Faculty Inventor's Guide to Technology Transfer

Innovation, Accelerated by Tradition
Herman B Wells, president of Indiana University from 1938 to 1962 "What is the role of higher education in a program of industrial expansion? We certainly can do something about providing the research and the research facilities which make a significant contribution to the welfare of our state and nation."

Michael A. McRobbie, president of Indiana University
"Ultimately, the real purpose of technology commercialization is to work in a systematic and institutionally-supported way to commercialize the great research work being conducted by faculty members into products that can help people here in the United States and around the world lead better, healthier lives and experience a higher standard of living."

Indiana University has a long-standing commitment to excellence in engagement and economic development, and Indiana University Research & Technology Corporation's (IURTC) mission is inspired by President McRobbie's Principles of Excellence for IU.
**IURTC Mission:** Actively engage the strengths of Indiana University to support the health, economic, and social development of Indiana, the nation, and the world through Technology Commercialization, Business and Economic Development, and Technology Parks.

This guide was drafted by Mervin C. Yoder, MD in collaboration with IURTC personnel and made possible with support from the Indiana Clinical & Translational Sciences Institute (UL1-RR025761), IURTC, and the Office of the Executive Dean for Research Affairs of the School of Medicine and is based upon the University of Michigan Office of Technology Commercialization’s “Inventor’s Guide to Technology Commercialization.” Dr. Yoder, the Indiana CTSI, School of Medicine, and IURTC thank the University of Michigan for permission to use its copyright.

Please note that this guide is intended to provide a general overview of the technology commercialization process at Indiana University. It summarizes a number of federal and state statutes and guidelines as well as IU policies, and the foregoing supersede this guide.

Indiana University Research & Technology Corporation

**Indianapolis:**
IU Innovation Center – Indianapolis
351 W. 10th St.
Indianapolis, IN 46202
317-278-1901

**Bloomington:**
IU Innovation Center – Bloomington
2719 E. 10th St.
Bloomington, IN 47408
812-855-7353

Other IU campuses may contact the Indianapolis office for assistance.

iurtc.iu.edu
iurtc@indiana.edu
Table of Contents

COVER

IURCT Mission and Contact Information

Chapter 1 - What is Technology Commercialization? .............................................. Pages 3-5

Chapter 2 - The Technology Commercialization Process ........................................ Pages 6-16

Chapter 3 - Considerations for a Start-Up Company ................................................ Pages 17-18

Chapter 4 – Summary .................................................................................................. Page 19

References .................................................................................................................... Page 20-21
Chapter 1 – What is Technology Commercialization?

Overview

Technology commercialization is the commercialization of university faculty and researchers’ knowledge and discoveries to the public. It can occur through:

- Publications;
- Educated students entering the workforce;
- Exchanges at conferences;
- Relationships with industry, and more.

For the purposes of this guide, technology commercialization refers to the formal licensing of technology to third parties under the guidance of professionals employed by universities, research foundations, and businesses.

Technology is typically commercialized through a license agreement in which the university grants its rights in the defined technology to a third party for a period of years, often limited to a particular field of use and/or region of the world. The licensee (the third party licensing the technology) may be an established company or a new business start-up. Licenses include terms that require the licensee to meet certain performance requirements and to make financial payments to the university. These payments are shared with the inventors and are also distributed to the schools and inventors’ laboratories to provide support for further research, education, and participation in the technology commercialization process.

Bayh-Dole Act

The U.S. Bayh-Dole Act of 1980 allows universities and other non-profit institutions to have ownership rights to discoveries resulting from federally funded research, provided certain obligations are met. These obligations include:

- Making efforts to protect (when appropriate) and commercialize the discoveries;
- Submitting progress reports to the funding agency;
- Giving preference to small businesses that demonstrate sufficient capability;
- Sharing any resulting revenues with the inventors.

The Bayh-Dole Act is credited with stimulating interest in technology commercialization activities and generating increased research, commercialization, educational opportunities, and economic development in the United States.

The Indiana University Research & Technology Corporation (IURTC)

The IURTC leads the IU system’s commercialization efforts. Its Office of Technology Commercialization is a resource for university faculty and researchers who have made a discovery that shows commercial potential. The office is composed of specialists with scientific backgrounds who work in licensing, business development, new venture funding, intellectual property, and legal matters. The office obtains intellectual property protection for new
discoveries and markets the discoveries for commercial use, either by licensing them to existing companies or creating new start-up companies.

In addition to its technology commercialization activities, the IURTC works closely with the Office of Engagement and spearheads IU’s development of technology parks.

A researcher may want to participate in the technology commercialization process for several reasons, including:

- Making a positive impact on society;
- Feeling a sense of personal fulfillment;
- Achieving recognition and financial rewards;
- Generating additional lab/departmental funding;
- Meeting the obligations of a research contract;
- Attracting research sponsors;
- Creating educational opportunities for students;
- Linking students to future job opportunities.

When the IURTC receives information about an invention that a faculty member created using federal funding, the IURTC takes care of IU’s responsibility to report to the funding agency on the disclosure, patenting, and commercial development of those inventions. When closing out a federal grant, IU’s Office of Research Administration confers with the IURTC to make sure that all the inventions created under the grant are properly reported.

Most external research funds require faculty to report any inventions that were made using such funds, and the IURTC will handle the reporting obligations. Many non-profit foundation grants require IU to share any commercialization revenue with the foundation, while corporate sponsored research agreements and corporate material transfer agreements typically require the university to offer a license to the corporation.

The Office of Research Administration frequently consults with the IURTC during the negotiation of new corporate sponsored research agreements and material transfer agreements to assure that contract clauses governing new inventions meet the needs of the company, IU, and the faculty. During the negotiation process, it helps if the faculty can place the scope of research in context. Will the faculty member be conducting a clinical trial with the protocol designed by the research sponsor? Will the faculty member be using a company-supplied material to provide additional validation to an invention the faculty member previously discovered under a federal grant? These two scenarios would yield different invention contract clauses.

Ownership

The IU Intellectual Property Policy defines ownership of patents and copyrights created at IU.

Patent ownership is straightforward: *IU owns the patentable intellectual property created by anyone using university resources, including individuals being paid through IU, using funding administered through IU, or using university laboratory space to make the invention.* Please
note that this does include visiting scientists, unpaid students, and volunteers working in your laboratory.

For copyright ownership, the Intellectual Property Policy divides copyrights into two categories:

- Faculty and students generally own “Traditional Works of Scholarship” such as scholarly publications, books, and works of music and art, as long as these works do not fall into the second category that follows.
- IU owns “University Works”. In general, these are copyrighted works that are created by non-academic employees, were funded by external grants, were commissioned by the university, or have a funding agreement that indicates any copyrights will be considered University Works.

(For a complete description of Patentable Intellectual Property and Traditional Works of Scholarship versus University Works, please visit: http://innovate.indiana.edu/iurtc/process/index.shtml.)

If you have any questions as to whether you or IU owns the intellectual property you created, please contact the IU-Office of General Counsel at (812) 855-9739 who will make the final determination, but the IURTC is happy to help you through the process.

The IURTC also understands that you may not want to commercialize your technology. The IURTC recognizes that there are many pathways to making IU’s knowledge and discoveries available to the public. For example, IU processes hundreds of material transfer agreements a year for research tools created at IU that may be of interest to a few colleagues at other institutions but with such a small market that a reagent company is not interested in commercializing the tool.

This question comes up most frequently when considering software. While the IURTC has had some great successes with commercializing software, we also recognize that you and IU may benefit more by pursuing other paths to make your software available. It is not necessary to disclose your software to the IURTC should you wish to pursue such paths.

Some faculty members prefer to release software without charge and with few or no restrictions to a limited academic audience; IU can accomplish this through a software transfer agreement that is similar to a material transfer agreement. Other faculty members actively participate in open source initiatives. You would need to contact your department to determine any obligations you may have to release software under a particular open source license; these may include requirements in grants or pre-existing open source licenses attached to any software you have incorporated in your work.

Do not hesitate to contact the IURTC if you have questions or concerns about the technology commercialization process. We recognize that the most successful projects require a strong partnership between the IURTC and the technology’s creator.
Chapter 2 – The Technology Commercialization Process

After you understand technology commercialization and its importance, the next step is to determine if partnering with the IURTC is right for you.

We encourage you to contact the IURTC during your early research activities to be aware of the options that will best leverage the commercial potential of your research. Technology commercialization staff are trained to assist you with questions related to marketability, funding sources, commercial partners, patenting and other protection methods, new business start-up considerations, university policies and procedures, and much more. Our team approach provides you with an assigned technology manager supported by internal legal assistance, and, if a new business start-up is being considered, a new venture specialist as well.

The Process

The process of technology commercialization is summarized in the steps and diagram that follow. Note that these steps can vary in sequence and often occur simultaneously.

1) Research

Research generates observations from experiments that often lead to discoveries and inventions. An invention is defined by law as any useful process, machine, composition of
matter (new material), or any new or useful improvement of the same. Your research might also result in copyrighted material such as software. Often, multiple researchers may have contributed to the invention.

*You may use materials or intellectual property from others in your research,* but it is important to document carefully the date and conditions of use so that we can determine if this use may influence the ownership and license rights of your subsequent research results. If you wish to obtain materials from outside collaborators, you should complete an incoming Material Transfer Agreement (MTA). ([http://researchadmin.iu.edu/Forms/grant_contract/mta.docx](http://researchadmin.iu.edu/Forms/grant_contract/mta.docx))

On a related note, sometimes university researchers receive letters from companies that state a researcher is infringing the company’s own patent. Send such letters to IU’s general counsel, who is then likely to consult with the IURTC about the validity of the company’s claim.

2) **Pre-Disclosure**

Because U.S. laws define what is as an invention and what is as an “original work of authorship” (copyright), it may be difficult to figure out if your discovery qualifies. If you are not sure, you may want to give the IURTC a call or complete a Pre-Disclosure form before you spend time on Step 3. (A Pre-Disclosure form is not necessary, but it enables us to assign a technology manager who will be sure to follow up with you.) [*http://innovate.indiana.edu/iurtc/process/tech-comm/disclosure.shtml*]

3) **Invention Disclosure**

The formal technology commercialization process begins with Invention Disclosure, the written notice of invention submitted to the Office of Technology Commercialization. An invention disclosure is a confidential document that fully documents your invention so that the options for commercialization can be evaluated and pursued. The IURTC website provides several disclosure forms depending upon the type of discovery you have made: invention, biological material (antibody, cell line, mouse model, etc.), copyright, software. If you are not sure which one to use, give us a call. [*http://innovate.indiana.edu/iurtc/process/tech-comm/disclosure.shtml*]

**Note:** The invention disclosure provides the university with a record of the date of your invention, but it *does not* provide any legal intellectual property protection; this occurs in Step 5.

Good invention disclosure is a critical component of the commercialization process. The minimum required by the IURTC to start the process of evaluating your invention disclosure is:

- A list of inventors and their departments;
- Identification of any federal or other funding used to make the invention; and
- A description of the invention.

Attorneys engaged by the IURTC are used to work with initial drafts of manuscripts as disclosures, as much of the information needed to evaluate an invention and draft a patent application can be found in manuscript form. Naturally, the more information you can provide the IURTC, the faster, cheaper, and better job we will be able to do.
Sometimes faculty members find it hard to carve out time to write a good invention disclosure. Technology managers are happy to come to you in your lab or office to help complete a disclosure. Often, graduate students or post docs who have been working on the technology can provide much of the information needed for a good disclosure.

**Note:** Filing a disclosure will not prevent you from publishing your invention. The IURTC respects the need of faculty to publish and present their research findings, and we will work with you to protect your invention without interfering with your academic activities.

Naturally, the sooner you contact the IURTC or submit an invention disclosure, the better chance IURTC will have to protect your invention. Once you publish your invention or present it publicly (that is, outside of the IU community), we have lost the opportunity to obtain patents in foreign countries. This can hamper our ability to commercialize the invention if a large portion of the invention’s market is foreign.

In the U.S., we have one year from a publication or presentation date to file a patent application. Watch out for journals that publish online before they publish in print, or abstracts that publish before the meeting!

To preserve maximum patent rights, the IURTC can file a provisional patent application (described in more detail below). A good provisional patent application can take a month to file, but in an emergency, can be filed within one day. (Faculty members have called as they were travelling to conferences and then e-mailed their presentations for a quick provisional filing. This is not ideal, but we can do it.) When you submit an invention disclosure, be sure to tell us if there are any past or upcoming publications or presentations so we can be sure to file an application timely.

Copyrights, by their nature, are unaffected by publication or presentation.

**Q:** Who is an inventor?

**A:** Inventorship (for patents) and authorship (for copyrights) is defined by U.S. law, and they do not follow accepted academic standards for who might be an author on a paper or a principal investigator on a grant. To be an inventor, you must be the one to conceive of the invention; that is, to envision step-by-step how the invention might work. Carrying out someone else's instructions, even if your efforts prove the invention works, does not qualify you as an inventor. Providing knowledge that is in the public domain—no matter how obscure and no matter how helpful to the inventor—does not qualify you as an inventor.

An author is the person who comes up with the creative expression of an idea, not the idea itself. If you instruct someone to write a computer program to carry out a specific function, the programmer is an author, and you may or may not be, depending upon the detail of the instruction you gave to the programmer.

Inventorship and authorship can be tricky to determine. The IURTC has a patent attorney on staff who can help.
Q: What if there is more than one inventor?

A: In today's collaborative research environment, it is common for there to be multiple inventors. Sometimes the inventors may come from different institutions. If this is the case, let us know, and the IURTC will reach out to the other institution to form a partnership for protecting and licensing the co-owned invention. Typically, we outline the partnership in an agreement called an "Inter-institutional Agreement," and we rely on your opinion to determine how any costs and any revenue are shared between the institutions.

4) Assessment

Assessment is the period in which you and your technology manager:

- Review the invention disclosure;
- Conduct patent searches (if applicable); and
- Analyze the market and competitive technologies to determine the invention's commercialization potential.

After this initial assessment, which usually takes a month, the technology manager will present your invention at a meeting of all the IURTC technology managers, our patent attorney, head of start-up support, and investment fund managers, and representatives from various schools at IU.

This evaluation process will guide our strategy on whether to focus on licensing to an existing company or creating a new business start-up. Sometimes we will not be able to move forward with the invention, typically because we would be unable to obtain intellectual property protection or because we need to wait until you have more data available to support the invention.

For those inventions that advance to the protection step, our goal is to have a firm plan for proceeding with an invention or ceasing work on it nine months after we start intellectual property protection. http://innovate.indiana.edu/iurtc/process/tech-comm/evaluation.shtml

5) Protection

Protection is the process in which securing an invention is pursued. Patent protection, a common legal protection method, begins with the filing of a patent application with the U.S. Patent and Trademark Office and, when appropriate, foreign patent offices. Once a patent application has been filed, it typically will require several years and tens of thousands of dollars to obtain issued U.S. and foreign patents. Other protection methods include copyright, trademark, trade secrets, and contractual use restrictions (e.g., for databases and materials). http://innovate.indiana.edu/iurtc/process/tech-comm/legal-protection.shtml

Common Protection Questions

Q: Do I need a patent?
A: The IURTC protects the majority of IU’s intellectual property through patents, but sometimes a patent is not the best form of protection. We may not be able to get a patent (for example, if you published the invention years ago) or a patent may be of little commercial use (for example, if someone can practice your patent in secret and we’d never know). In these cases we will have to figure out if there is some other form of intellectual property we can rely on.

Certain aspects of software can be patented, but the useful lifespan of software can be so short that the software is obsolete before a patent issues.

Biological research materials can be patented, but a patent is often counterproductive. IU can control the distribution and sale of tangible materials like antibodies, cell lines, and animal models through contracts and without patents. This saves on the cost of filing patent applications (for most materials, the cost of a patent would rapidly exceed their income potential) and allows us to continue receiving licensing revenue long after a patent would have expired. The Zucker Diabetic Rat is IU’s most famous example of a biological research material protected contractually and not through a patent.

Q: How do I get a copyright?

A: Good news—copyright exists the moment the work is created. The IURTC will often register copyrights with the Library of Congress before licensing them, but registration is most useful for a company intent on suing infringers and is not necessary in the early stages of commercialization. If you like, you can put a copyright notice on your works: © 20**, the Trustees of Indiana University. This is not necessary, but because many people do not understand about automatic copyright protection, it serves to put them on notice.

Q: What is a derivative work?

A: A “derivative work” is part of copyright law, and its name describes it well: it is derived from an existing copyrighted work. Generally, only the owner of the original copyright has the right to create a derivative work. If your work incorporates material from other sources, the IURTC will need to work with you to identify whether your work is really a derivative work and how that might impact commercialization.

Q: Is my laboratory notebook important?

A: Recent changes in U.S. patent law have shifted the importance of laboratory notebooks from being useful for determining when an invention was made to determining who made it. Lab notebooks can be critical for resolving inventorship disputes (who thought of the idea versus who carried out the work) and whether someone else came up with the same invention or learned of it from you. It is important to note who thought of what and when (“I came up with this idea and told x to test it in an experiment,” or “I had this idea, and I discussed it with y at a conference. Y suggested modifying it to . . .”).

A poor lab notebook will not prevent the IURTC from commercializing your invention, but a good one can help support your rights as an inventor.
Q: How much of my time will the patent attorney need?

A: The IURTC does its best to minimize the amount of paperwork you will need to complete, but we will be asking for signatures—often notarized—throughout the patenting process. Since patenting can take years, please keep us informed on any changes of address, phone numbers, and so on. The patent attorney will need you to read the draft application before it is submitted; naturally, the more comments you can provide, the stronger the application will be. Your help is most needed in responding to rejections from the patent office, as you are in the best position to understand the invention, you are familiar with the scientific literature, and you can best shoot holes in the patent office’s arguments. These periods come in spurts: After the initial filing, we may not hear from the patent office for years, and then there will be a flurry of activity.

Q: Why would I need a trademark?

A: The IURTC does not generally work with trademarks. Trademarks indicate the source of goods, and they are only protectable if they are used commercially. Thus, it is usually the company licensee that creates and owns trademarks. One exception is if your discovery, for example, a mouse strain, has been "named" while at IU and that name conveys value to the end users.

Sometimes researchers at IU seek trademarks to protect the academic integrity of named programs they have developed, in order to prevent others from offering programs or services under the same name. IU’s trademarks are managed by the Office of Licensing and Trademarks in Bloomington, and the IURTC would be happy to introduce you to the OLT.

Q: What would prevent me from obtaining a patent?

A: The most common reasons are the following:

You publish or present your technology before the IURTC files a patent application. Note that in the U.S., we can still apply for a patent if we file a patent application within one year after your publication, but foreign patents do not have this one year grace period.

Someone else publishes or files a patent application on the same invention before the IURTC does. (With the new patent laws in the U.S., there is a small likelihood that we would still be able to apply for a U.S. patent, so be sure to talk with us if this scenario happens.)

You are commercially using or selling the technology before the IURTC files a patent application. This tends not to be a problem for academic inventors, as research testing of the invention does not count.

The patent office examiner finds a previously-published description of the invention in another patent or publication. This can be frustrating for faculty inventors, as the patent office does not follow the same standards as a scientific journal would. A twist on this: The patent office examiner combines two or more publications that, if combined, describe your invention. These publications are called "prior art," and the IURTC’s patent attorney can provide you with a more detailed explanation.
The earlier you contact the IURTC about your invention and the more you keep us informed on your plans to publish or present information on your technology, the more likely we will be able to avoid these issues.

Q: How long does my patent last?

A: Twenty years from the filing of the PCT (international) patent application or the U.S. national stage application (whichever is earlier). Often, the life of a patent is extended due to delays at the U.S. patent office or, for medical patents, delays at the FDA. Once the patent expires, the IURTC can no longer collect licensing payments.

Because patents expire after 20 years, it is critical for the IURTC to look for commercialization partners as early in the patenting process as we can. It can be difficult to license technologies that have a long development lead time (especially medical technologies) when a significant portion of the patent life has passed.

Additional Key Patenting Information

When the IURTC begins the patenting process, it typically files a provisional patent application. Provisional applications are scaled-down versions of full patent applications that are shorter and less expensive to draft and file (a few thousand dollars per application). Once a provisional patent application is filed, you can publish information about your invention, discuss it with others (including companies), present it at conferences, and so on, with no threat of loss of patent rights. Two cautions:

- The description of the invention in the provisional application must be enabled; that is, the application must describe the invention in enough detail so someone with your ability and knowledge (someone “skilled in the art,” typically another researcher in your field) can understand the invention and follow the description step-by-step to carry out the invention. Sometimes the IURTC needs to file multiple provisional patent applications on your invention as you continue to improve it and refine it, so be sure to keep us informed of such improvements.
- A provisional patent application lasts for one year. Once it expires it is gone forever. If the IURTC’s commercialization efforts look like they will be successful, we will convert the provisional patent application to a regular patent application. If not, we will typically let the provisional expire. If you have not published or otherwise publicly presented the invention, we may be able to re-file on the invention immediately or in the future. If you have published less than a year ago, we may be able to re-file and protect U.S. (but not foreign) patent rights. If you published greater than a year ago or if someone else has published in the meantime, we could lose patent rights. These are difficult decisions from both commercialization and legal perspectives, so be sure to keep your technology manager up-to-date on your publications and presentations as well as those of others in the field.

Like the provisional patent application, the PCT (international) patent application is a placeholder that lasts for a year and a half. It is a fully-written application and can cost over $10,000
to draft and file. Its benefit is that it buys the IURTC and any company partner time to determine in which countries we should file regular patent applications. The decision comes down to market and money; that is, weighing the size of the commercial market for the invention versus the cost of filing a patent in that country. (If the market is primarily in the U.S., this stage is skipped and we would file a regular U.S. application off of the provisional patent application.)

Like the provisional patent application, once the PCT patent application expires, it is gone forever. Unlike the provisional, we do not have the option of re-filing it, as PCT patent applications are published approximately six months after they are filed. Thus the PCT application must be converted to a national stage application or the invention is lost.

Once a full application is written for the PCT patent application, it is inexpensive to file a *U.S. national stage (regular) application*. It will be a number of years before the U.S. Patent and Trademark Office picks up the application for examination, and no fees will be due during that time. Patent examination, once it begins, can take two to three years. Be prepared for the patent office to reject your patent application; the IURTC’s patent attorney can explain the examination process to you and the number of options we have for getting a patent to issue. The cost of getting a patent to issue varies depending on how strong the patent office rejections are, but another $10,000 to $20,000 is a good estimate.

Once the patent issues, there are periodic, modest payments required to keep it alive.

Each country requires its own patent, and obtaining worldwide patent protection is time-consuming and expensive. Filing the initial application in major markets such as Japan and Europe (EPO—individual patents in the European countries are granted after the EPO patent application is granted) can cost tens of thousands of dollars. Many foreign applications require the payment of annual maintenance fees, and a large foreign patent portfolio can eventually cost hundreds of thousands to over a million dollars.

Because of these expenses, the IURTC does not file *foreign national stage applications* unless a company licensee is paying for the patenting expenses. The IURTC often races against time to find a commercial partner before the PCT patent application expires. During that time, start-up companies must be focused on raising money.

Foreign patent prosecution is conducted by patent attorneys in their home country, coordinated by the IURTC’s U.S. patent attorney.

6) Marketing:

The IURTC staff identifies candidate companies that have the expertise, resources, and business networks to bring your technology to market. This may involve partnering with an existing company or forming a start-up. Your active involvement can dramatically shorten this process and support its success. Sometimes faculty members are interested in starting a company to commercialize their technologies. In this case, the IURTC skips the marketing step and proceeds to the next step. (For more information on start-up companies, see Chapter 3.)
More than 70 percent of company licensees are identified by the faculty inventor. Because you work and conduct research in the field of your invention, you likely already know many of the existing companies in the space. Do you have former graduate students or post-docs who have gone on to corporate careers? Often, company representatives will approach you at conferences after hearing your presentation or will call you after reading your paper.

Whether you or the IURTC identifies a potential company, the IURTC will work to get you and a company scientist talking as soon as possible. Inventions need an internal champion to sell them to management, and you are the best person to convince your company counterpart about the value of your invention. [http://innovate.indiana.edu/iurtc/process/tech-comm/marketing.shtml](http://innovate.indiana.edu/iurtc/process/tech-comm/marketing.shtml)

**Confidentiality**

During the marketing process, the IURTC may enter into confidentiality agreements (CDA)—also known as non-disclosure agreements (NDA)—with companies interested in evaluating your technology. A CDA will outline who has information, who will be receiving the information, and what the receiving person or company can do with the information. Typically, it is the IURTC providing information for a company to evaluate in order for the company to decide whether it would like to take a license to the technology. Sometimes, information is exchanged between the IURTC and the company to facilitate a dialog between you and company researchers that may lead to a license agreement or collaborative research efforts.

Because most companies take their confidentiality responsibilities seriously, a company's willingness to sign a CDA indicates that it is seriously evaluating your technology. An added benefit of a CDA is that it allows information about your technology to be shared with an outside party without risking patent rights.

The IURTC can negotiate and sign CDAs if we have an invention disclosure on file. If there is not yet an invention (for example, you are talking with a company about collaborative research), the Office of Research Administration negotiates and signs the CDA. Please be aware that most Material Transfer Agreements contain confidentiality provisions. If you are requesting material from someone else (especially a company), you are likely restricted from using or publishing any confidential information provided to you along with the material.

**7) Licensing**

A license agreement is a contract between the IURTC and a company in which the rights to a technology are licensed, without relinquishing ownership, for financial and other benefits. A license agreement is used with both a new start-up business or with an established company. An option agreement is sometimes used to enable a third party to evaluate the technology for a limited time prior to making a decision about licensing.

Because the IURTC is committed to the university's goal of providing the benefits of IU research to the public, our license agreements contain provisions that require the company to diligently develop a product. On the financial side, we typically receive an initial licensing fee (the amount varies depending upon the stage of the technology’s development and whether the company is a start-up or a well-established company), payments as the company achieves certain
development milestones, and royalty payments when the company starts selling products. The company will also reimburse the IURTC for the costs of obtaining patents. A recent study of licenses at U.S. universities demonstrated that only 1 percent of all licenses yield over $1 million. However, the rewards of an invention reaching the market are often more significant than the financial considerations alone.

Licenses typically last for the length of the patent. Copyrights, which can last over 100 years, can be licensed for longer periods of time.

The IURTC is careful to make sure that you, IU, and collaborators at other non-profit institutions can continue to use the invention for research and educational purposes despite a license agreement. Be sure to let us know if IU is currently using the invention commercially (for example, as a diagnostic for IU Health patients or as a software tool to manage student scheduling), as we may need to modify our license agreement to allow this commercial activity to continue. http://innovate.indiana.edu/iurtc/process/tech-comm/licensing.shtml

**Note:** An invention can be licensed to multiple licensees, either non-exclusively to several companies or exclusively to several companies, each for a unique field-of-use (application) or geography.

8) **Commercialization**

The licensee continues the advancement of the technology and makes other business investments to develop the product or service. This step may entail:

- Further development;
- Regulatory approvals;
- Sales and marketing support; and
- Training.

If the licensee is a start-up, the faculty inventor can be involved in commercialization. The start-up will not be successful without your involvement. If the licensee is an established company, there is nothing in the IURTC license that would require you to help the company. Sometimes the company will develop the technology completely on its own and simply provide the IURTC with any reports required by the license agreement. Sometimes the company needs the inventor’s help to commercialize the technology. In this case, the company will sponsor research in the inventor’s lab or will engage the inventor as an independent consultant. http://innovate.indiana.edu/iurtc/process/tech-comm/index.shtml

**Note:** A consulting agreement is not an IU contract; rather it is a contract between the faculty member as an individual and the company. IU does not review or provide advice on consulting agreements, and we recommend that you hire a personal attorney to review any agreement before you sign it. Consulting agreements must not:

- Grant the company any intellectual property that is owned by IU under the IU Intellectual Property Policy;
- Interfere with your employment obligations to IU; and
- Create a situation where you can mistakenly incorporate company confidential information in your IU research.

9) Revenue

Revenues received by the IURTC from licenses are distributed according to the IU Intellectual Property Policy to fund additional research and education and to encourage further participation in the tech transfer process.

<table>
<thead>
<tr>
<th>Inventor(s)</th>
<th>Inventor(s) labs</th>
<th>Campus</th>
<th>University/IURTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>35%</td>
<td>15%</td>
<td>15%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Please note that the IURTC cannot distribute revenue to inventors unless we have appropriate tax forms completed (typically, IRS form 1099) and we know where to find you. Because most licensing revenue comes in years after a license is signed, be sure to keep us informed as to your current contact information.

https://www.indiana.edu/~vpfaa/academicguide/index.php/Policy_I-1

Frequently Asked Revenue Questions

Q: What happens to the campus share?

A: Each campus decides how to use its share. Typically, half the revenue goes to the inventor's school and half to the inventor's department.

Q: How do multiple inventors share revenue?

A: The default is an equal share to each inventor. If all the inventors agree to a different distribution, they may complete and sign a revenue sharing agreement (found on the IURTC website). If the inventors are from different labs and different campuses, each lab and campus gets a share in proportion to that received by its inventor.

Q: What happens if there are several patents or a copyright and derivative works in one license agreement?

A: Under complex license agreements, especially those with start-ups, revenue distribution can get complicated. The IURTC's Revenue Distribution Guidelines address the most common examples, and your technology manager can explain how the guidelines apply in your specific case.

Q: Does the IURTC distribute equity?

A: No. The IURTC holds any equity it receives under a license agreement. When the IURTC receives a cash payment for the equity (typically when the company is purchased by another), the IURTC distributes the cash.
Chapter 3 – Considerations for a Start-Up Company

A start-up is a new business entity formed to commercialize one or more related inventions. Forming a start-up company is an alternative to licensing the technology to an established business. A few key factors when considering a start-up company are:

- Development risk (often companies in established industries are unwilling to take the risk);
- Development costs versus investment return (can the investors obtain their needed rates of return);
- Potential for multiple products or services from the same technology (few companies survive on one product alone);
- Sufficiently large competitive advantage and target market; and
- Potential revenues sufficient to sustain and grow a company.

The IURTC can help evaluate these and other factors.

Establishing the Start-Up

The choice to establish a new company can be made by the faculty member, by the IURTC, or by both working together. Each of these three options entails a different process:

- If you have extensive entrepreneurial experience, or if you have found a partner who does, you may decide to start a company to commercialize your technology. In this case, all the responsibilities of forming and running the company fall to you and your partner. The IURTC would negotiate a license with your company as it would with any start-up company, but it would have no direct involvement in the company. Any equity that the IURTC might have in the company would be small and would be part of the license agreement (for example, in lieu of an initial licensing fee).
- The IURTC, through its Innovate Indiana Fund (described in more detail below), may recognize the great potential that your technology has as the foundation of a start-up company. In this case the Fund would form a company, invest cash to run the company, and recruit management for the company. As with any start-up, your role as the developer of the technology is critical for the success of the company, most likely as a consultant on the scientific aspects of your technology.
- The IURTC’s spINup program was created to foster start-up companies when the technology is at too early a stage of development to attract outside investments and entrepreneurial leadership. In this program, the IURTC and the faculty member partner to create a start-up. The IURTC focuses on company formation, running the company during its initial stages, and recruiting entrepreneurs to step in once the technology is ready. The faculty member focuses on obtaining funding (often through the SBIR or STTR grant programs) to further develop the technology.

While your initial interactions with the IURTC are through its Office of Technology Commercialization, the office that protects your technology through patents or copyrights and
that provides your company with a license to the technology, there are two other departments within the IURTC that help support IU start-ups:

- The Innovate Indiana Fund (IIF) is a $10 million fund that invests in companies originating from IU. Its seed-stage investments help companies that are in the process of product definition, validation and development, customer acquisition, market analysis, and building out a management team. An investment from the IIF enables a start-up to reach well-defined development milestones that should position the company to obtain further institutional funding. Although just-formed start-up companies may not be ready for an immediate investment from IIF, the Fund’s manager has a wealth of experience in the steps needed for a company to raise capital and an early discussion with the Fund can help set a new start-up on a productive path towards funding.

- The IURTC’s management of IU’s technology parks includes the management of two technology incubators, the Indiana University Innovation Centers in Bloomington and Indianapolis. The Innovation Centers provide wet lab, dry lab, and office space along with shared conference rooms and laboratory support equipment conveniently located on the campuses in Bloomington and IUPUI.

Your technology manager can connect you with the IIF and technology parks.

**Potential Conflicts**

Two types of conflicts might result from your involvement with a start-up company.

*Conflicts of interest* are concerned with scientific integrity. In other words, does your involvement with a start-up company create a situation in which someone might call into question the results of research you conduct at IU. Conflicts of interest are not inherently bad, but they should be reduced or managed if they cannot be eliminated. Typically, a conflict of interest first arises if your start-up company contracts research to be conducted at IU. IU has conflict of interest committees that make recommendations on conflict management plans, and IURTC can put you in contact with the appropriate committee.

*Conflicts of commitment* are concerned with your employment and fiscal obligations to IU. Unlike conflicts of interest, which can be managed, conflicts of commitment must be avoided. Many permissible ways exist, however, to achieve the same results without triggering a conflict of commitment. For example:

- You cannot work for your company while on IU time. Most faculty use available consulting time to work on company matters. Staff can take part in a leave of absence policy that allows them to work for IU-based start-ups.
- You cannot use IU resources to work on company projects. Any company research being conducted in IU laboratories should be done through a sponsored research agreement or a contract that allows the company access to specialized equipment.
Chapter 4 - Summary

The purpose of this document is to help faculty inventors partner effectively with the Indiana University Research and Technology Corporation (IURTC) to advance scientific discoveries from the lab to the market and, ultimately, into products for consumers and treatments for patients.

Partnering with the IURTC to protect, license, and commercialize discoveries and inventions is a practical decision. Traditional funding opportunities for academic research have become increasingly competitive. Therefore, it is critical that IU faculty broaden their vision of research funding sources. While faculty will remain focused on obtaining research funding from federal sources (NIH, DOD, NSF, and so on), it is unlikely that federal support for basic research will remain consistent. Investigators must search for new sources of funding.

Much of the work being conducted by IU faculty has translational potential, and steps should be taken to protect this intellectual property for commercialization opportunities. This document and the IURTC staff are here to help you understand the commercial or research potential of your discoveries, and how you can most effectively deliver those discoveries to those who will put them to use. Ideally, research commercialized through the IURTC should serve as a continued source of capital generation for the ongoing intellectual endeavors of the faculty, department, and University.

Your lab may already be on the way to making a discovery or development that qualifies as a novel invention with commercial or research potential. The IURTC can help you understand which discoveries can be patented, licensed, and ultimately serve to generate funding for you, your lab, and the University. Once you’ve disclosed your research to IURTC, its technical, legal, licensing, and business development specialists—with continued input from you based on your own interests and availability—will bear the burden and cost of ensuring that the technology reaches the market in a timely and productive fashion.

Operated out of the IU Emerging Technologies Center in downtown Indianapolis, the sole purpose of the IURTC and its staff is to facilitate the process of tech transfer and subsequent commercialization for IU research scientists. Please visit the IURTC website (http://innovate.indiana.edu/iurtc/) for additional information, or call (317) 278-1901 to speak with a commercialization manager when you’d like to discuss your questions, ideas, inventions, or strategies.
REFERENCES

CONFLICT OF INTEREST
For more information about University conflict of interest disclosure and review procedures, or to find and submit forms, please visit: http://www.iub.edu/~ora/COI/coi_home.html

CULTURE OF INNOVATION
For more information about the culture of innovation at IU or using your research to become a faculty inventor, please visit: http://innovate.indiana.edu/iurtc/faculty/index.shtml

INDIANA UNIVERSITY EMERGING TECHNOLOGY CENTER
For more information about the IUETC, the services it provides to tenant companies, and how to go about applying for tenancy, please visit: http://www.iuetc.org/update/etc_home_low.html

INDIANA UNIVERSITY RESEARCH AND TECHNOLOGY CORPORATION (IURTC)
For more information about IURTC, its services, or forming a partnership to advance the commercialization of your research, please visit: http://innovate.indiana.edu/iurtc/about/contact/index.shtml

IURTC – COMMERCIALIZATION
For more information about commercializing your technology, please visit: http://innovate.indiana.edu/iurtc/process/tech-comm/index.shtml

IURTC – EVALUATION DISCLOSURE
For more information about the evaluation of your invention disclosure, please visit: http://innovate.indiana.edu/iurtc/process/tech-comm/evaluation.shtml

IURTC – INVENTION DISCLOSURE
For more information about disclosing your invention, please visit: http://innovate.indiana.edu/iurtc/process/tech-comm/disclosure.shtml

IURTC – LICENSING
For more information about resources and strategies for licensing technology to interested companies, please visit: http://innovate.indiana.edu/iurtc/process/tech-comm/licensing.shtml

IURTC – MARKETING
For more information about utilizing resources to market your technology to potential licensees, please visit: http://innovate.indiana.edu/iurtc/process/tech-comm/marketing.shtml

INDIANA UNIVERSITY RESEARCH AND TECHNOLOGY CORPORATION – RESEARCH DISCLOSURE
For more information about the research or pre-disclosure phase of technology transfer, please visit: http://innovate.indiana.edu/iurtc/process/tech-comm/disclosure.shtml

IURTC – PROTECTION
For more information about pursuing patents or other forms of legal protection for your technology, please visit: http://innovate.indiana.edu/iurtc/process/tech-comm/legal-protection.shtml
INDIANA UNIVERSITY INNOVATION CENTER
For more information about the IU Innovation Center, please visit:
http://innovate.indiana.edu/iurtc/about/real-estate.shtml

INNOVATE INDIANA FUND
For more information about the Innovate Indiana Fund, please visit:
http://innovate.indiana.edu/iurtc/about/innovate-fund.shtml

INTELLECTUAL PROPERTY
For more information about intellectual property, please visit the WIPO at:
http://www.wipo.int/about-ip/en/

TECHNOLOGY TRANSFER
For more information about the process of technology transfer, please visit:
http://innovate.indiana.edu/iurtc/process/tech-comm/index.shtml