

Frequently Asked Questions

TECHNOLOGY TRANSFER

KEY QUESTIONS:

- Should I publish or patent?
- What's the first step?
- How are inventions evaluated?
- How are inventors involved?
- How long does it take?
- Who owns UMSL inventions?
- Why should I participate in technology transfer?

General Technology Transfer

- What is technology transfer?
- What are the goals and responsibilities of the ORA in technology transfer?
- How do academic institutions measure success in technology transfer?
- What are the benefits of university technology transfer efforts?
- What is the Bayh-Dole Act?
- Who has signature authority related to technology transfer?

Intellectual Property, Invention Disclosures

- What is Intellectual Property?
- Why is protection of intellectual property important?
- If I invent something at the University, does it belong to the University?
- What about my inventions prior to joining the University?
- I made an invention on my own time without any University resources. Am I free to license and commercialize my invention on my own?
- What if it is not clear that the University owns my invention, but I want the ORA to handle my invention?
- Do I have to disclose my research?
- When is the right time to submit a disclosure?
- Do I need to demonstrate that my invention works before disclosing it to the ORA?
- How do I benefit from disclosing my invention to the University?
- How do I inform the University regarding a possible invention in my lab?
- Why do you ask what funding source I have?
- Should I disclose to the ORA before or after I have submitted my work in abstract or manuscript form?
- What happens once I have filed an Invention Disclosure Form with the ORA?
- Who should be listed as "inventors" on the Invention Disclosure Form?
- Is software valuable?
- Should I file an invention disclosure if I have created software?
- How is intellectual property protected?

Public Disclosure

- What happens if my invention is publicly disclosed?
- What is a "public disclosure"?
- Is a grant proposal considered a public disclosure?
- Does public disclosure/publishing my data interfere with patenting?
- How do I protect intellectual property rights before public disclosure?
- Wouldn't it be more beneficial to the public to publish my data, rather than try to patent my invention?
- What can be publicly disclosed before a patent application is filed?
- Should I contact the ORA before talking to a company about my invention?
- What is a Non-Disclosure Agreement (NDA)?
- Who can sign a Non-Disclosure Agreement?

Patents & Copyrights

- What is a Patent?
- What is a Provisional Patent?
- How long does patent protection last?
- What kind of research is patentable?
- What is prior art?
- What is a barring event?
- Who prepares and prosecutes patent applications?
- What is the cost of obtaining a patent?
- Who pays for the patent application?
- How does the ORA manage patent costs?
- Why are some inventions not patented?
- What is a copyright?
- How do you file for copyright protection?

Research Collaborations & Consulting

- What if a collaborator from another institution has contributed to my invention?
- I made an invention while consulting for a company and my client wants to file a patent application on it. Do I need to do anything besides helping the client with the application?
- A company has requested my consulting services. Am I able to consult while maintaining my position as a faculty member?

Commercialization

- How is my invention marketed or licensed?
- What is a license agreement?
- How are licensees found for new technologies?
- Who conducts license negotiations?
- What kind of financial terms are included in a license agreement?
- Can equity be included in a license?
- How long does it take to execute a license agreement?
- If the University licenses my invention to a company, will I still be able to perform related research?
- Who signs license agreements?
- How is the income from licensing an invention distributed?
- What happens if an inventor leaves UMSL?
- What happens if UMSL does not license my invention?
- What if I want to form a start-up company with my technology?
- Does the University sell intellectual property rights to third parties?

Potential Conflict of Interest

- If I consult for a company, can I also receive funds from the company for my own research at UMSL?

Material Transfer Agreements (MTAs)

- What is a Material Transfer Agreement (MTA)?
 - When is an MTA necessary?
 - Who can sign an MTA?
 - What happens if someone without authority signs the MTA?
 - What is the UBMTA?
 - Are there any alternatives to using an MTA?
 - How might using materials obtained from other academic institutions or companies affect my research and IP rights?
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KEY QUESTIONS

Should I publish or patent?

BOTH! Seeking a patent for a discovery or development does not prevent scientific publication, and in most cases does not delay publishing. However, to retain the potential for foreign protection, a U.S. patent application must be filed before any description of the invention is published in an article, abstract, thesis, presentation, or other public format. ORA staff there will work with outside patent attorneys to accommodate publishing dates. But to achieve optimum results, a description of the discovery should be submitted at least three months in advance of first publication, to allow time for review and for drafting a patent application.

What's the first step?

The technology transfer process begins when an inventor or inventors submit a confidential [Invention Disclosure Form](#) to the ORA. The form asks for such information as a description of the invention, names and contact data for everyone involved in making the invention, funding sources for the research that led to the invention, prior publications or public descriptions of the invention, commercial contacts in the field of the invention, and any potential conflicts of interest the inventors may have with commercial contacts.

How are inventions evaluated?

The ORA will evaluate the invention disclosure and discuss it with the inventor(s). The evaluation process involves two components: a patent and literature search to evaluate the uniqueness of the invention, and a marketability survey of the literature and industry contacts. The goal of these efforts is to answer two basic questions:

- Is the invention patentable (new, useful, and not an obvious improvement on an existing invention)?
- Is the invention licensable (will a company pay the University for the right to commercially practice the invention)?

If the answer to these questions appears to be yes, and if the expected return from licensing justifies the time and cost, the University will proceed with the patent application. The University has limited funds for the expensive process of patenting, so staff must make informed decisions about which inventions have the most potential to be legally protected and become valuable products. There doesn't necessarily have to be a massive market awaiting the product. But there does have to be some industrial or entrepreneurial interest in obtaining rights to develop a product, in funding further R&D in hopes of realizing the invention's value, or in starting a company to produce it.

How are inventors involved?

Inventor involvement is very important to the entire patent and licensing process. Degree of involvement varies according to the nature of the invention and the availability and interest of the inventors. Their expertise is especially helpful during the evaluation for patentability, in the patent application process, in identifying licensing prospects, and in meeting with companies expressing interest. Inventors typically provide technical evaluation of previous patents and publications in their field, supply information to the patent attorney and review draft applications and responses to government actions, and discuss technical aspects with interested companies. Regardless of the amount of involvement, inventors are kept informed of the evaluation process and any actions taken, and their input is considered in making decisions about the University's protection and licensing of the invention. However, final responsibility for such decisions rests with the ORA.

How long does it take?

The disclosure evaluation process may take anywhere from a week to three months, and possibly longer, depending on the complexity of the invention and the target industry. After filing a patent application, it can take from one to three years for the patent to be issued or denied by the U.S. Patent and Trademark Office. It may take five years or longer for commercial sales to begin, depending on how much work needs to be done to develop and market a product based on the invention. University technology transfer offices find that it takes an average of eight years after an invention is disclosed to begin receiving significant royalties on sales.

Who owns UMSL inventions?

Like nearly all universities, University of Missouri's policy states that the University has first rights to acquire title to any invention that results from use of University resources or University-administered funds. External sponsors of research often require disclosure and patenting of results when appropriate, and they also may have some ownership rights. If the University and sponsoring agency decide not to protect and transfer an invention, ownership rights can be waived to the developer(s).

Why should I participate in technology transfer?

The University is substantially supported by the public, including the majority of its research programs. The public deserves maximum return for its investment in research, through publication of results, sharing of expertise with students and others, and transfer of technologies to companies for commercialization. Many university inventors report great satisfaction in seeing their research efforts result in practical benefits to society. Many also find that the increased contact with industry improves the relevance of teaching programs and increases students' chances for internships and employment.

GENERAL TECHNOLOGY TRANSFER**What is technology transfer?**

Technology transfer is the formal transfer of rights to use and commercialize new discoveries and innovations resulting from scientific research to another party. Universities typically transfer technology through protecting (using patents and copyrights) and then licensing new innovations. Major steps in this process include the disclosure of innovations to the University, patenting the innovation concurrent with publication of scientific research, and licensing rights to innovations to industry for commercial development.

What are the goals and responsibilities of the ORA in technology transfer?

The UM-St. Louis Office of Research Administration manages all technology transfer activities on the St. Louis campus. The ORA's main objective and responsibility in technology transfer is to facilitate the transfer of UMSL's inventions to the private sector where these discoveries can be further developed for public use and benefit.

How do academic institutions measure success in technology transfer?

Early numerical measures include number of patents filed, license agreements executed and new companies formed. Later numerical measures include revenues from license fees, royalties and cash from equity investments paid to the academic institutions and the numbers of products successfully introduced to the market. Success is also demonstrated by the impact the products have on our lives. Other results of technology transfer include a university's ability to retain entrepreneurial faculty, attract outstanding graduate students, contribute to the institutional reputation for innovation, augment its research program through interaction with the private sector and enhance its reputation for providing highly trained students for the industrial work force.

What are the benefits of university technology transfer efforts?

Academic technology transfer adds billions of dollars to the U.S. economy and supports hundreds of thousands of jobs. It contributes to the spawning of new businesses, creating new industries and opening new markets. Most important, technology transfer from universities to the commercial sector has led to new products and services that improve our quality of life.

What is the Bayh-Dole Act?

[The Bayh-Dole Act](#), passed by Congress in 1980, created a uniform patent policy among the U.S. federal agencies that fund research in the non-profit and small business sectors. The Act provides recipients of federal research funds with the right to retain ownership of their patents with the underlying tenet that federally funded inventions should be licensed for commercial development in the public interest. This principle is reflected in virtually all university policies whether or not the invention is federally funded.

Who has signature authority related to technology transfer?

The Chancellor at UMSL has sole signature authority on behalf of The Curators of the University of Missouri for license agreements, material transfer agreements, and other agreements that pertain to intellectual property. University faculty and other inventors are not authorized to sign agreements that obligate the University to assign or license intellectual property rights to another entity.

The Chancellor has delegated signature authority for confidentiality agreements (NDAs) to the Vice Provost for Research.

INTELLECTUAL PROPERTY, INVENTION DISCLOSURES

What is Intellectual Property?

Intellectual Property (IP) refers to a legal entitlement that sometimes attaches to the expressed form of an idea, or to some intangible subject matter. This legal entitlement generally enables its holder to exercise exclusive rights of use in relation to the subject matter of the IP. The term "intellectual property" reflects the idea that this subject matter is the product of the mind or the intellect, and that IP rights may be protected by law in the same way as any other form of property.

IP can take the form of any new and useful process, machine, composition of matter, life form, article of manufacture, software, trademark, copyrighted work, or tangible research property. Examples include new or improved devices, circuits, chemical compounds, drugs, genetically engineered biological organisms, antibodies, clones, cell lines, data sets, software, web-based tools, musical processes, or unique and novel uses of existing inventions.

The term "intellectual property" generally relates to four distinct kinds of legal protection: patents, trademarks, copyrights, and trade secrets. Each kind of intellectual property is governed by its own body of federal and/or state law. The kinds of things that are protected by intellectual property law include scientific and engineering inventions (including new methods and apparatus), distinctive marks for identifying products or institutions, computer software, "know-how," and forms of expression that are affixed in tangible form (i.e., books, movies, artistic works of art).

Why is protection of intellectual property important?

Intellectual property is an asset to be developed, maintained and protected, not unlike land, equipment and facilities. By protecting it appropriately, it can return value and advantages to its owner and the inventive group.

If I invent something at the University, does it belong to the University?

In almost all cases, yes. If the intellectual property was developed by an employee of UM-St.

Louis or invented at UMSL facilities under the supervision of UMSL personnel, the intellectual property is owned by UMSL. Each inventor must assign his or her rights in the intellectual property to UMSL. This includes all faculty, staff, fellows, and graduate students who have an appointment at UMSL.

This can be good news for you because the University assumes the burden of protecting and commercializing the invention and provides 1/3 of net proceeds to the inventor(s).

[The Bayh-Dole Act of 1980](#) charges the University with the responsibility to pursue commercial development of inventions resulting from federally sponsored research for the public interest.

In most cases, ownership is obvious; however, there can be exceptions. If you have questions about whether the University owns your invention, please contact the ORA as quickly as possible for analysis.

It is important that you discuss the situation with the ORA as soon as you think you may have an invention. Not only will the office help to clarify the situation, its involvement may lead to the process of protecting and commercializing your invention and starting you, your department, and UMSL on the road to personal and institutional financial rewards.

What about my inventions prior to joining the University?

The University does not claim ownership of such inventions. However, any developments or improvements of these inventions that you make while at UMSL may be owned by the University and should be disclosed to the Office of Research Administration.

I made an invention on my own time without any University resources. Am I free to license and commercialize my invention on my own?

You have an obligation to disclose any inventions (even those made on your own time) to the ORA that you make concomitant with your employment by the University so that the ORA can determine if the University has any rights to the invention. You will be entitled to your invention if it was not made using University resources and the subject matter of the invention is outside the scope of your University research.

What if it is not clear that the University owns my invention, but I want the ORA to handle my invention?

The ORA will entertain proposals from students and others to have the University share ownership of an invention in return for the patent and commercialization services offered by the Office of Research Administration. Feel free to discuss your invention in confidence with us, preferably soon after you have discovered your invention.

Do I have to disclose my research?

Yes, you need to disclose any Intellectual Property to the University. You can disclose your research by completing a Research Disclosure Form. Such disclosure should occur either simultaneously with or prior to public disclosure.

When is the right time to submit a disclosure?

Whenever you feel you have identified a new research discovery that you feel is interesting, novel and important to advancing the field. Don't worry about whether or not you have an "Invention" or "Intellectual Property," we can help you figure that out. You should also disclose any such discovery either simultaneously with or prior to a public disclosure such as submitting an abstract for a scientific meeting or submitting a manuscript.

Do I need to demonstrate that my invention works before disclosing it to the ORA?

Because much can be lost by not contacting the ORA technology transfer staff early in your research, it is best to communicate with us before your invention is fully implemented. It is not necessary to have a model or working demonstration to file a patent application.

How do I benefit from disclosing my invention to the University?

Official disclosure is a necessary first step for proper evaluation and protection of your invention in order to bring about the commercialization of the technology. Its primary purpose is to collect information to help evaluate the invention for patentability and commercial potential. We strongly recommend that you complete the [Invention Disclosure Form](#) as soon as you think your research has yielded a discovery or invention. As an official document, the completed form serves to establish a legal record of the date of conception of the invention.

It is important to note that disclosing your invention to the University **is required**. In addition, submission of the disclosure form is required by all federal funding agencies; the university faces strict requirements regarding inventions discovered through sponsored research. Please contact our office if you have any questions regarding this part of the process.

How do I inform the University regarding a possible invention in my lab?

- Call or email [Tamara Wilgers](#), Director of Technology Transfer (ext. 6884).
- After initial contact, you may be asked to file a formal [Invention Disclosure Form](#). The appropriate form can be downloaded from the ORA website. Completion of this form enables efficient review of the invention. Faculty participation at this step is often key to successful licensing of the invention because the inventor(s) are the most knowledgeable of their field and often can provide the most promising commercial licensing leads.

Why do you ask what funding source I have?

- Federal regulations under the Bayh-Dole Act (1980) require that government-funded inventions be reported to the federal agency who made the award. As a service to grant awardees, our office uses a system call iEdison to report inventions to the funding agency.
- Another reason we ask for this information pertains to the Intellectual Property rights under any funding agreement. Although funding agreements with the Federal government are pretty standard and fall under Bayh-Dole, those with private agencies are not and it is important that we know about the funding source to determine those rights.

Should I disclose to the ORA before or after I have submitted my work in abstract or manuscript form?

- *It is critical to disclose your invention as soon as the invention is in hand. Thus, you should be disclosing well before a manuscript or abstract is drafted.*
- Disclosing early affords many advantages, including proper assessment of the technology, development of an appropriate management and marketing plan by the ORA, and the ability for interested companies to evaluate the licensing opportunity before the opportunity to obtain patent rights is lost.
- Depending on the invention, many companies may have no interest in licensing the invention unless they can obtain a license well in advance of any enabling public disclosure of the invention in order to have lead-time over their competitors.
- Importantly, the ability to obtain foreign patent protection for an invention is lost immediately upon the enabling public disclosure of such an invention. Many companies are not interested in licensing rights to inventions for which foreign patent protection no longer is available.
- If you have already submitted your work in abstract or manuscript form, CONTACT THE ORA AS SOON AS POSSIBLE.

What happens once I have filed an Invention Disclosure Form with the ORA?

- The ORA technology transfer staff will review your invention with you and coordinate a preliminary evaluation of the invention's potential for IP protection and successful commercialization.
- With the information gathered in the evaluation, we will decide whether to file a patent application to protect the invention.
- If a scholarly publication or other public disclosure is imminent, we will accelerate the process of reviewing, drafting, and filing a patent application in order to preserve your patent rights.
- If the technology appears commercially viable, a marketing plan will be developed and undertaken.
- Once a committed licensee is identified, technology transfer staff will be responsible for negotiating the license to the technology.

Who should be listed as "inventors" on the Invention Disclosure Form?

- Unlike authorship of a scientific publication, inventorship is a matter of law. A patent that fails to name the correct inventors may be ruled invalid.
- A lawful inventor is one who makes an inventive contribution to one or more of the claims that formally define the invention -- a person who makes an original, significant intellectual contribution leading to the conception of the invention. Someone who provides equipment, space or money, no matter how critical to the development of the invention, is not an inventor. Also, someone who performs work under the supervision of another party is not an inventor, even though that person may have worked long hours or conducted a critical experiment.
- Because patent claims may change as the patent application is being drafted and also while it is undergoing prosecution by the patent office, inventorship may change as well.
- For the purposes of filing your [Invention Disclosure Form](#) with the ORA, simply name as inventors any individuals who have made a creative contribution to the invention (a creative contribution may include contributing a seminal idea towards the conception of the invention or overcoming a technical hurdle in the reduction to practice of the invention). When necessary, the ORA will initiate a formal inventorship determination using outside patent counsel.

Is software valuable?

Like any invention, software is an asset that has value to the University and to its author(s). Often even the simplest software function has commercial value simply because of the time invested in writing the code, not to mention the expertise needed to develop the function.

Should I file an invention disclosure if I have created software?

Software should be disclosed to the ORA early in the development process. Disclosure to the ORA should be made before any public disclosure (oral or written) of the information is made. In this way, an informed evaluation can be completed for the potential invention and an appropriate protection and marketing strategy developed.

How is intellectual property protected?

Generally, by federal patent law, federal copyright law, federal trademark law, state trademark law, state laws regarding trade secrets and other laws related to businesses and contracts.

PUBLIC DISCLOSURE

What happens if my invention is publicly disclosed?

In the United States, if the invention has been described in a printed publication anywhere or has been in public use or on sale **more than one year before an application for patent is filed**, a patent cannot be obtained. In most other countries, once the invention has been described in a printed publication or has been in public use or on sale, a patent cannot be obtained.

What is a “public disclosure”?

Public disclosure is any transfer of information about your invention, written or oral, into the public domain or to any party not obligated to keep the information confidential. If it is “enabling,” a public disclosure immediately bars one from obtaining foreign patent protection and starts a one-year grace period from the date of the disclosure during which time a U.S. patent application can be filed.

An “enabling” public disclosure is one wherein the work is described in sufficient detail such that one of “ordinary skill in the art” could reproduce the invention without undue experimentation. Therefore, not all public disclosures are enabling and all do not necessarily bar one immediately from obtaining foreign patent protection. However, it is always best to contact the ORA to put a Non-Disclosure Agreement (NDA) in place prior to any discussions concerning your research with parties outside the University.

Many companies are not interested in licensing inventions for which no foreign patent protection is available. Also, depending on the invention, many companies are not interested in licensing the patent rights unless they can get a license well in advance of the public disclosure in order to have lead time over their competitors.

Written public disclosure includes published materials such as journal articles, abstracts, posters, book chapters and proceedings. It can also include demonstrations, exhibits, slides, other projected material, information which is distributed or discussed at non-confidential meetings, conferences, seminars or forums, private correspondence and catalogued graduate theses. Electronic transmission of abstracts, articles or research reports is also a form of publication or public disclosure. Descriptions of research projects on your departmental or faculty websites may also constitute public disclosure.

Oral public disclosure is a slightly grayer area, but it can include formal talks, meeting presentations, departmental seminars open to the public, oral theses defense and even discussions with a single person about your invention. In short, oral public disclosure encompasses any discussions where another party could take detailed notes that describe your invention.

Summary of common public disclosures:

- Information discussed in a non-confidential setting
- Web posting
- Oral presentation
- Poster presentation
- Abstract publication available to scientific public or meeting attendees either in print or online
- Manuscript publication including online publications prior to the journal's hardcopy release
- Thesis submission to a library or outside source
- Thesis publication
- Funded government grant

If you are uncertain if a disclosure will be considered an enabling public disclosure, please contact the [ORA](#).

Is a grant proposal considered a public disclosure?

A grant proposal is not considered a public disclosure until it is available to the public for review. Grant applications to federal agencies can constitute public disclosure as they are accessible under the Freedom of Information Act. However, you can take certain steps to help maintain the confidentiality of patentable materials within the application by placing a notice on the first page of the proposal that states: "Confidential Information - Pages ___ to ___ contain potentially patentable information." List the pages containing the confidential information and write "CONFIDENTIAL" on each page that contains the information.

Remember, the ORA can also file a quick provisional patent application before you submit your proposal.

Does public disclosure/publishing my data interfere with patenting?

Yes, public disclosure interferes significantly with patenting if you have not taken the appropriate steps to maintain patent rights. If you publicly disclose your invention, you immediately lose most foreign patent rights. Additionally, you have only one year from the date of public disclosure to file a patent application within the United States. If you wait longer than one year, your patent rights are also lost in the United States.

The publishing of data constitutes a public disclosure of an invention, and is considered prior art. Although it may seem unfair, your own publication may be used against you as prior art when you attempt to patent your invention. Therefore, it is extremely important to inform the ORA of your plans to publish or present data if you also desire to obtain a patent on your invention.

How do I protect intellectual property rights before public disclosure?

The best way to protect intellectual property rights prior to public disclosure is to contact the ORA to either get an NDA in place, in the event of discussions with a company, another institution or an individual, or to get a provisional patent application on file with the USPTO.

Wouldn't it be more beneficial to the public to publish my data, rather than try to patent my invention?

It may seem that University inventions and discoveries should be entirely dedicated to the public by making a completely enabling disclosure in the form of a publication. However, most inventions that come out of universities need further development before they are ready to go into production. No commercial entity would invest the large amount of resources necessary to further develop a technology if it had been entirely dedicated to the public through a publication. This is because without the protection provided by a patent (through licensing from a university), a competitor company can reap the financial benefits once the invention has been perfected by the first commercial entity. Therefore, patents actually benefit the public more than a simple public disclosure by encouraging companies to further develop the technology and, in the end, provide a fully developed product.

Remember, however, the ORA can work with you to protect inventions prior to publication. We want to make it possible for you to both patent and publish.

What can be publicly disclosed before a patent application is filed?

In the absence of a signed, valid confidentiality agreement or a filed patent application, it is generally not a good idea to make any kind of public disclosure of your potential invention. What constitutes a public disclosure depends greatly upon the circumstances under which the information is being disclosed and the nature of the disclosure. Accordingly, it is strongly advisable for you to discuss a pending disclosure (including a publication submission, a presentation of a poster, paper or abstract at a meeting, or meeting with a company) prior to the disclosure with the technology transfer staff in the ORA.

Should I contact the ORA before talking to a company about my invention?

Yes, in order to maintain the confidentiality of your invention, you should contact the ORA to put a Non-Disclosure Agreement ("NDA") in place with the company **prior** to your discussions. If you do not have an NDA in place before discussing your invention with a company, it can constitute a public disclosure and patent rights to the invention may be lost.

What is a Non-Disclosure Agreement (NDA)?

A Non-Disclosure Agreement (NDA), also known as a "Confidentiality Agreement" or "Confidential Disclosure Agreement (CDA)," is an agreement whereby one party agrees to hold the proprietary technical and/or business information of the other party in confidence. NDAs are a standard tool of the trade and many companies are amenable to having access to a technology under the terms of this type of agreement.

Who can sign a Non-Disclosure Agreement?

Only authorized individuals can sign an NDA on behalf of the University. **PRINCIPAL INVESTIGATORS ARE NOT AUTHORIZED TO SIGN THIS AGREEMENT ON BEHALF OF THE UNIVERSITY.** If a company wishes to obtain confidential information from UMSL, the investigator should contact the ORA.

PATENTS & COPYRIGHTS

What is a Patent?

A patent is the grant of a property right to the inventor(s). U.S. patents, issued by the United States Patent and Trademark Office (USPTO), are effective only within the United States, U.S. territories and U.S. possessions. A patent right is "the right to **exclude others** from making, using, offering for sale, or selling" the invention in the United States or "importing" the invention into the United States.

There are three types of patents:

- Utility patents may be granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof;
- Design patents may be granted to anyone who invents a new, original, and ornamental design for an article of manufacture; and
- Plant patents may be granted to anyone who invents or discovers and asexually reproduces any distinct and new variety of plant.

What is a Provisional Patent?

The provisional patent application is an application that can be filed with the US Patent and Trademark Office (USPTO) that establishes an early effective filing date of a patent application. The provisional application is not examined by the USPTO, and may remain pending for one year. At the end of the period, UMSL must elect either to drop the filing, allowing the information to become public, or to convert the provisional application to a regular patent application. The ORA will work with the inventors to make this decision on behalf of the University.

How long does patent protection last?

Utility and plant patents issuing from the applications filed after June 7, 1995, will expire twenty (20) years from the date of filing. The terms of certain utility patents, however, may be extended to compensate for the following:

- Delays resulting from the failure of the USPTO to examine a new application within 14 months of filing;

- Delays caused by the USPTO's failure to issue a patent within three years from filing, unless the delay was caused by the applicant; and
- Delays caused by the USPTO's failure to take certain office actions for more than four (4) months.

What kind of research is patentable?

For the standard type of patent, called a utility patent, an invention may be any new and useful process, machine, composition of matter, or article of manufacture (i.e. an artificial, man-made thing rather than an unprocessed, natural object or material), apparatus, instrumentation, circuits, computer programs, biological materials, chemicals. An improved version of previous technology may be patentable, as well as a new use for an existing technology. The process of invention begins with conception of the invention. Inventions eligible for a U.S. patent must be novel, useful, and non-obvious:

- **What does "novel" mean?**
The invention must be noticeably different from publicly available inventions. This does not mean that all aspects of an invention must be novel. For example, new uses of known processes, matter, or materials are patentable. Incremental improvements on known processes may also be patentable. To be considered novel, an invention must be the inventor's original work. In addition, the inventor must file a patent application within certain time constraints if the invention has been publicly disclosed.
- **What does "useful" mean?**
The invention must demonstrate some application or utility, or be an improvement over existing products and/or techniques.
- **What does "non-obvious" mean?**
A patentable invention must be "non-obvious" to someone of "ordinary skill in the art." This does not include recognized experts in the field. One guideline of non-obviousness is when the change is somewhat surprising to one with "ordinary skill," yet this someone is knowledgeable enough in the field to understand the utility of the invention. This requirement is difficult to judge, for it is hard to predict with certainty what the patent examiner will find obvious or non-obvious. An invention can be "non-obvious" if it is a combination of old elements used in a new way to produce a new, unexpected result. Similarly, an invention can be considered "non-obvious" if others have attempted to achieve the invention but failed. Some situations require affidavits from experts stating that the invention is not obvious to one skilled in the art.

What is prior art?

Prior Art refers to public knowledge existing before the date an invention was made that is related to the invention or is in the field of the invention. Prior art can include published journal articles and abstracts, previously filed patents, and, in some cases, non-written knowledge made public such as material presented at a scientific conference. In order to obtain a patent, an applicant (inventor) must not only prove usefulness, but also that his/her invention is novel over the prior art and non-obvious to someone of ordinary skill in the art.

What is a barring event?

The publication, use, offer for sale or sale of an invention anywhere in the world is known as a barring event. If a year passes between one of these events and the date when a patent application is filed on the invention, the inventor is barred from patenting the invention in the United States. A barring event may and often will immediately preclude UMSL or the inventor from seeking patent protection in a country other than the United States.

Who prepares and prosecutes patent applications?

The ORA retains the services of highly qualified patent attorneys selected on the basis of their specialized knowledge in various fields of expertise. They prepare and prosecute patent applications.

What is the cost of obtaining a patent?

The cost of obtaining a patent depends on multiple factors, including the amount of protection desired (domestic versus foreign) and the complexity of the patent prosecution. The costs for prosecuting a U.S. patent application typically range from \$15,000 to \$40,000 through issuance. Costs for prosecuting foreign patent applications can range from \$10,000 to \$15,000 or more per country for filing. Maintenance costs add several thousand dollars per patent.

Who pays for the patent application?

UMSL's Office of Research Administration pays for all costs associated with the preparation, prosecution and maintenance of patents. UMSL seeks reimbursement of patent costs through licensing.

How does the ORA manage patent costs?

The ORA seeks to recover its investment by licensing the patent rights to competent, committed commercial developers.

The ORA's objective **is not** to file patent applications for the sake of filing them, not only because of the high cost of patent protection but also because not every patentable invention is licensable. Also, not every invention must be patented in order to be licensed, including tangible materials such as cell lines, transgenic mice, plasmids, and integrated circuit masks. Also, software can be licensed under a copyright license, and a copyright license for high quality, value-added software can be more lucrative than many patent licenses.

The ORA's objective **is** to file patent applications strategically to maximize the value of inventions we have determined are licensable because they represent a sound business opportunity and will afford competitive advantage to a licensee.

- In order to best manage the costs and risks inherent in patent applications, the ORA typically will not file a patent application until it has first found a committed licensee, and then it will file the patent application at the licensee's expense. This minimizes financial exposure and facilitates patenting of only those inventions with true commercial potential. In addition, this strategy allows the licensee to participate in drafting the patent application so that the patent claims better support the licensee's specific business needs, allowing for more favorable financial returns.
- In some circumstances, the ORA will file a patent application "at risk" — without having first found a licensee to pay patent costs. Such filings are usually the result of an imminent public disclosure of the invention that would result in the loss of foreign patent rights unless a U.S. patent application is filed prior to the public disclosure. The ORA will make an at-risk filing if its business analysis of the invention leads the ORA to believe there is an excellent probability that a future license will result. Such analyses take considerable time if done properly, so it is imperative that you disclose your invention to the ORA well in advance of any public disclosure.

Why are some inventions not patented?

Some inventions and discoveries are best to remain in the public domain in order to ensure that they are freely and widely available.

For many early-stage technologies, the invention is in such an early stage that a patent application would not result in the issuance of a patent by the USPTO. In such cases, the ORA will encourage the inventor(s) to submit additional information to the ORA when the new information is available for a reevaluation of the technology.

Inventions that ARE patented: The University will seek patent protection for the technologies that should be transferred to the private sector through licensing for further development, commercialization and distribution to the public. Often, without exclusivity provided by patent protection, commercial entities are unwilling to develop a product.

What is a copyright?

A copyright is the grant of protection by the laws of the United States to the authors of 'original works' including literary, dramatic, musical, artistic, architectural and certain other intellectual works, and is available for both published and unpublished works. An owner has the exclusive right to authorize others to reproduce the work; create derivative works; distribute copies of the work; perform the copyrighted work publicly, display the work publicly, and if it is a sound recording, perform the work publicly. Software may be copyrighted, but may also, in certain circumstances, be protected by a patent.

How do you file for copyright protection?

Copyright protection automatically exists from the moment of creation, and a work is created when it is fixed in a tangible form. Therefore, no publication or registration or other action by the Copyright Office is required to secure a copyright, although certain advantages are retained for registered copyrights, such as the right to seek damages for copyright infringement.

RESEARCH COLLABORATIONS & CONSULTING

What if a collaborator from another institution has contributed to my invention?

UMSL has inter-institutional agreements (IIAs) with several universities, research institutions and other organizations, and may negotiate such an agreement with your collaborator or institution. This type of agreement determines which institution would take the lead in patent and licensing of the invention, as well as how any royalty income would be shared. Each inventor should separately disclose the invention to his or her home institution.

I made an invention while consulting for a company and my client wants to file a patent application on it. Do I need to do anything besides helping the client with the application?

Although your consulting agreement most likely stipulates that the company owns any inventions you make in your capacity as its consultant, your employee agreement with the University dominates your obligations to your client. Please contact the ORA as soon as possible — we will work with you and your client to determine if the University has any rights to the invention in whole or in part.

The company can take title to your invention if you made the invention without using any University resources and the subject matter of the invention falls outside the scope of your University research. If the University has any rights to the invention, the company then may negotiate a royalty-bearing license with the ORA for the University's rights in the invention.

A company has requested my consulting services. Am I able to consult while maintaining my position as a faculty member?

Faculty are able to consult as long as their obligations as consultants do not conflict with their obligations as University employees. Guidelines for policies on commitment of time for faculty and potential conflict of interest can be found at <http://www.umsystem.edu/ums/departments/gc/rules/personnel/330/015.shtml>.

The University is not a party to consulting agreements, which are private agreements between the company and faculty member. As such, the ORA will not negotiate consulting agreements on behalf of University employees.

COMMERCIALIZATION

How is my invention marketed or licensed?

Once we do what we can to secure preliminary intellectual property protection, we coordinate the formulation of a strategy and business plan for commercialization. The most appropriate industry partners will be contacted, and, pursuant to confidentiality agreements, we will coordinate the disclosure of the invention and its potential. Often discussions with prospective partners lead to new business plans and strategies or modifications of those developed at an earlier stage. When a good fit is determined, we coordinate negotiations intended to lead to a sale or license of the invention.

What is a license agreement?

A license agreement is the standard agreement format by which the University and the Company seek to reach mutually acceptable licensing terms regarding an invention. Strategies for transferring inventions from universities to industry are based upon non-exclusive, exclusive, or limited-field licensing. A non-exclusive license is suitable for technologies, such as research tools, that are of interest to a number of companies. Exclusive licenses are generally granted for technologies where product development requires significant effort and investment on the part of the licensee. An exclusive market position is often necessary to justify the expense of the license. Exclusive licensing by discrete fields of use is most appropriate for some technologies because it allows for parallel commercial development of multiple fields or applications of the invention. All license agreements must protect the mission of the University by ensuring that faculty inventors retain rights to continue research in the licensed field, publish freely, and disseminate tangible research properties related to the technology to other academic researchers.

How are licensees found for new technologies?

Licensees can be identified in many ways:

- The inventors often are aware of the commercial companies who would be interested in the work.
- Industry-specific marketing efforts including trade show participation, affiliations and market research carried out by the ORA also serve to identify potential licensees.
- Issued patents listed can provide names of companies who currently have patents similar in nature, and often times these can prove to be potential licensees as well.

Who conducts license negotiations?

License negotiations are handled by the technology transfer staff of the ORA.

What kind of financial terms are included in a license agreement?

The financial terms of a license agreement can vary greatly. They may include, but are not limited to, up-front fees, license reissue fees, minimum annual royalties, milestone payments, royalties and equity. Financial terms vary widely and are tailored to fit the specific nature of each technology and each license transaction.

Can equity be included in a license?

Equity may be transferred to the University in a license transaction as partial, or sometimes total, compensation for the rights conveyed. Typically, equity plays an important part in licensing to a start-up company.

How long does it take to execute a license agreement?

Every license is unique in that it brings together University intellectual property to solve a company's specific problem(s). Once the IP is identified by the company, terms of a license

need to be negotiated. Execution can take as little as a few weeks to over a year, depending on the complexity and the response times of all involved.

If the University licenses my invention to a company, will I still be able to perform related research?

Yes. Our license terms always retain the right for the University to use the invention for educational and research purposes.

Who signs license agreements?

At UMSL, only the Chancellor is authorized on behalf of The Curators of the University of Missouri to sign license agreements. ORA staff and UM General Counsel provide reviews to ensure compliance with university policies.

How is the income from licensing an invention distributed?

The University's current income distribution policy is as follows:

- 1/3 to Inventor(s), before expenses
- 2/9 to Inventor's Department
- 2/9 to Office of Research Administration (Technology Transfer Account/Patent Fund)
- 2/9 to UM System

What happens if an inventor leaves UMSL?

If an inventor leaves UMSL, the inventor is still entitled to the inventor's personal share of license revenue disbursement.

What happens if UMSL does not license my invention?

If, within a reasonable amount of time, a likely licensee has not been identified, the ORA may offer a license back to the inventor(s) or possibly decide to release title to the invention. Depending on the source of research funding, the inventor(s) may be able to obtain title to the invention. If the invention was made using federal research support, the ORA can only recommend to the government that rights be returned to the inventor(s).

What if I want to form a start-up company with my technology?

As part of its mission to commercialize University technologies, UMSL will consider licensing requests from faculty inventors who want to start new companies with the technology that they have created. Although not obligated to do so, the ORA is willing to license technology to a faculty start-up company, provided that the faculty inventors demonstrate a clear commitment and ability to develop the licensed technology. Additionally, a faculty inventor's involvement in such a start-up company must be disclosed to the ORA through a Potential Conflict of Interest disclosure.

Does the University sell intellectual property rights to third parties?

Generally not. Rights are granted to a third party on either an exclusive or non-exclusive basis to manufacture, have manufactured, and/or sell or use the technology to create products or processes. Licenses are granted such that the intellectual property must be returned to the University if the third party fails to fully develop and commercialize the rights granted. A sale of technology generally means there is no provision for return.

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POTENTIAL CONFLICT OF INTEREST

If I consult for a company, can I also receive funds from the company for my own research at UMSL?

The compensation you receive from your client means that you have a financial interest in the company. Before you can receive research funds from the company you must formally disclose

your proposed research and this financial interest to the ORA using a [Potential Conflict of Interest Disclosure Form](#), also found in the [Guide to Managing Converging Interests](#). The faculty/staff Conflict of Interest Committee will review your disclosure to determine to what extent your financial interest in the company might bias your objectivity as a researcher performing research that is funded by the company.

MATERIAL TRANSFER AGREEMENTS (MTAs)

What is a Material Transfer Agreement (MTA)?

When university faculty want to share patented or unpatented intellectual property material (new compounds and formulations, biological research materials, genetic constructs, data sets, computer software and applications, etc.) with their colleagues at non-profit institutions for research purposes, the materials should be transferred under a Material Transfer Agreement (MTA). MTAs are binding legal agreements between the provider of research material and the recipient, which set forth the conditions of transfer and use, protect proprietary interest in the material, and restrict distribution. Most importantly, the MTA requires the recipient to indemnify the provider from any liability arising from the use of the material. Executing an MTA also helps to preserve the faculty and University's intellectual property rights while recording the transfer of the invention to another party.

When is an MTA necessary?

MTA's are necessary any time a researcher at the University wishes to send or receive materials of a confidential or proprietary nature; material that is infectious, hazardous or subject to special regulations; material for which the provider is concerned about potential liability; or material for which the provider wishes to obtain rights to the results of the research in which the material or information is to be used.

Who can sign an MTA?

The Chancellor has the authority to sign an MTA. Many MTAs ask for the researcher to sign the MTA, which is acceptable if the signature is to confirm that the researcher has read and understood the terms of the MTA. However, MTAs are agreements between the Curators of the University of Missouri and the Provider or Recipient — the researcher is not a party to the agreement. As the University is the party to the agreement, only individuals authorized to sign such agreements on behalf of the Curators have the authority to bind the University to an MTA.

What happens if someone without authority signs the MTA?

In the worst-case scenario, the unauthorized signatory would be held personally bound to the terms of the agreement. Most likely, when the unauthorized signature is discovered, the ORA will have to notify the other party and then proceed with negotiations to arrive at an agreement that can be signed by the University.

What is the UBMTA?

The Uniform Biological Material Transfer Agreement (UBMTA) was developed by the Association of University Technology Managers (AUTM) in conjunction with the National Institutes of Health and the Centers for Disease Control to facilitate transfers of materials between NIH-funded researchers and, more generally, for transfers between academic institutions. Institutions that are a signatory to the Master Agreement are able to transfer materials under the terms of the UBMTA simply by sending a simple letter agreement.

Are there any alternatives to using an MTA?

For materials that are commercially available, the option of purchasing those materials may be considered. Sometimes, obtaining a material through an MTA will be problematic but purchasing the material will bypass the issues. At other times, pursuing sponsored research with a company will be a viable alternative to a MTA.

How might using materials obtained from other academic institutions or companies affect my research and IP rights?

Materials are obtained from other academic institutions and companies using MTAs. Through these agreements, the provider often receives the ability to review manuscripts, abstracts and the like prior to submission and to practice any inventions made with the materials for internal research purposes free-of-charge. In addition, the provider often receives the first right to commercialize any intellectual property arising from the UMSL research involving the materials. Other terms, such as confidentiality provisions and restrictions on transferring modified materials, also may affect your research/intellectual property rights.

Therefore, the potential for third-party conflict and colliding interests exists, particularly if the research is being performed with sponsored research funding or if materials from multiple sources are commingled in the same research program.

It is important to work closely with the ORA staff handling your laboratory's MTAs, Collaboration Agreements, and/or Sponsored Research Agreements. Unfortunately, the potential for conflict and colliding interests can, at times, prevent an agreement from being acceptable to the University.