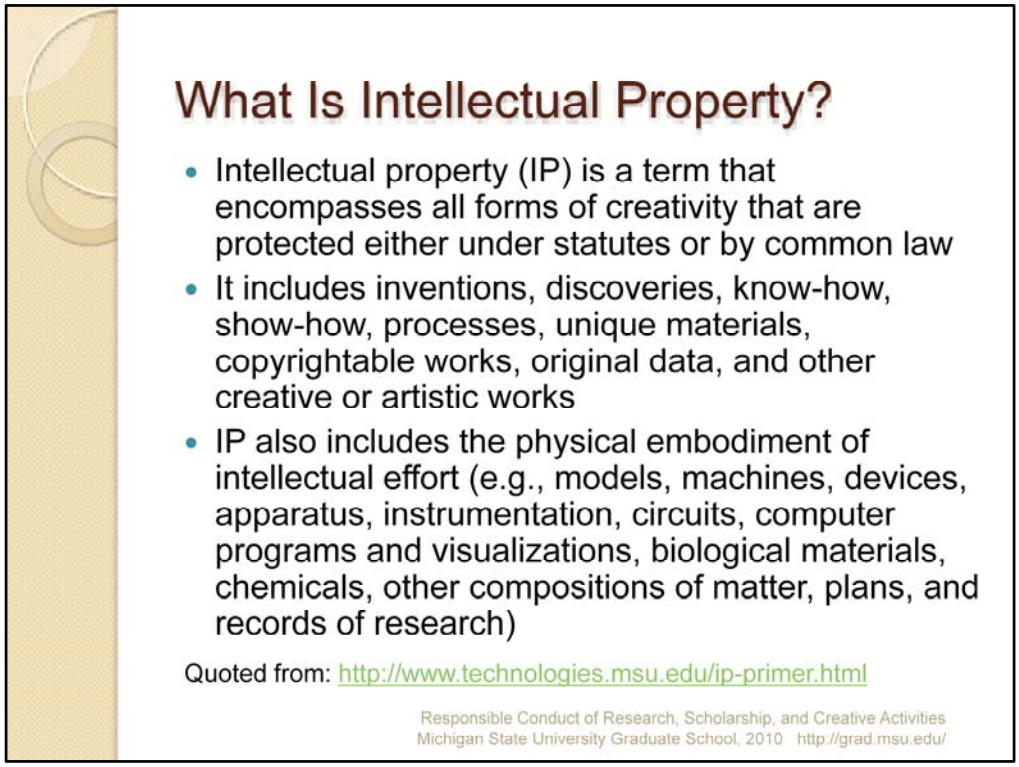
Responsible Conduct of Research, Scholarship, and Creative Activities

Protection of Intellectual Property

Objectives

- Give examples of intellectual property in your discipline
- What are copyrights, patents, trademarks, and trade secrets?
- What is the copyright status of theses, dissertations, and student works submitted as course work?
- Who owns intellectual property at MSU?



Quoted directly from *Intellectual Property Primer*, MSU Technologies web site: http://www.technologies.msu.edu/ip-primer.html

Protection of Intellectual Property

- Copyrights
- Patents

Primary means of protecting intellectual property at universities

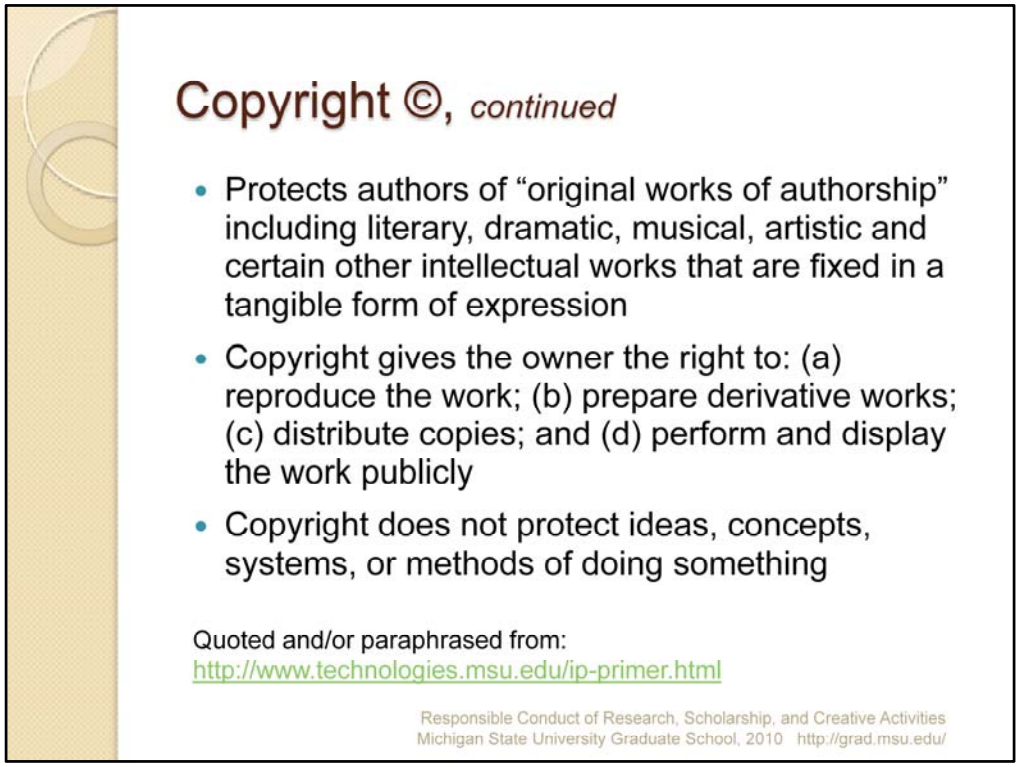
- Trademarks
- Trade secrets

Protections commonly used in business settings

Copyright ©

"In the United States, copyright protection is extended to 'original works of authorship fixed in any tangible medium of expression …' Copyright holders enjoy the exclusive right to disseminate their creations and to earn a profit by selling or licensing them."

Ensuring the Integrity, Accessibility, and Stewardship of Research Data in the Digital Age (p. 74), National Academies Press, Washington DC, 2009, http://www.nap.edu/catalog.php?record_id=12615#description



The following information is quoted directly from *Intellectual Property Primer*, MSU Technologies web site: http://www.technologies.msu.edu/ip-primer.html

- Copyright is a form of protection provided to the authors of "original works of authorship" including literary, dramatic, musical, artistic and certain other intellectual works that are fixed in a tangible form of expression.
- In general, copyright gives the copyright owner the exclusive right to do, and authorize others to do, the following: reproduce the work; prepare derivative works; distribute copies to the public by sale or other transfer of ownership, or by rental, lease or lending; and to perform and display the work publicly.
- Copyright does not protect ideas, concepts, systems, or methods of doing something. You may express your ideas in writing or drawings and claim copyright in your description, but copyright will not protect the idea itself as revealed in your written or artistic work. Others can freely use the underlying ideas and concepts in a copyrighted work.
- Copyright also does not protect names. Some names may be protected under trademark law.

For more information, refer to the copyright section of the MSU Faculty Handbook (http://www.hr.msu.edu/documents/facacadhandbooks/facultyhandbook/copyrightedmaterial.htm).

Copyright ©, *continued*

- Copyright protection exists from the time the work is created in fixed form (U.S. Copyright Office, http://www.copyright.gov/circs/circ01.pdf)
- No action is required to establish a copyright, although authors may indicate copyright with "©, year of first publication, author"

> *© 2008 John Doe*

- Copyrights may be registered with the U.S. Copyright Office, but registration is not a condition of copyright protection

Copyright ©, *examples*

- Papers submitted by students in a university course
  - "Term papers and other comparable projects are the property of students who prepare them." *MSU Code of Teaching Responsibility*
- Dissertations and theses
- Published journal articles
- Books

Responsible Conduct of Research, Scholarship, and Creative Activities
Michigan State University Graduate School, 2010 http://grad.msu.edu/

Code of Teaching Responsibility, MSU Faculty Handbook
(http://www.hr.msu.edu/documents/facacadhandbooks/facultyhandbook/codeofteaching.htm)
Term papers and other comparable projects are the property of students who prepare them. Instructors shall retain such unclaimed course work for at least one semester to allow students to retrieve such work. Instructors have a right to retain a copy of student course work for their own files.

Dissertation image from:
http://www.bessenberg.com/images/db_dissertation_02.jpg

Copyright of Student Works

- Students own the copyrights to papers and other products submitted to meet course requirements
- Written permission of the student is required before faculty members may use student-owned copyrighted works outside of course purposes
- Students own the copyrights for their theses and dissertations (but copyrights for published articles and chapters based upon theses and dissertations may be transferred to and owned by the journal or publisher)

Source: MSU Faculty Handbook
http://www.hr.msu.edu/documents/facacadhandbooks/facultyhandbook/copyrightedmaterial.htm

The following information is from the *MSU Faculty Handbook*, http://www.hr.msu.edu/documents/facacadhandbooks/facultyhandbook/copyrightedmaterial.htm

Ownership Principles

- MSU follows standard academic practice in disclaiming ownership of, and royalties proceeding from, traditional academic works (books, essays, works of art, musical compositions and recordings, and the like), unless one or more "Special Circumstances" exist.
- It is also the tradition at Michigan State University and its peer institutions for eligible MSU authors to share in third-party licensing revenue received by MSU in those cases where *Special Circumstances* cause MSU to retain copyright ownership.
- Students who author or create copyrighted works which are submitted to meet course requirements own the copyrights in such works, even if they have been created using MSU facilities. Students also own the copyrights in their theses and dissertations.

Examples of Special Circumstances

- Creation of the work involved substantial use without charge of equipment, materials, or staff services of any of the various units of the University;
- Creation of the work was supported with money, released time, or other substantial resources from any unit of MSU;
- Creation of the work was directly commissioned by the MSU or one of its units, where the employee(s) who created the work did so using some part of the time for which compensation was received from any MSU budget, including any grant or contract budget administered by the MSU or any budget based on special legislative appropriations; or
- Creation of the work occurs in MSU-approved faculty outside work for pay, if in the opinion of the administrators approving such outside work for pay the work predictably competes with MSU functions or products that are, or reasonably might be, developed and offered by the MSU in the furtherance of its mission.

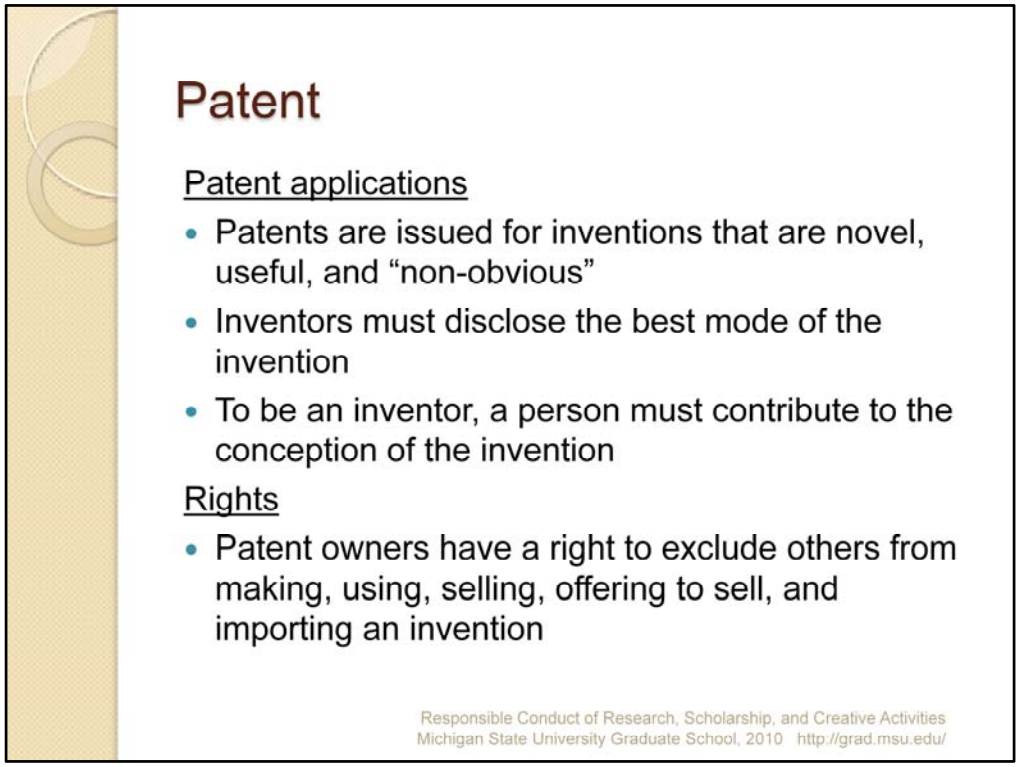
Go to *Plagiarism and Copyright Infringement: Is Copying Legal* (http://www.plagiarismchecker.com/handouts/plagiarism-vs-copyright.pdf) for a more comprehensive discussion of this topic.

Also see the PowerPoint presentation on plagiarism from this series.

Patent

"Patents give researchers, nonprofit organizations, companies, and other entities the right to profit from an innovation. In return the property owner must make the innovation public, which enables others to build on it. Once intellectual property is patented, it can be freely disseminated while still maintaining its commercial value to a company or research institution."

Ensuring the Integrity, Accessibility, and Stewardship of Research Data in the Digital Age (p. 76), National Academies Press, Washington DC, 2009, http://www.nap.edu/catalog.php?record_id=12615#description



Patent applications
- Patents are issued for inventions that are novel, useful, and non-obvious to one skilled in the art and new relative to prior art
- Inventors must disclose the best mode of the invention
- To be an inventor, a person must contribute to the conception of the invention

Rights
- Patent owners have a right to exclude others from making, using, selling, offering to sell, and importing an invention

Patent, *example*

Barnett Rosenberg

Cisplatin & Carboplatin

- Drugs used to treat cancer
- Developed in 1970s by MSU Prof Barnett Rosenberg and colleagues
- Bristol-Myers Squibb is licensed to make and cell the drugs
- MSU's royalties ~ $308 million
- These drug patents have generated more royalty income than any other health discovery at any USA university

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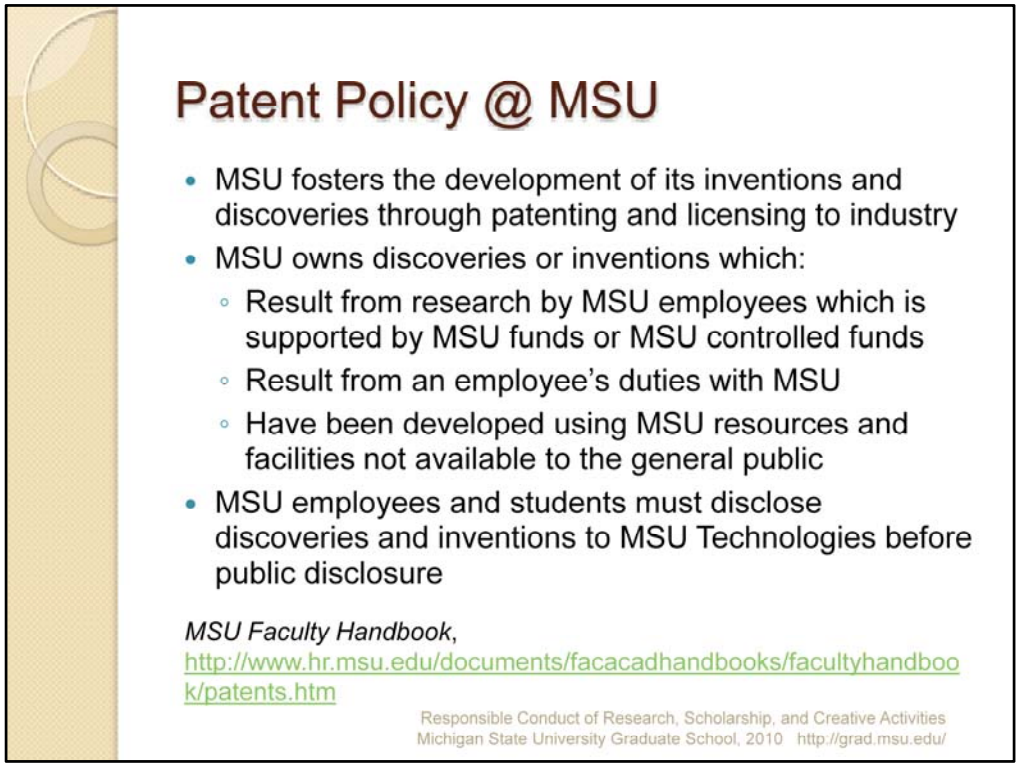
Michigan State University Graduate School, 2010 http://grad.msu.edu/

MSU used the royalties to fund an endowment that supports research grants and other university programs

Patents: *Examples from MSU Technologies*

- Plant discovery could spur biofuel production. Michigan State University scientists have identified a protein required for photosynthesis that could ultimately lead to plants designed for biofuel production.
- Zebrafish cloning methods improved. A team of Michigan State University researchers has developed a new, more efficient way of cloning zebra fish, a breakthrough that could have implications for human health research.
- New XG Sciences Technology could lighten vehicles and increase fuel technology. Lansing-based XG Sciences and Michigan State University (MSU) researchers have developed a composite material that could help automakers increase fuel efficiency.

http://www.technologies.msu.edu/news-events.html



The following information is from the *MSU Faculty Handbook*, http://www.hr.msu.edu/documents/facacadhandbooks/facultyhandbook/patents.htm

<u>Ownership Principles</u>

- Consistent with its public service mission and with regulations governing federally-funded research, MSU endeavors to foster the development of its inventions and discoveries through patenting and licensing to industry.
- Any discovery or invention which
    - Results from research carried on by, or under the direction of, any employee of MSU which is supported by MSU funds or by funds controlled or administered by the MSU, or
    - Results from an employee's duties with the MSU, or
    - Has been developed in whole or in part through the utilization of MSU resources or facilities not available to the general public shall belong to MSU
- University employees and students (including postdoctoral appointees, graduate and undergraduate students) must disclose Inventions to MSUT for possible patent protection prior to public disclosure through publications, presentations, or communications with third parties (including research sponsors).

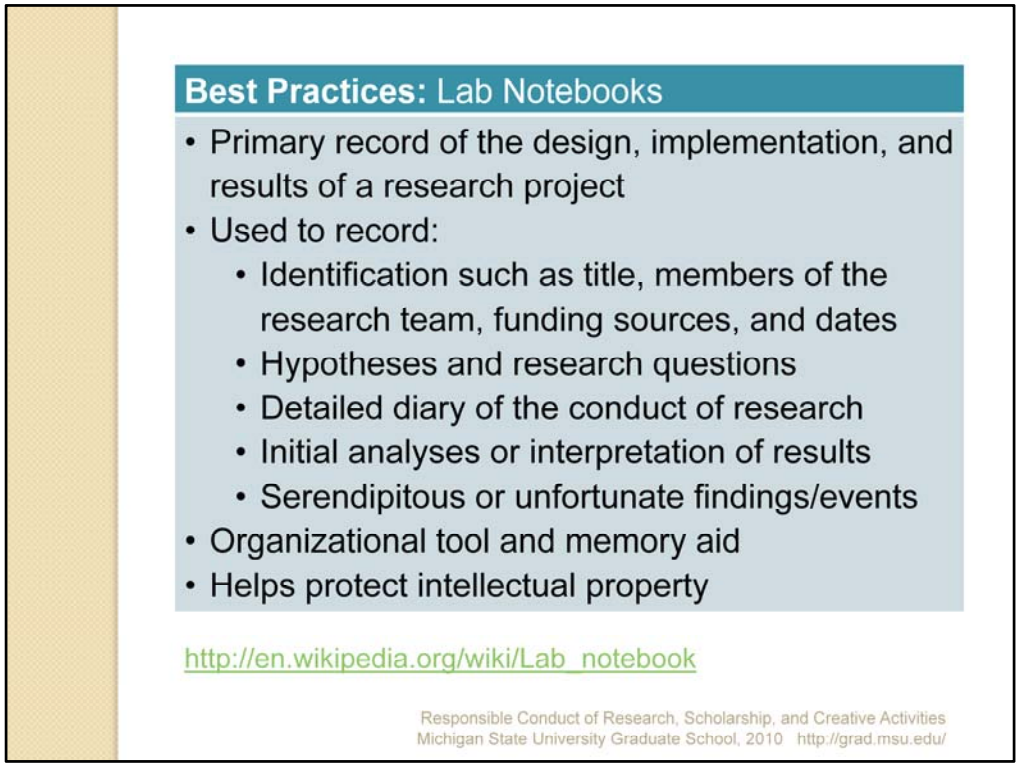
Protecting Patent Claims

- A laboratory notebook
  - Provides evidence of “first to invent”
  - Provides evidence for inventorship (who did it and where was it done or discussed)
  - Facilitates reproduction of the discovery or invention
  - Includes raw data, methods, analyses, and conclusions, as well as failure data
- Patent applications
  - Submit invention disclosure to MSU Technologies (http://www.technologies.msu.edu/) well ahead of public disclosure in publications and presentations

Protecting Patent Claims, *continued*

- Researchers must balance their efforts to protect intellectual property with the principle that "research data, methods, and other information integral to publicly reported results should be publicly accessible"
- Consider making patent applications in advance of publication or of making data accessible

Ensuring the Integrity, Accessibility, and Stewardship of Research Data in the Digital Age (p. 85-85), National Academies Press, Washington DC, 2009, http://www.nap.edu/catalog.php?record_id=12615#description



General requirements:

- Use a bound notebook with numbered pages and do not remove pages
- Label and date the notebooks
- Date and sign/initial each page and entry
- Have a witness sign/initial each page and entry
- Make entries in ink and line-out and initial changes using a different color ink
- Tape or glue evidence into the notebook as needed

Lab notebook entries:

- Title of the study
- PI and research team
- Start and end dates
- Hypotheses/goals
- Subjects and assignment to groups
- Hazardous materials
- Detailed diary of implementation of the study
- Techniques and statistical approaches that differ from the methodology notebook
- Timeline
- Raw data or instructions for locating raw data
- Conclusions drawn from study

Sources:

- Howard M. Kanare. (1985). *Writing the Laboratory Notebook*. Washington DC: American Chemical Society.
- *Laboratory Notebook*. (n.d.). U.S. Office of Research Integrity, http://ori.dhhs.gov/education/products/wsu/data_lab.html.
- Use an internet search engine and the key words “writing laboratory notebook” to locate additional guidelines.

Division of Patent Royalties @ MSU

Amount	Inventor	Dept/Unit	MSU
First $5K	100%	0%	0%
Next $100K	33.3%	33.3%	33.3%
Next $400K	30%	30%	40%
Next $500K	20%	20%	60%
Greater amounts	15%	15%	70%

Trademark (TM or ®)

- Identifying words or symbols associated with a company's goods or services which distinguish them from those manufactured or sold by others
- Examples
  - MSU Sparty and block "S" symbols
  - Olympic rings
  - McDonald's golden arches
  - Nike "swoosh" symbol

Trade Secret

- Information that is not generally known within the trade or industry, and that provides a competitive advantage
- Examples:
  - Recipe for Mrs. Fields cookies
  - Industrial processes and know-how
- Typically difficult for a university to maintain given a priority on publishing.

Important Intellectual Property Documents

- Must be signed by authorized MSU representatives
  - Sponsored Research Agreements (SRA)
  - Confidential Disclosure Agreements (CDA or NDA)
  - Material Transfer Agreements (MTA)
  - Option Agreements
  - License Agreements
  - Inter-Institutional Agreements (IIA)
- For more information and assistance:

  MSU Technologies
  http://www.technologies.msu.edu/

Sources

- MSU Technologies – source for *Intellectual Property Primer*, *Copyright Handbook*, and *Patent Handbook* http://www.technologies.msu.edu/index.html
- U.S. Copyright Office http://www.copyright.gov/
- U.S. Patent and Trademark Office http://www.uspto.gov/
- *Ensuring the Integrity, Accessibility, and Stewardship of Research Data in the Digital Age*, National Academies Press, Washington DC, 2009, http://www.nap.edu/catalog.php?record_id=12615#description