Who and Where

• **STAFF**
  - Staton Noel (Director )
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Corner of Spring Garden and Oakland

http://innovate.uncg.edu/
What We Do

• Intellectual Property Protection
  • Patents, Copyrights, Trademarks, Know-How.

• Material Transfer Agreements
  • Review, negotiate language, and **are authorized to sign** as UNCG representative.

• Confidentiality Agreements.
  • Review, negotiate language, **and are authorized to sign** as UNCG representative.

• Commercialization
  • Evaluate innovations from faculty, staff, students.
  • Create roadmaps to commercialization including networking with internal and external partners.
  • License innovations and manage documentation.
  • Distribute royalties to inventors
Elements of Innovation Development and Transfer

- Campus In-reach
- Invention Assessment & Triage
- Material Transfer
- Market Evaluation
- Policy Development
- Start-up & Entrepreneurial Support
- Licensing
- Community Out-reach
- Intellectual Property Management
- Confidentiality
- Development /Prototyping
- Marketing
- Enabling Culture
- Assessment and Opportunity
- Push-out
- Management
- Licensee AUDITS
Forms of Intellectual Property

- **Trade Secrets**
  - Anything kept secret that adds value

- **Trademarks**
  - Identifiers of tangible goods

- **Copyrights**
  - Original works fixed in a tangible medium

- **Patents**
  - Any new and useful
    - process, machine, composition of matter, or improvement
Intellectual Property Policies at UNCG

• Patent & Invention Policy
  • http://policy.uncg.edu/university-policies/patents_inventions/

• Copyright Policy
  • http://policy.uncg.edu/university-policies/copyright/
Trade Secrets

Protected information deriving independent economic value from not being generally known

- Infinite Protection as long as secret OR have tried to keep it that way
- Must have a confidentiality procedure and follow it before the trade secret is disclosed to ANYONE
- No protection if ‘secret’ is independently discovered by ‘another’

Trade Secrets are difficult to maintain in a University setting

- Researchers have professional need to publish
- If licensee is not already available, commercialization efforts require public notice
Copyrights

Protect “original works of authorship”

**Standard:** Expression of idea in a tangible form

**Duration:** Life of author plus 70 years

**Registration:**
- Protection is automatic.
- Registration allows one to sue infringers and receive damages
- Easy and Inexpensive

**Exclusive Right To:**
- Reproduce
- Create Derivative Works
- Distribute
- Perform
- Display the Work Publicly

Universities generally do not register for copyright.
What can be copyrighted?

- Original works "fixed" in a tangible medium (e.g., paper, canvas, magnetic tape, digital recording, etc.) may be copyrighted including:
  - Literary works
  - Musical works, including any accompanying words
  - Dramatic works, including any accompanying music
  - Pantomimes and choreographic works
  - Pictorial, graphic, and sculptural work;
  - Motion picture and other audiovisual works
  - Sound recordings
  - Architectural works
  - Software code
- You CANNOT copyright an idea, procedure, process, system, method of operation, concept, principle, or discovery. (However, some of these might be patentable.)
Copyright Ownership and Use Policy

• Ownership
  • Traditional or Non-Directed Works
    • Creator
  • Directed Works
    • University
  • Sponsored or Externally Contracted Works
    • Depends on Contract

• Responsibility for Administration
  • The Office of the Provost or designee shall administer this Policy.
Use of copyrighted material in the classroom generally falls under two different areas:

- displaying material
- making copies of that material.

Distributing and using copies of copyrighted material

- Get the copyright owner(s); permission (i.e. obtain a license). On our campus, the UNCG Bookstore will perform this service free of charge for faculty.
- Argue that the copying qualifies under the fair use exception to the copyright law.
The Permissions Process

• In our case, substitute “permissions” for “ogres”...
  • permission is not necessary to use a small quote such as this.
• Permission is a license (contractual agreement).
• Permissions = license = contract
Basics of Patents

• What is a patent?
  • Document issued by the U.S. Patent & Trademark Office (USPTO)

• What rights does a patent provide?
  • Exclusionary right!
  • Right to exclude others from making, using, selling, offering for sale, or importing the product, process, or design covered by the patent

• A patent is not a measure of good science; it is a tool of commerce.
Patents

- **Utility** (Functional or Mechanical)
  - Machine
  - Process
  - Article of Manufacture
  - Composition
  - An Improvement Thereof

- **Design**
  - New original/ornamental design

- **Plants**
  - New variety of seed or plant
Criteria for Patentability

- **Unique – “no prior art”**
  - Not previously known to others
  - Not in public use

- **Useful – “must have utility”**
  - Must have a useful purpose
  - Must actually work
  - Must not be frivolous or immoral (who decides?!)

- **Non-obvious – “to those trained in the art”**
  - Not obvious to someone having ordinary skills in the relevant subject matter
Life of a U.S. patent application

File Provisional
- ~$100 filing fee
- $$ attorney fees

12 months

File U.S. Utility Application
- last chance to add new material
- enabling + best mode
- ~$1,000 filing fee
- $$$ attorney fees

18 months

Duty of candor
Commit to foreign filing
- $$$$$

Decide on foreign filing option-
- ~$2-4K filing fees
- $$ attorney fees
- University should have licensee before committing to foreign filing

2-3 years after UTL

BEGIN patent prosecution:
- $$$$ attorney fees
  over 2-3 years

Issued patent

File Provisional
- ~$100 filing fee
- $$ attorney fees

File 2nd Provisional
- ~$100 filing fee
- $$ attorney fees
A “good” patent is:

- Protectable under 35 U.S.C.
  - “Great” patent is filed and protectable worldwide
- Relevant to a market need / business pain
- Supported by inventors
  - Facilitate “know-how transfer” behind the legal document

**“Good” Patents**
Inventorship

• Accurate inventor identification is very important to validity of a patent

• Inventorship = Legal Standard
  • Inventor: contributes in whole or in part to the conception of the invention
  • contribution solely to reduction to practice is insufficient

• Conception
  • The complete performance of the mental part of the inventive act and the formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice
Patent and Invention Policy

- Ownership and Responsibilities
  - Assignments
- Publication and Public Use
- Administration
- Revenue Sharing and Equity
  - Inventors -50%
  - Department -15%
  - School -10%
  - UNCG – 25%

http://policy.uncg.edu/university-policies/patents_inventions/
US Tech Transfer Productivity “By The Numbers”:
Cumulative Inputs and Outputs, 1991 - 2010

- $641B in Research funding
- ~267,500 invention disclosures
- ~147,000 patent applications
- ~55,000 patents awarded
- 42,765 active license & options,
  6,885 start-ups,
  130+ new drugs & devices,
  300,000+ new jobs

- 16% or ~1 in 6 inventions
  Ever get licensed

- $2.4M / disclosure
- 55%
- 37%
Unfortunately, End of One Process is Beginning of Another

University’s Funnel

Only 1 in 6 inventions ever gets licensed

Industry / VC’s Funnel

Roughly 1 in 100 pharma compounds gets approved

Roughly 1 in 10 venture investments is a significant hit

Successful product on the market
Technology Transfer without a MTA

- Personal liability
  - Fines and incarceration.
- Loss of ownership and rights to future royalties.
- Loss of control.
- No rights to information generated from material.
Cases

N.Y. Grand Jury delivered a verdict of 4 counts of mail and wire fraud to both a genetics professor (U. Pitt.) & an art professor (S.U.N.Y.) Each count is maximum 5 years.

• Genetics Professor obtained microbes from ATCC (under a MTA) through the university for the hidden purpose of transferring them to Art Professor for use in his art work (in violation of the MTA).

• Both men defrauded U. Pitt. and ATTC because: (1) Genetics Professor gave the material to Art Professor without following Pitt procedure (i.e., using an MTA, which Pitt would have denied); and (2) Genetics Professor violated the terms of ATCC’s MTA; specifically that the material must be used only in Genetics Professor’s lab and for research purposes only.

• A foreign national research fellow at U. Central Florida was charged with stealing DNA vials that could be potentially used in Bio-terrorism.

  • The fellow’s research term was complete and he was returning to his country with his work on TB (which included vials of DNA and notebooks). However, he failed to fill out the proper paperwork (i.e., an MTA) for transferring the material to himself.

• The Maine Biological Laboratory was found guilty of illegally smuggling a chicken virus into the U.S. The company was fined $500,000.
Things to know about Intellectual Property

• Four forms of IP: copyrights, patents, trademarks, and trade secrets.
• A copyright is acquired as soon as the work is created.
• A patent is not a measure of good science; it is a tool of commerce.
• An invention can generate revenue if and only if one can successfully reach a viable market.
• You can pursue both patents and publication
  • Public Disclosure Can Lead to Loss of Patent Rights-
  • CONTACT OIC BEFORE PUBLICATION - As soon as possible
• Not Every Invention Can or Should Be Patented
• Patents Resulting from Research at UNCG are Assigned to the University
Patenting, Licensing, and Start-Up formation

• Need inventors participation and cooperation.
  • Time and commitment

• It is hard, takes time, and willingness to listen to all sides.

• Start ups need an entrepreneur that is business savvy.
  • Mentorship from those that have done it.
Opportunities for Open Innovation

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OPEN INNOVATION
DRUG DISCOVERY

Open Innovation Drug Discovery Evaluating Cycle

MODEL
Structure Design Tools

FILTER
In Vivo Structure Selection

LEARN
First Data Report

SCREEN
In Vivo Screening

SUBMIT
Health Logistics

Target-Based Assays

Phenotypic Assays

I have a hypothesis

I have a compound

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"Invention is an act of intellectual creativity and is without importance to economic analysis, while innovation is an economic decision"
J. Schumpeter, 1939
OIC: Disclosure Evaluation Process

Disclosure → Marketing → Commercialization Plan

Patenting

Technology

http://innovate.uncg.edu/disclosure-form/