownership or assign ownership to sponsor (or inventor)
  - Deciding ownership of all IP involving students
- Completing federally required reports
- Distributing royalty

What should be disclosed to OTC?

- IP owned by UMD
- If there is a question about UMD ownership, disclose IP to OTC
- How to disclose?
  - Inventors/Authors complete Intellectual Property Disclosure form
    - http://otc.umd.edu/disclose

Working with OTC - Disclosure

- Inventors/Authors submit an intellectual property disclosure to OTC
  - IP disclosure ≠ automatic patent
- Formalities triage
  - Inventor/author names
  - Royalty share for UMD inventors
  - Funding information
  - Publication/public disclosure dates
Working with OTC - Commercialization

- Technology assessment
  - Inventor meeting
  - Executive summary
  - Prior art search
- OTC negotiates & signs agreements
  - Confidentiality agreements (NDAs, CDAs)
  - Material Transfer Agreements (MTAs)
  - Software evaluation, data use agreements
  - License agreements

Working with OTC - Patents

- Filing provisional patent application
  - For inventions where publication planned or inventor’s own public disclosure < 1 year prior
- Filing regular (non-provisional) patent application
  - Decision based on state of technology
  - Commercial interest
  - Available funds

Protecting IP

- Disclose to OTC immediately to protect the IP
  - Prior to discussing with industry or in the presence of other contractors
  - Prior to submitting/publishing abstracts and articles
  - Prior to conference presentations, posters, etc.
  - Prior to posting online
- Provisional or regular patent application
- Employees should work with ORA/Compliance or OTC, as appropriate, for NDAs & MTAs
  - Employees cannot sign NDAs (or any other agreements)
  - Incoming = ORA (http://ora.umd.edu/forms/umd)
  - Outgoing = OTC
  - Mutual?
  - For research = ORA
  - For licensing = OTC
- Disclosure markings
What is a license?

- IP owner gives permission to someone else to exploit some or all of owner's rights
- Patent license: granting permission to 3rd party to make, use, sell invention in certain region for certain field of use
- Copyright license: granting permission to 3rd party to reproduce, make derivatives, distribute copies, perform, display, transmit the work
  Exploiting rights w/o permission = infringement

Negotiating IP Licenses

- Licenses to the University (incoming)
  - Inventors often need to license the IP they invented at other universities!
  - There is no “fair use” exception for patents
- Licenses from the University (outgoing)
  - To industry sponsors & licensees
  - To government sponsors
  - To start-up companies
  - To inventors who consult using UMD-owned IP
  - OTC has negotiation and signature authority

What else can we license?

- Patents
- Copyright
- Trade secret
- Know-how
- Tangible research property
- Plant varieties, germplasm
- Data
UMD’s Interests in License Negotiation

• UMD wants:
  – Commercialization of UMD-IP for public benefit
  – Ownership of all data and IP to which UMD is entitled under the IP policy
  – Right to receive money in exchange for giving a company a commercial use license
  – Retention of right to use IP to support additional UMD research and education
  – Right to publish without censorship

Company Interests in License Negotiation

• Companies want:
  – Total ownership of IP that would otherwise be owned by UMD
  – Free rights to use UMD IP
  – Free ownership of any follow-up research on IP created by UMD
  – Free ownership of know-how required to practice UMD IP

Considerations When Licensing

• NDA in place?
• Exclusive or nonexclusive license?
  – Is there a licensing fee? Royalties? Milestones?
  – When is it paid?
  – Term of license?
  – Limited field?
• Will it be patented? Who pays patent fees?
• Equity in company?
• Conflicts of interest?
What are Trademarks?

• Words, symbols, smells, and sounds that represent a product or service and/or the source of the product or service.

http://www.trademarks.umd.edu/marks/

Questions?

Thanks for listening!

Resources
otc.umd.edu (OTC)
ora.umd.edu (ORA)
www.president.umd.edu/legal (OGC)
www.trademarks.umd.edu