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# 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

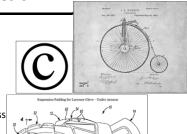
- Education
  - UMD relies on IP of others and creation of new IP by faculty and students.
- Research
  - UMD contributes to the development of new IP and better understanding of existing knowledge.
- Public service
  - UMD shares IP and knowledge for the public benefit.

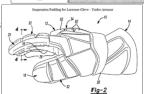
Remember: UMD is a state agency and UMD employees are State of Maryland employees!



# Types of IP

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







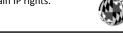
# What is a Copyright? A Patent?

- 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:
  - $\boldsymbol{\mathsf{-}}\xspace$  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.

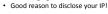




#### IP Ownership: University Policy

#### 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 of the University without use of significant UMD resources.
- UMD engages in revenue sharing with inventors.





# 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 <u>copyright only</u>, 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 <u>invention</u> 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  $\rightarrow$  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 <u>invention</u> conceived of or first reduced to practice under a federal award → UMD owns.
  - If the IP is subject to <u>copyright only</u>, and its creation was a <u>requirement</u> 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 staff, if:

For UMD faculty, if:

- ☐ IP not created under SRA
- lacksquare IP not created using Resources Beyond, AND
- ☐ Other contract does *not* give UMD ownership

→Faculty owns the IP

☐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:

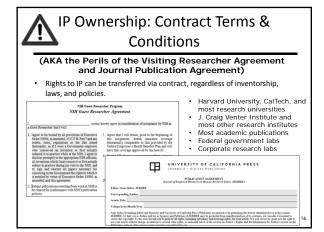
☐IP not created under SRA

lacktriangleOther 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



# 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
  - Beware! FAR 52.227-17, Rights in Data Special Works



- Grants the feds unlimited rights in all data produced <u>or</u> 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.



10

# 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

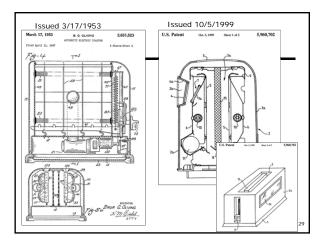
- Fair use exception carves out an area in which individuals other than the owner of a copyrighted work can use the work without infringing on the copyright:
  - Criticism
  - Commentary
  - News reporting
  - Teaching (including multiple copies for classroom use)
  - Scholarship
  - Research



#### 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.

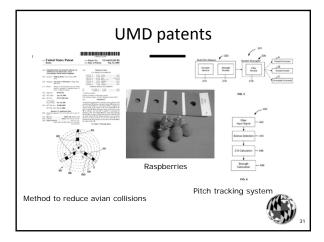




#### **Patents**

- 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);
  - 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.





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.
- 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.
- Applicant has to certify h/h belief that h/s is the original and first inventor.



34

#### **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



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#### 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-invention



# 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 <u>cannot</u> sign NDAs (or any other agreements)
  - Incoming = ORA (http://ora.umd.edu/forms/umd)
  - Outgoing = OTCMutual?
  - - 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 3<sup>rd</sup> party to make, use, sell invention in certain region for certain field of use
- Copyright license: granting permission to 3<sup>rd</sup> 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 1



- 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.













# Questions?

Thanks for listening!

#### Resources

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

