



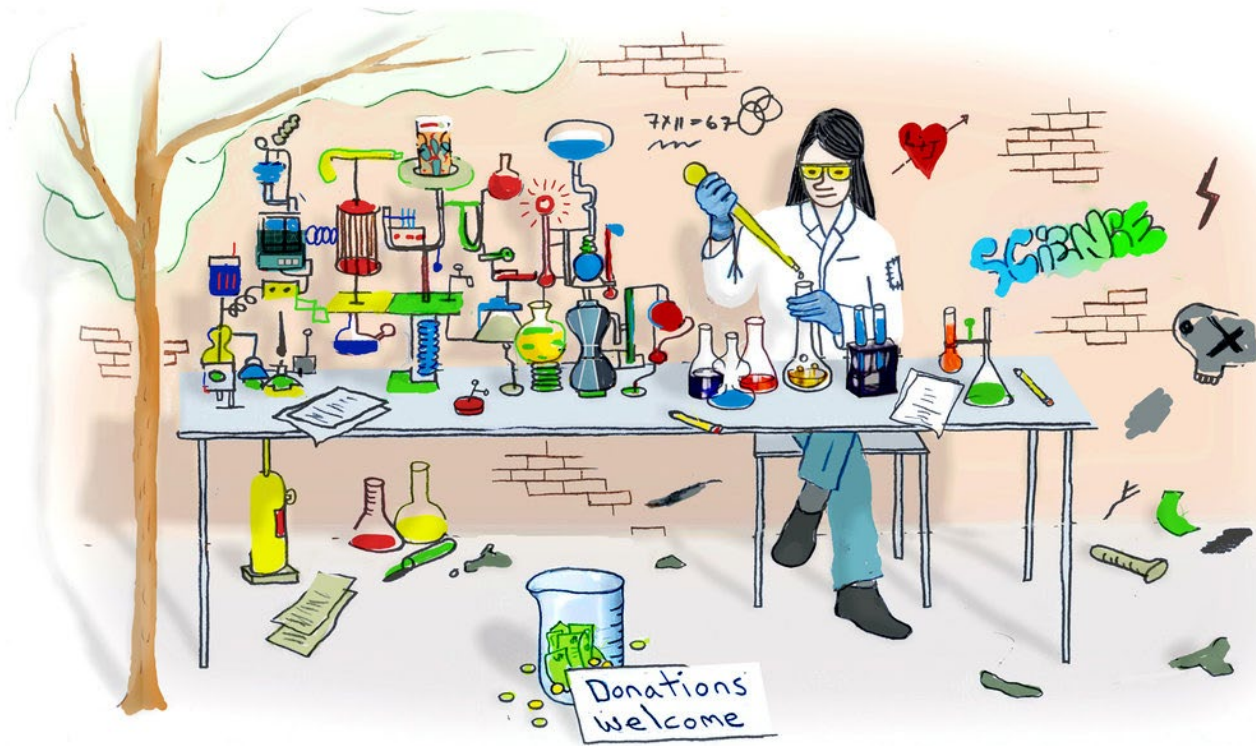
Life Sciences  
Medical Devices  
Biopharma  
Therapeutics      Materials  
                            Diagnostics  
Bioinformatics  
Nanotechnology  
Software  
Hardware      Robotics



# ideas

**Penn Faculty and Innovation Community**

# Protecting your discoveries



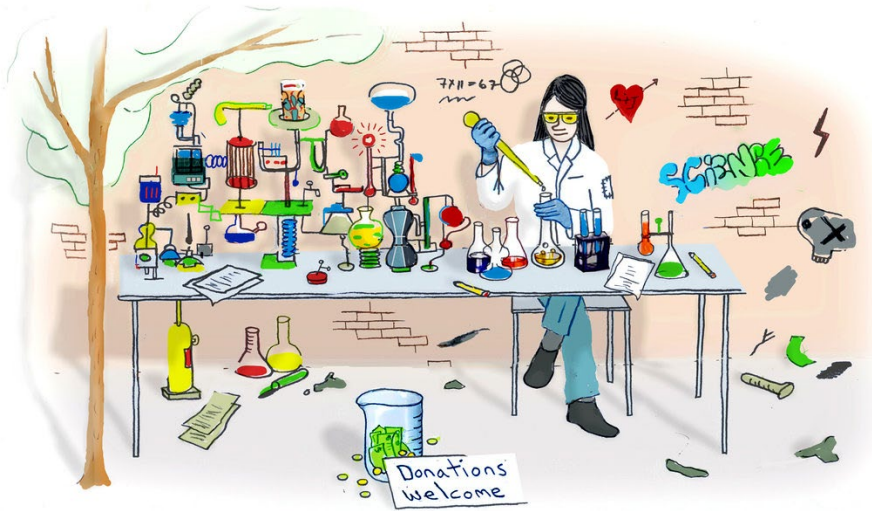
What is a discovery?

What type of discoveries?

Why protecting them?

How can we protect these discoveries?

# Protecting your discoveries



## Discoveries:

- mechanism of action
- function of a protein, RNAi, etc...
- small molecules, Ab, nucleotides, ...
- method of use
- process
- device
- ...

## Why protecting discoveries?

- to increase the potential impact one's discovery can have
- allow investments to further develop the technologies

To be patentable, an invention must be:

- **novel, non-obvious, useful,**
- **enabled, described, work of inventors,**
- **patentable subject matter, directed at statutory subject matter.**

1. **Novel**– Not known, published, used publicly, or offered for sale more than one year prior to the filing date.
2. **Non-Obvious** – Not obvious to “one of ordinary skill in the art”.
3. **Useful** – Has to have a specific and substantial utility
4. The following are patentable:
  1. Process
  2. Machine
  3. Article of manufacture
  4. Composition of matter
  5. Improvement of any of the above

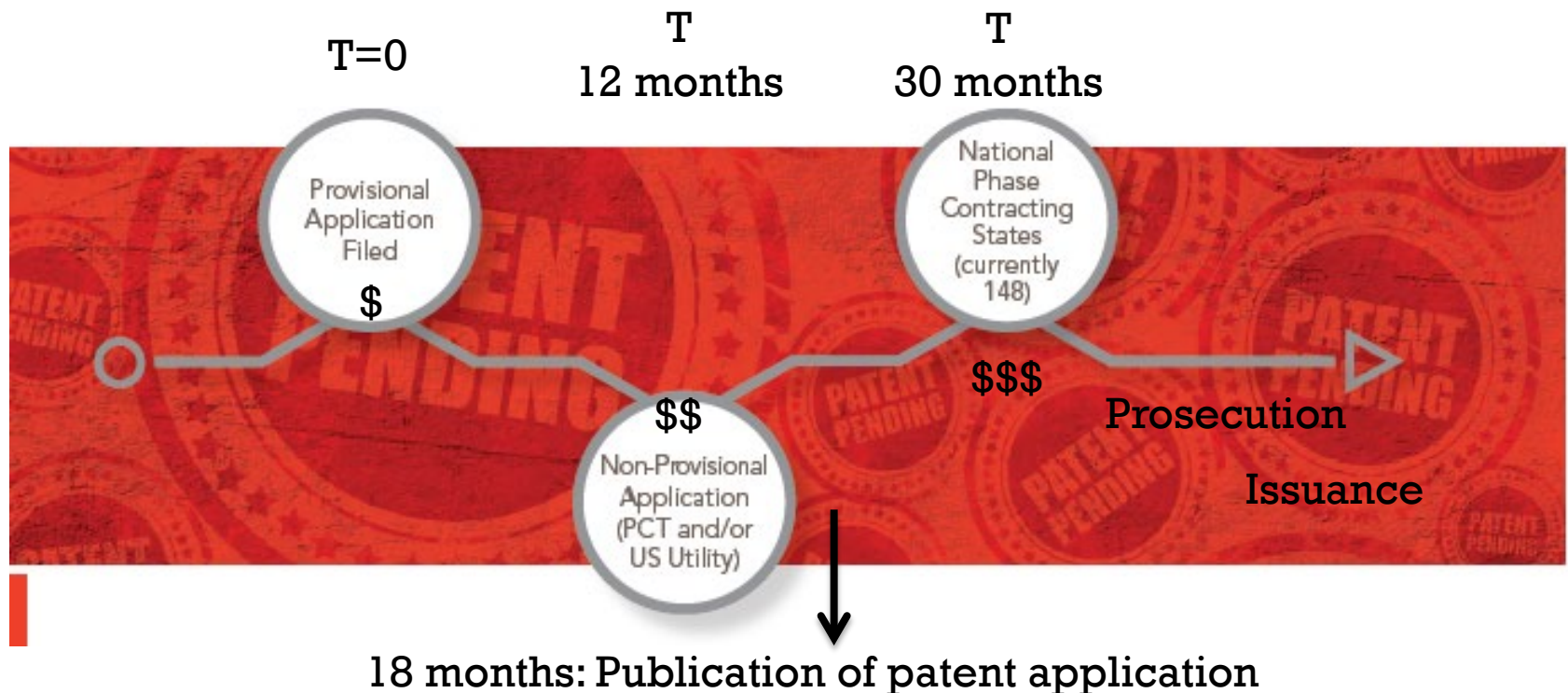
*Note: In addition to utility patents, encompassing one of the categories above, patent protection is available for (1) ornamental design of an article of manufacture or (2) asexually reproduced plant varieties by design and plant patents.*

# What is NOT Patentable?

- Laws of nature
- Physical phenomena
- Abstract ideas
- Inventions which are:
  - Not useful (such as perpetual motion machines);  
or
  - Offensive to public morality
- Literary, dramatic, musical, and artistic works (these can be Copyright protected).

# What does a patent do?

A patent allows the owner of the patent to exclude others from making, using, selling, importing products and methods covered by the claims for a period of **20 years** from the **filing date** of the first non-provisional patent.





Copyright is a form of protection provided by the laws of the United States (title 17, U. S. Code) to the authors of “original works of authorship,” including literary, dramatic, musical, artistic, and certain other intellectual works, (including software).

This protection is available to both published and unpublished works.

- Copyright protection subsists from the time the work is created in fixed form for the author’s life plus 70 years.
- The copyright in the work of authorship immediately becomes the property of the author who created the work.
- Only the author or those deriving their rights through the author can rightfully claim copyright.

# Discoveries – Which ones to pursue?

What is the problem addressed?

What would be the best path of protection:

- Patenting (is it patentable? enforceable?)
- Copyright
- Proprietorship
- Know-How
  
- Trade Secret?

Who are the customers (users)?

Commercialization:

- Do you need additional technologies
- Regulatory path
- Manufacturing
- Cost of the final product
- Reimbursement
- Competition – advantages



# Your innovation in action

## INVENTION



Research paths to an invention can be supported by Penn, government grants, and corporate partnerships

What is the product?  
What is the problem solved?

## DISCLOSURE



An inventor uses Inventor Portal to disclose, so PCI can protect the invention and create a plan for commercialization

Let's talk

## ASSESSMENT



An assigned Technology Licensing Officer assesses commercial value and begins marketing efforts to industry partners

Is there a there?

# Your innovation in action

## PROTECTION



Disclosures with commercial potential are protected through various channels (patents, copyright, trademarks, trade secrets, and/or know-how)

What is the best path forward

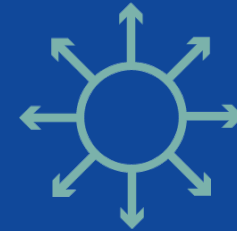
## COMMERCIALIZATION



PCI and the inventor determine the best strategy, which may include licensing to industry, starting a company, or pursuing a corporate partnership

Licensing  
Start up  
Further development

## MARKETING



PCI identifies potential clients and partners, creates marketing collateral, and lists the technology on our website. PCI may also market through programs and events, print and web media

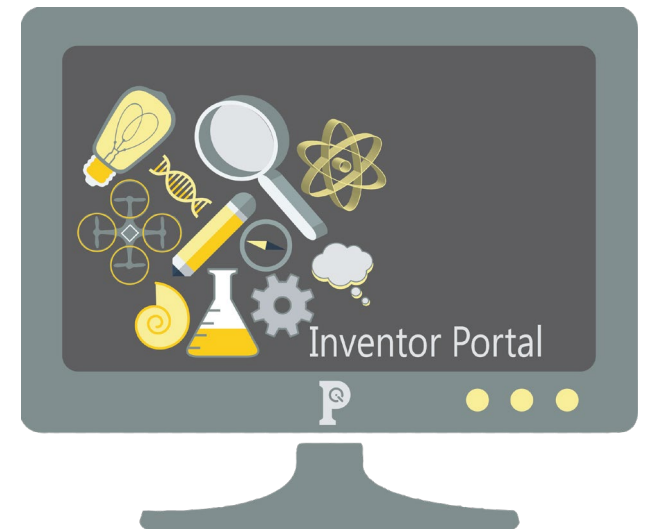
Summary

# What should be disclosed and when?

- **Required** for any potentially patentable invention or discovery according to the Penn Patent Policy.
- **Encouraged** for all other inventions and developments that you feel may solve a problem and/or have value
- Should occur well **before** publicly presenting the discovery through abstracts, poster sessions, conferences, publications, press releases, or other communications
- Disclose early and often!

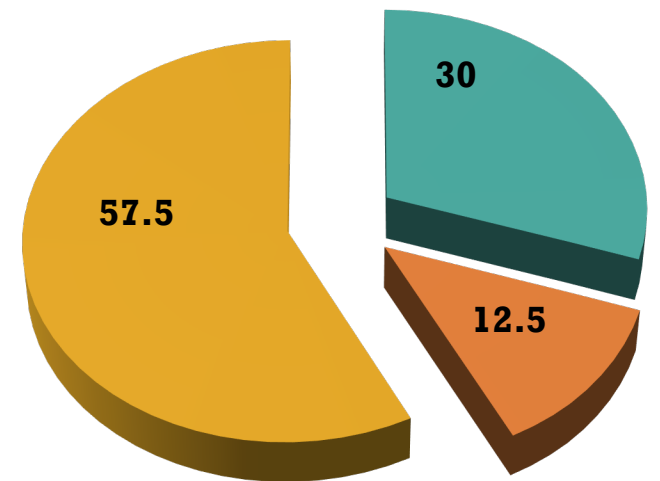
- **Disclosure: Inventor Portal**

- <http://bit.ly/inventorportal1>
- Faculty, staff, and students
- Create, edit, and submit invention disclosures online
- Check status of submitted invention disclosures
- Check status of patent applications



# Distributions Under Penn Patent Policy<sup>1</sup> (2.3)

- Distribution of Adjusted PCI Revenues
  - Gross PCI Revenues minus Initial Deduction<sup>2</sup>
- Inventor's Personal Share<sup>3</sup>
  - Quarterly to Inventors > \$ 5,000
- Inventor's Research Activity Share<sup>3</sup>
  - Quarterly to Inventor's Research Activity
- "Other"
  - Recovery of Annual PCI Operating Costs
  - Distribution to Department of Inventor's Share
  - Distribution to School of Inventor's Share
  - Distribution to University Research Share



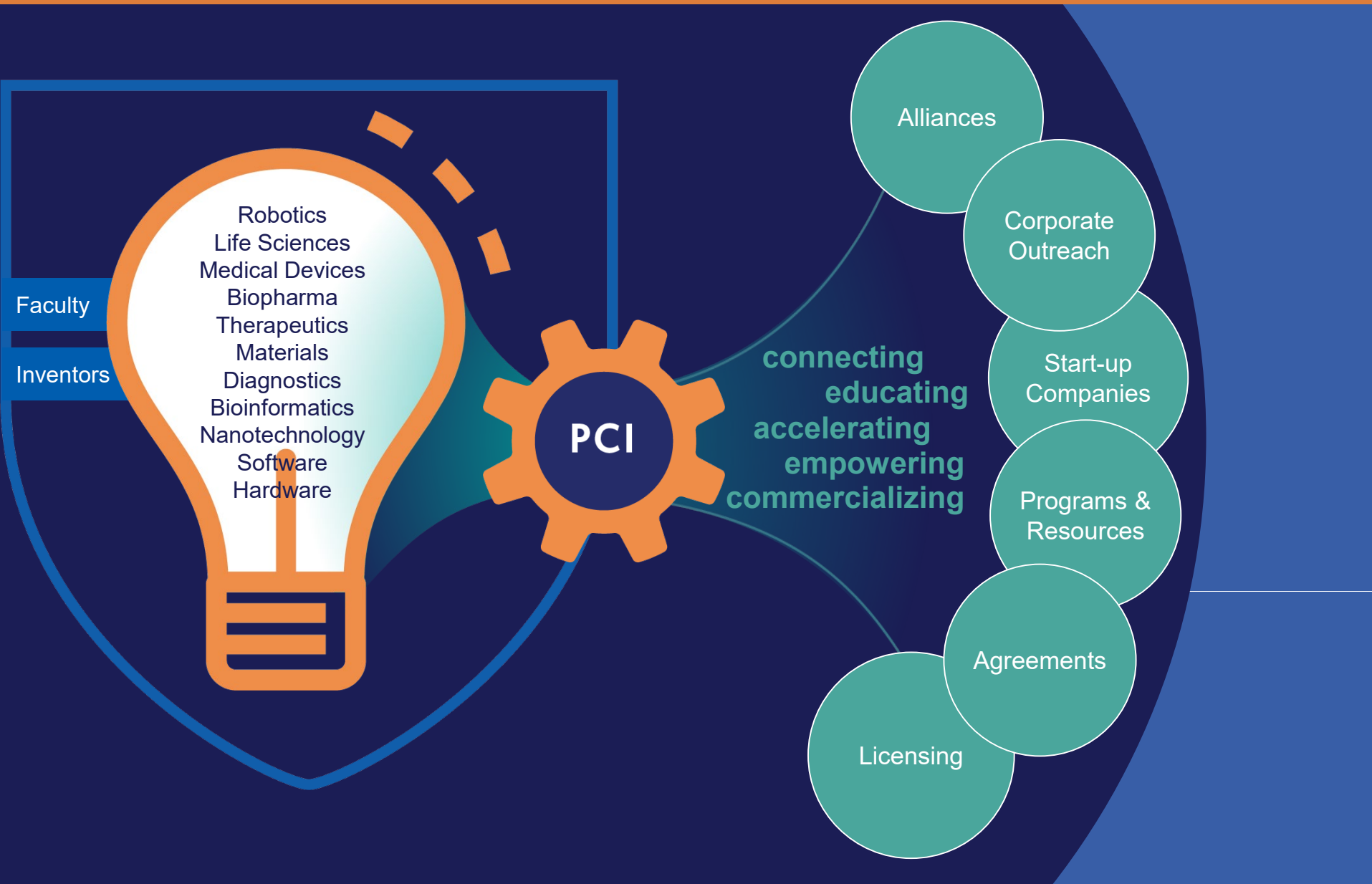
- **Inventor's Research Activity Share...**
- **Inventor's Personal Share 30%**
- **"Other" 57.50%**

<sup>1</sup> For a hypothetical illustration of the distributions set forth in Sections 2.3.1 and 2.3.2, see Appendix C of the [Penn Patent Policy](#).

<sup>2</sup> Penn authorized a reduction in the current Initial Deduction under the distribution formula of the [Penn Patent Policy](#) for the current rate of 14.5% to a new lower rate of 10%, effective as of July 1, 2017 for fiscal year 2018.

<sup>3</sup> Executed Participation Agreements and Income Allocation Agreements (and Direct Generation Cost Forms, if applicable) must be in place prior to the receipt of all distributions to inventors and inventors labs.

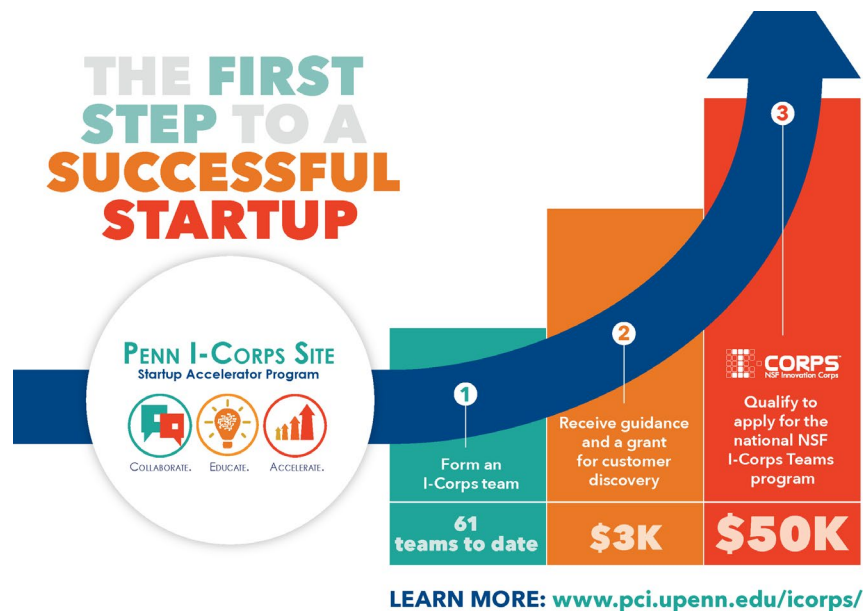
# Empowering ideas



# Resources



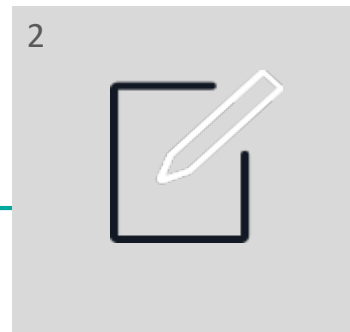
- NSF (National Science Foundation) program designed to facilitate commercialization of university research
- Short courses for faculty/student teams
- Focus on articulating solid business model for startup
- \$3k funding
- Qualifies for \$50k National NSF follow-on program
- Path to SBIR/STTR funding
- 32 companies created



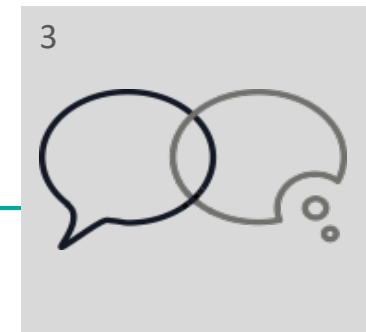
- **PCI Ventures** provides a suite of services and hands-on support to **promote entrepreneurship** and to **incubate** early-stage technology-based businesses as they make their way towards **commercial success**



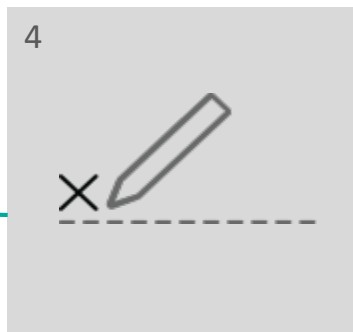
PENN INVENTION



COMPANY FORMATION



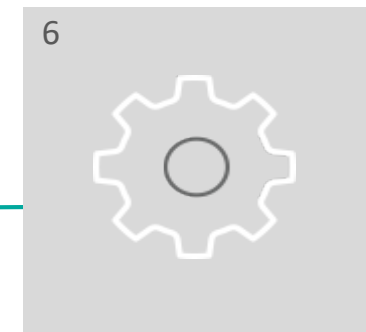
TEAM RECRUITMENT



BUSINESS DEVELOPMENT



CAPITAL ACQUISITION



BUSINESS OPERATIONS



# Penn Health-Tech

Center for Health, Devices and Technology

We unite Penn's interdisciplinary strengths in Medicine, Engineering, and beyond to create transformative technologies that address the world's pressing healthcare needs.



## Innovation

*Foster novel healthcare technology ideas based on science and technology developed at the University of Pennsylvania*



## Translation

*Empower Penn innovators to develop transformative medical devices and health technology*



## Connection

*Serving as the hub for health technology innovators at Penn to connect with the Philadelphia community.*



## Education

*Provide process and infrastructure to help develop and educate the next generation of med tech innovators*

# PILOT AWARD PROGRAM

## Program Overview

### Scope

- ▶ Novel medical device and healthcare technology ideas based on applied science and technology developed at Penn and CHOP

### Healthcare Needs

- ▶ Drug and gene therapy delivery, neuro monitoring and therapeutics, connected health, or general

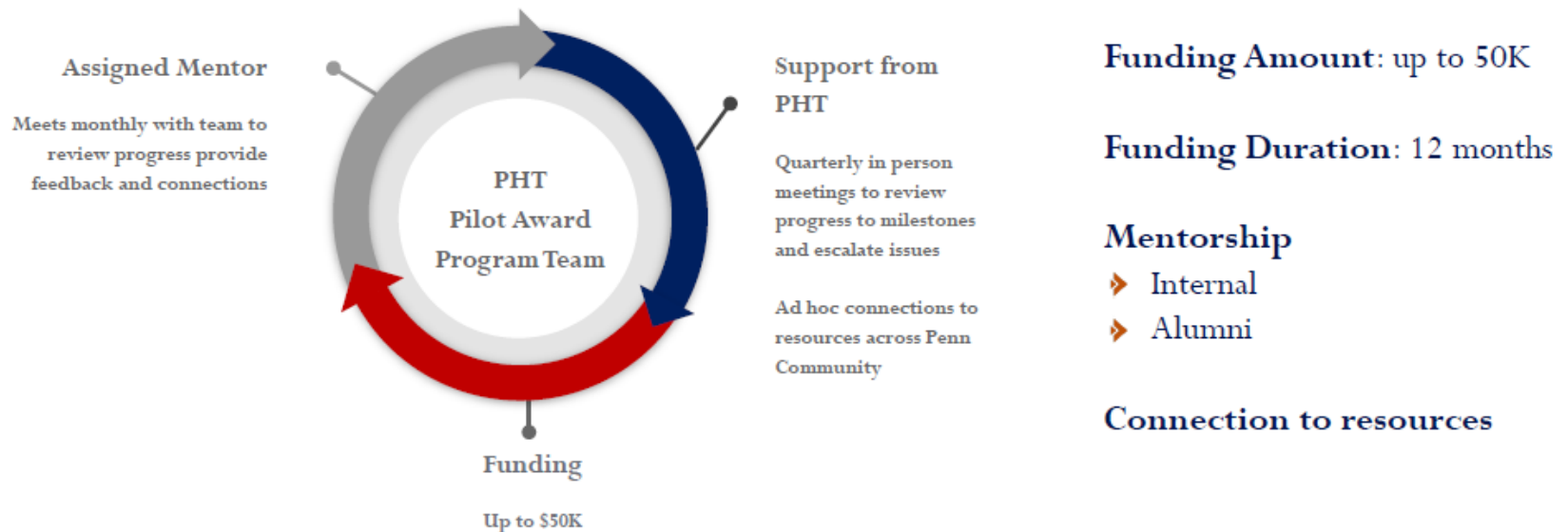
**Funding Amount:** up to 50K

**Funding Duration:** 12 months

### Mentorship

- ▶ Internal
- ▶ Alumni

**Connection to resources**



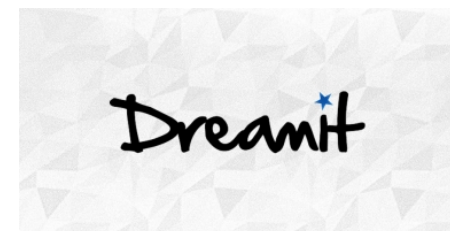
# Center for Health Care Innovation

<https://healthcareinnovation.upenn.edu/>

**Ongoing training  
and mentorship**

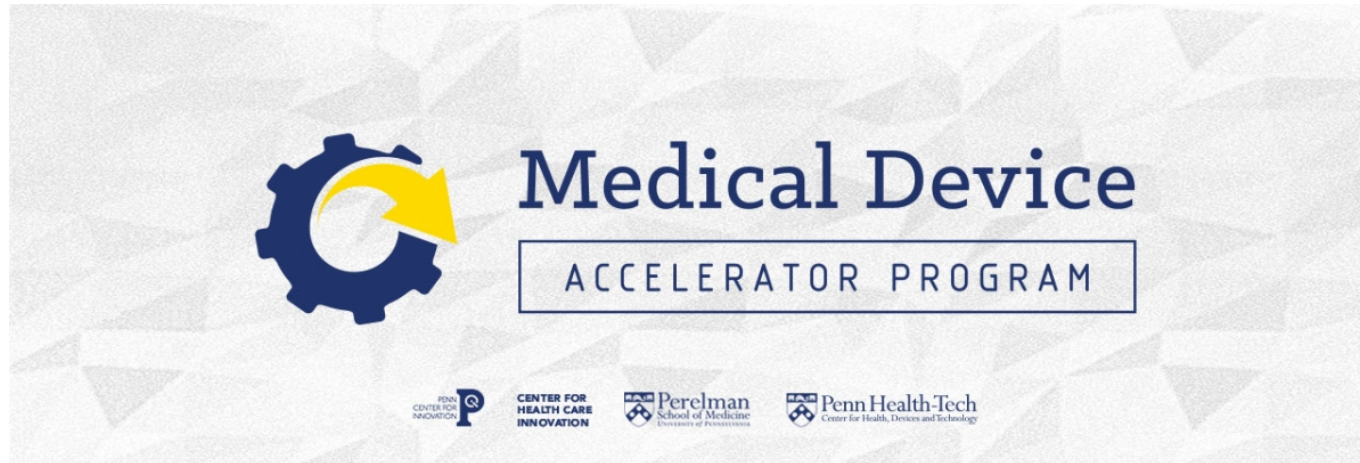


**Programs tailored  
for faculty and staff**

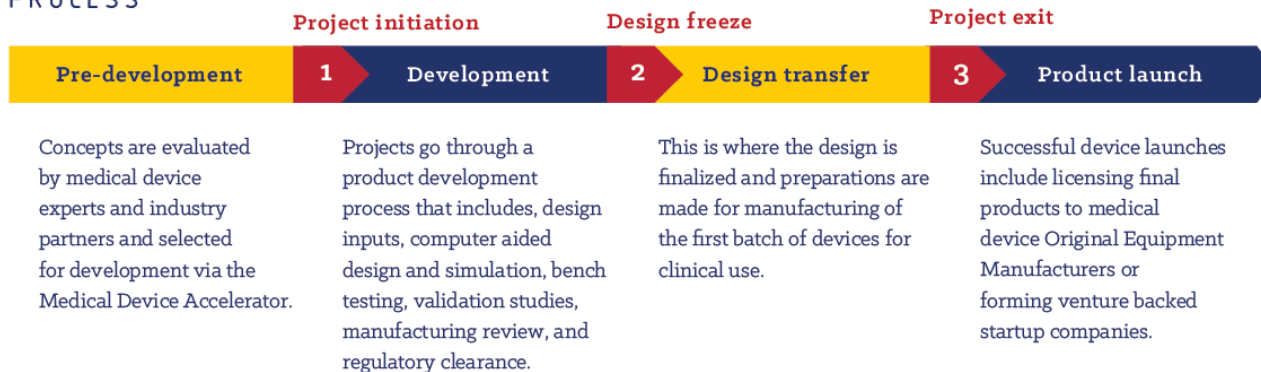


# Center for Health Care Innovation

<https://healthcareinnovation.upenn.edu/>



## PROCESS





Viviane Martin

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215-746-4275

<https://www.pci.upenn.edu/>



- Ben Franklin Technology Partners
- IP Group
- Life Sciences Pennsylvania
- Osage University Partners
- PACT
- Philly Startup Leaders/Amplify Philly (SXSW)
- Technically Philly (Philly Tech Week)
- University City Science Center

- License Agreement (TRM, Patents, Copyrights)
- Option Agreement
- Research Agreement (Sponsored, Collaborative)
- MTA – Material Transfer Agreement
- Data Use Agreement
- Confidential Disclosure Agreement

## Article 2.1.4.1

INVENTIONS made by [undergraduate students] will remain the property of the students EXCEPT when an INVENTION:

- is made in the course of employment at the University
- results from work directly related to employment responsibilities at the University
- results from work or research performed under a grant or other sponsorship
- is created with another INVENTOR who has a duty to make or has made ASSIGNMENT to the University.

- **Annual Distributions**

- Will be processed 45 days after the end of each fiscal year (Period from July 1<sup>st</sup> to June 30<sup>th</sup>.)
- For a hypothetical illustration of the distributions set forth in Sections 2.3.1 and 2.3.2, see Appendix C of the Penn Patent Policy.
- “Other” include PCI Operating Costs (OPEX), Department of Inventors Shares, School of Inventor’s Share, and University Research Share.

- **Quarterly Distributions**

- Will be processed 45 days after the end of each quarter.
- To the Inventor’s Personal Share <sup>1</sup> is greater than or equal to \$ 5,000.
- To the Inventor’s Research Activity Share <sup>1</sup>; all research activity shares will be distributed quarterly.
- Changes were announce by the University in the October 17, 2017 edition of the Penn Almanac. The article can be found at: <http://www.upenn.edu/almanac/volumes/v64/n09/of-record-changes-in-income-distribution.html>

- **Initial Deduction**

- Penn previously authorized a reduction in the Initial Deduction rate to 10% effective as of July 1, 2017 for fiscal year 2018.
- All distributees receive a greater portion of licensing proceeds from the commercialization of their inventions.

<sup>1</sup> Executed Participation Agreements and Income Allocation Agreements (and Direct Generation Cost Forms, if applicable) must be in place prior to the receipt of all distributions to inventors and inventors labs.

# Who negotiates my research-related agreement?

Is the outside party a government agency or non-profit entity?

YES

**Office of Research Services**

NO

Is the agreement related to an industry-funded human clinical trial or other research that requires informed consent for study subjects?

YES

**Clinical Trial Contracting Unit in the Office of Clinical Research**

NO

Is the agreement a research-related agreement (e.g., funding, material transfer, data use) with a commercial entity?

YES

**Penn Center for Innovation**

# What system should I use to submit my research-related agreement request?

Is this a grant or contract with funds coming to Penn?

YES

Agreement should be entered by the PI or BA into the Research Inventory System:  
[researchinventory.apps.upenn.edu](https://researchinventory.apps.upenn.edu)

NO

Agreement should be entered by BA or PI into PennERA:  
[www.pennera.upenn.edu](https://www.pennera.upenn.edu)

\* Excludes service agreements

# Key Organizations at Penn and Roles

- OCR – Office of Clinical Research
- ORS – Office of Research Services
- PennERA - Electronic Research Administration system
- RIS - Research Inventory System