

### Intellectual Property 101

### RF Vision, Mission, Values



#### Vision

Make SUNY the best place for innovators and entrepreneurs to accelerate the development of new technologies aimed at solving the world's most pressing problems.

#### **Mission**

The RF provides talent, services, and technology that empower SUNY to research, innovate, and transfer discoveries that transform the world's knowledge economy.

#### **Values**

- Service
- Learning
  - Agility
- Transparency
  - Diversity
  - Innovation
  - Integrity





# industry and external affairs

The Office of Industry and External Affairs aims to make SUNY the best place for innovators and entrepreneurs to accelerate the development of new technologies aimed at solving the world's most pressing problems.



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# industry and external affairs





## **Innovation & Partnerships**





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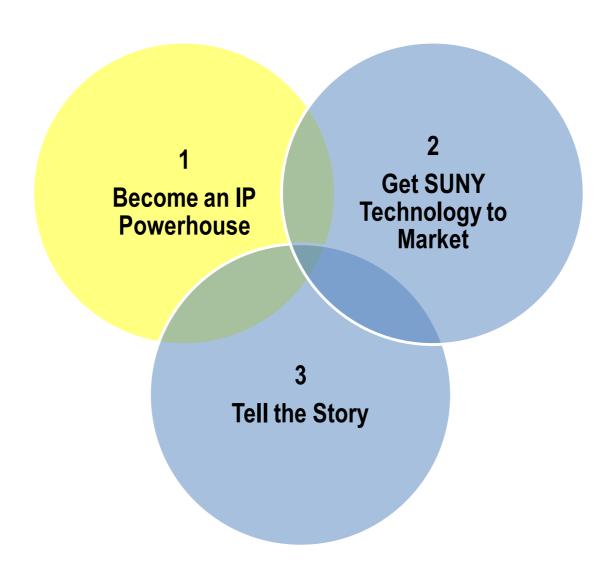
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# **IEA Departmental Goals**





### Housekeeping

Please keep yourselves on mute unless speaking.



- Feel free to use the chat feature to send us questions during the presentation
- The slides and recording of this presentation will be made available
- We will have time at the end for live Q&A
- Post-presentation survey

### **Interactive Polling Information**



VISIT:

www.PollEV.com/garrettsmith765

TEXT:

"garrettsmith765" to "22333"

- Only login or text once
- All answers are kept anonymous

### Select your favorite season

A) Winter

B) Spring

C) Summer

D) Fall

## What is Intellectual Property?





Property that enjoys legal protection and stems from the exercise of the mind

Enshrined in US Constitution: "To promote the process of science and useful arts"

- Article I Section 8, Clause 8

## Bayh-Dole and the Origin of Tech Transfer in the US

- □ First U.S. patent issued in 1790
- □ Less then 100K patents issued in first 200 years
- □ In the 1970s the U.S. sponsored \$75B per year in academic R&D with few returns
- Until 1980 U.S. retained title to most federally funded patents and had licensed only 4% of its 28K patents
- Passage of Bayh-Dole Act in 1980 allowed universities and other non-profits, which had received government research grants and contracts, to elect to retain the title to their inventions



# **Example 2** Bayh Dole: Federally Funded Inventions and IP



- Uniform patent policy across fed agencies to allow small business and nonprofits (i.e. universities) to retain title to inventions created with federal funds
- Encourage industry partners to commercialize inventions for the public good
- Universities can retain income from licensing to support innovation cycle
  - Preference for licensing to small businesses
  - Preference for U.S. manufacturing
- □ Feds retain a non-exclusive "government purpose" license and march-in rights
- Compliance universities must report inventions to federal funding agency
- Universities are expected to file patents

### Why is IP so Important?



- Creates property assets and adds value to a company from the minds of employees!
- Gives Businesses Exclusivity in the marketplace
- Marketing tool / Notice of ownership
- Revenue Stream
  - Licensing to others IBM \$1.3B annually
- □ Finance: venture capitalists and banks want to see IP ownership

# **IP – The Big Picture – Why?**



Securing IP Rights





Leveraging IP Rights









## **Transferring of Rights**



- Assignments
  - Transfer of ownership
- □ Licenses
  - Right to use
- Contract Law
  - Language/Actions are binding



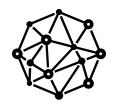
### Types of Intellectual Property

- PATENTS
  - Protect "Functional" and/or "Ornamental" Inventions
  - Filing Required
- COPYRIGHTS
  - Protects creative/original works expressed in a fixed medium
  - Filing Optional
- KNOW-HOW LICENSES, CONFIDENTIALITY & NON-DISCLOSURE AGREEMENTS
  - Protects secret processes, information, etc.
  - No Filing, based only on Contracts
- TRADEMARKS
  - Protect Names, Logos, Slogans, etc.
  - Filing Optional





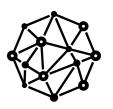
### **Patents**



- Obtained by filing and prosecuting an application for patent with the USPTO
- Each Country/Region has their own separate system
- Relatively Expensive
  - (\$20,000-35,000+ to get a granted US patent)
- Complicated Process
- Good for 20 years from filing date (Utility)



## Authorship vs. Inventorship vs. Technician



- Researcher 1 develops an inventive process for creating new compound A in her lab.
- Researcher 1 enlists Researcher 2 to help her draft a white paper for publication.
- In order to complete the white paper, Researchers 1 and 2 hire Researcher 3 to run tests and generate data points in his own lab.
- After running tests at the instruction of Researchers 1 and 2, Research 3 provides only the data points, which Researcher 1 and 2 transform into graphs, and include in the white paper submission.

# WHO IS AN INVENTOR ON THE PATENT APPLICATION FOR THE INVENTIVE PROCESS?

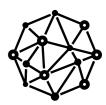
- A) Researcher 1
- B) Researcher 2
- C) Researchers 1 & 2
- D) Researchers 1, 2, & 3
  - E) Researchers 1 & 3

# WHO IS AN AUTHOR FOR THE WHITE PAPER DISCUSSING THE INVENTIVE PROCESS?

- A) Researcher 1
- B) Researcher 2
- C) Researchers 1 and 2
- D) Researchers 1, 2, and 3
  - E) Researchers 1 and 3



## Authorship vs. Inventorship vs. Technician



#### AUTHOR

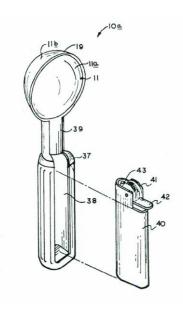
A creator of an original expression in a work.

#### □ INVENTOR

A person who takes part in the conception of the ideas in the <u>patent claims</u> of a patent application. An entity/person who furnishes money to build/practice an invention is not an inventor.

#### □ TECHNICIAN

 Sometimes referred to as a lab/research technician, skilled workers that work with complex systems or perform highly technical mechanical or diagnostic tests in medical or scientific laboratories



### **Types of Patents**

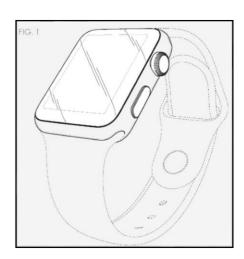


### <u>UTILITY</u> (primary type of filing)

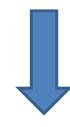
- New and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof
- E.g., mechanical Devices, Electrical Circuits, Pharmaceuticals, etc.

#### DESIGN

Ornamental configuration, e.g., the shape of object



ACME Company patents a system formed from components A, B, C. You patent component D, which requires the system formed from A, B, C. Are you free to practice your invention/the system including A, B, C, D?



## **Utility Patents**



Term of **20 years** from earliest filing date to... <u>exclude others</u> from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States, and, if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States, or importing into the United States, products made by that process, referring to the specification for the particulars thereof. 35 U.S.C. 154

\*Design – 14 years

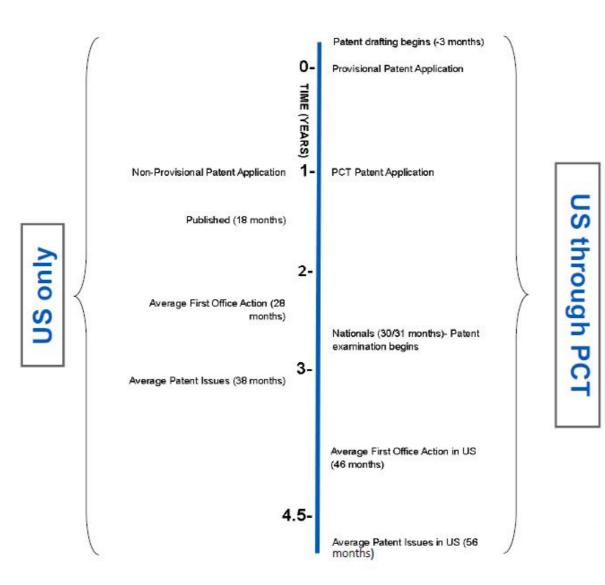
### **Utility Patent Process**



- PATENT SEARCH: Search existing "prior art" to determine if patentable (Optional)
- APPLICATION PREP AND FILING: (Patent-Pending)
  - Application Components: written description, claims, drawings (where applicable)
- EXAMINATION AND PROSECUTION:
  - Most Applications are initially rejected requiring response(s)/Amendments to Application
- PUBLICATION at 18 months from filing date (by DEFAULT)
- □ ALLOWANCE / ISSUANCE:
- MAINTENANCE: 3.5 years, 7.5 years, 11.5 years

### **Patent Timeline**





### **Provisional Patent Applications**



- Preliminary Patent Filing
  - Establish Filing Date "Stake in the ground"
  - Buys the applicant 1 year to file non-provisional (UTILITY) application
- Does NOT get examined
- □ Lower cost Less formal
- "Patent-Pending"

### **Patents and Public Disclosure**



- Invention must be novel and non-obvious to be Patented
  - Disclosed = NOT NOVEL (outside of U.S.)
- (Almost) the rest of the world = absolute novelty bar
  - In almost every other country in the world, as soon as an invention is disclosed, the inventor/applicants lose their right to file a patent Application
- What is considered a Public Disclosure?
  - "Patented, described in a printed publication, or in public use, on sale, or otherwise available to the public"
  - Enable a skilled person to carry out the invention

You develop an inventive process for creating new compound A in July 2020. You disclose to SUNY RF in August 2020. You disclose the invention at a conference, including non-SUNY personnel, in September 2020. What is the date of disclosure?

A) July 2020

B) August 2020

C) September 2020

D) The invention has not been disclosed

### Life Science/Biotech Patents

- Why patent in the field?
  - Research is intensive and expensive, however barriers for reverse engineering are low
  - Monetize research
    - License/royalty even for those without manufacturing capability
  - Publication
    - Track competitors for inspiration to design around and/or ensure you are not reinventing
    - Publish your work
    - Advance the science as a whole
  - Protect products in marketplace, if any
    - Stop competitors from selling an infringing product and/or collect damages/royalty for infringement

# Life Science/Biotech Patenting Challenges



35 U.S.C. § 112 - Specification

- Enablement or how to make and use your invention
- Written description or showing of possession at time of filing

35 U.S.C. § 101 – Inventions patentable

#### General trends towards patentable subject matter

Isolated DNA

cDNA

DNA sequences that encode variants

Diagnostic claims

Methods of treating/administering (mixed)

**Antibodies** 

Laboratory/manufacturing techniques

Composition claims that are "markedly different"

**Primers** 

Vaccines live attenuated OK

Life-forms (e.g., genetically engineered "oileating" bacteria) along with plants and transgenic animals

### **Trademarks**





#### IDENTIFIERS OF SOURCE OF GOODS AND/OR SERVICES

Word Mark v. Stylistic Mark

NIKE



- □ Rights: PREVENTS others from using confusingly similar mark.
- □ Examples:

Name - Microsoft

Design – Nike's swoosh

**Color – Tiffany Blue** 

**Sound – Harley Davidson Motorcycle** 

Shape – Peeps

Scent – Play-Doh (granted 2018)

### **Trademark Rights**



- □ Rights available by *using the mark in commerce and/*or via Federal Registration
  - with USPTO
    - Federal Registration gives extra rights
    - Rights limited to type of goods and services
      - E.g., <u>Apple</u> Computers vs. <u>Apple</u> Records (1978/2006)
- □ TM for Common Law or ® for Registered
- □ Likelihood of Confusion Standard for Infringement
- Scope of protection varies
  - Strength of the mark
    - Generic Descriptive Suggestive Arbitrary Fanciful
    - Aspirin Pizza Hut– AIRBUS Apple Kodak



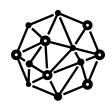
**AIRBUS** 







## Copyrights



#### PROTECT ORIGINAL EXPRESSIONS FIXED IN TANGIBLE MEDIUM

- □ Exclusive right to distribute (copy), prepare derivative works, perform, and display
- □ LIMITED TO EXPRESSION, NOT ACTUAL IDEAS!!!

Examples: Poem written on paper, music, **SOURCE CODE**, manuals, marketing material, **website/APP design**, recorded performances, video, mixed media, video games, etc.

### **Obtaining Copyrights**





- Registration not required to establish rights
  - Just need something recorded in a tangible medium
- □ © from first publication
- Registration through US Copyright Office gives extra rights ... which can be important!!!
  - Registration process is relatively simple
  - Registration important in litigation
- Infringement Standard includes (1) Access and (2) "Material Similarity"
  - Access requirement unique to Copyright

SUNY Researcher hires a 3rd party contractor to write the source code for a new app and provides all the necessary input in how the app should look/function. The 3rd party contractor creates and delivers the app. Who is the copyright owner on the app?

A) SUNY Researcher

B) 3rd party Contractor





# **Creating Copyright Leverage**

- Always Have Written Agreements when dealing with Contractors
  - By default, contractors own copyrights in created works
  - REMEMBER A creator of an original expression in a work is the author, and authors also are the owner of the
    copyright unless there is a written agreement by which the author assigns the copyright to another person or entity.
- □ Register Your Important Works early and often
- Call us with questions as there are many exceptions, and it may be considered fair use to copy a work.
- If funded by NIH, comply with NIH Public Access Policy
  - The Policy implements Division G, Title II, Section 218 of PL 110-161 (Consolidated Appropriations Act, 2008) states:
    - SEC. 218. The Director of the National Institutes of Health shall require that all investigators funded by the NIH submit or have submitted for them to the National Library of Medicine's PubMed Central an electronic version of their final peer-reviewed manuscripts upon acceptance for publication, to be made publicly available no later than 12 months after the official date of publication: Provided, That the NIH shall implement the public access policy in a manner consistent with copyright law. See https://publicaccess.nih.gov/faq.htm
  - Tip: Before you sign a publication agreement or similar copyright transfer agreement, make sure the agreement allows the paper to be posted to PubMed Central in accordance with NIH Public Access Policy. See https://publicaccess.nih.gov/address-copyright.htm

## **Open Source Software/Hardware**



- Software is protected by copyright and therefore, similar to plagiarism, no one is allowed to use/copy your software source code without permission
- □ Two types of Open Source licenses
  - Permissive
    - Apache, MIT, BSD, W3C
    - Permit downstream commercialization of products/services integrating the open source components
  - Viral/Copyleft
    - o GPL, LGPL, MPL, EPL
    - All derivations must be dedicated to public domain (i.e., no selling)

### **Trade Secrets**





- Potentially perpetual IP protected under International (WTO; TRIPS) US State and Federal Laws, including the Economic Espionage Act, Uniform Trade Secrets Act and Defend Trade Secrets Act (2016; created private federal cause of legal action for TS Misappropriation)
- ONLY GOOD IF YOU CAN KEEP SECRET
  - Is reverse engineering possible? How likely is independent creation?
  - Don't file or register once once the secret gets it out cannot put it back in the bottle
- Requires protection efforts commensurate with the value of the Trade Secret
  - Employment agreements; non-disclosure agreements, need-to-know access; notices on documents; sign in sheets, key card access, security check points, razor ribbon, etc.
- Examples include, e.g., formulas (Coca-Cola®), patterns, compilations, programs, devices, methods, techniques or processes, customer lists, and other confidential technologies
- Misappropriation punishable under law, but damages can be difficult to assess or retrieve
- □ Best offense is good defensive measure to prevent access and misappropriation

#### Have you granted an Open Source License?

A) Yes

B) No

C) I Am Not Sure

## **IP Potpourri**



- Confidential Information
  - Contracts can be utilized to keep information confidential (NDA's)
- Employee Rights
  - Contracts
  - Work for Made for Hire Rules (Copyright)
  - Shop Rights (Patent)
  - Employee vs. Contractor

### **Best Practices**





- □ Talk to us especially when you (1) will publish new research; (2) think you may have new Intellectual Property; (3) before having confidential conversations
- Keep all non-confidential discussions at such a high level that you do not enable the invention or give a competitor ideas how to work around your invention
- □ NIH handles grant proposal submissions confidentially, see NIH Peer Review
- Confidential treatment differs agency to agency, program to program
  - If you work with other federal agencies, or are unsure about confidentiality status, check with your Sponsored Research or Tech Transfer Offices first
    - We will research the solicitation and let you know whether submissions will be kept confidential

# How to Make a New Technology Disclosure



SU <b>NY</b> ( <b>RF</b> )		
	Login to Inventor Portal	
User Name:		
Password:		
	Forgot password? Questions or Comments?	
	Login Request Account	

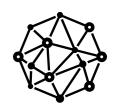
**SUNY Inventor Portal** 

# Questions Your Technology Transfer Office Typically Asks...



- □ A description of the innovation, including:
  - Potential Products and Services that might benefit from the invention
  - Competitive and Alternative Products that "meet" the same objectives
  - Advantages of your invention (e.g., more efficient, cheaper, faster, etc.)
  - Disadvantages of your invention (e.g., costly to implement, difficult to manufacture, small market, etc.)
- Development status, including whether Prototype(s) or Sample(s) exist
- □ Any (1) third-party obligations, including sponsorship agreements, NDAs/CDAs,
   MTAs, etc.; (2) co-inventors at other institutions; and (3) potential partners

# Reporting Federally Funded Inventions via New Technology Disclosures



- Make sure to indicate on the invention disclosure form that your:
  - Sponsor
  - grant number and
  - award title
  - Very important to complete, because we have to report all federally funded inventions to the sponsor
- Your TTO helps ensure compliant reporting, but we need your help to make sure appropriate reporting happens
  - Without your disclosures, we cannot ensure compliant reporting

# **Legal Disclaimer and Caveat**



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- □ This presentation provides only general information and your interests will be best served by seeking advice tailored to your specific situation.

## **Questions?**



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