

CTL IP Series

IP Series 1: Understanding the Technology Transfer Process

2/19/2021

CTL CENTER FOR
TECHNOLOGY
LICENSING
AT CORNELL UNIVERSITY

AGENDA

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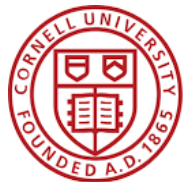
- CTL Overview
- University Technology Transfer & Bayh Dole
- Intellectual Property Primer
- Evaluating and Commercializing Inventions



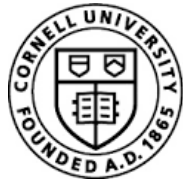
CORNELL RESEARCH ENTERPRISE

\$1,190M – FY20 research expenditure

~60%



Cornell University
Ithaca - 12 Colleges and Schools



**CORNELL
TECH**
Roosevelt Island - NYC

~40%



**Weill Cornell
Medicine**
NYC & Qatar



Ithaca



Geneva, NY



Cornell Tech
NYC



Weill Medical College
NYC

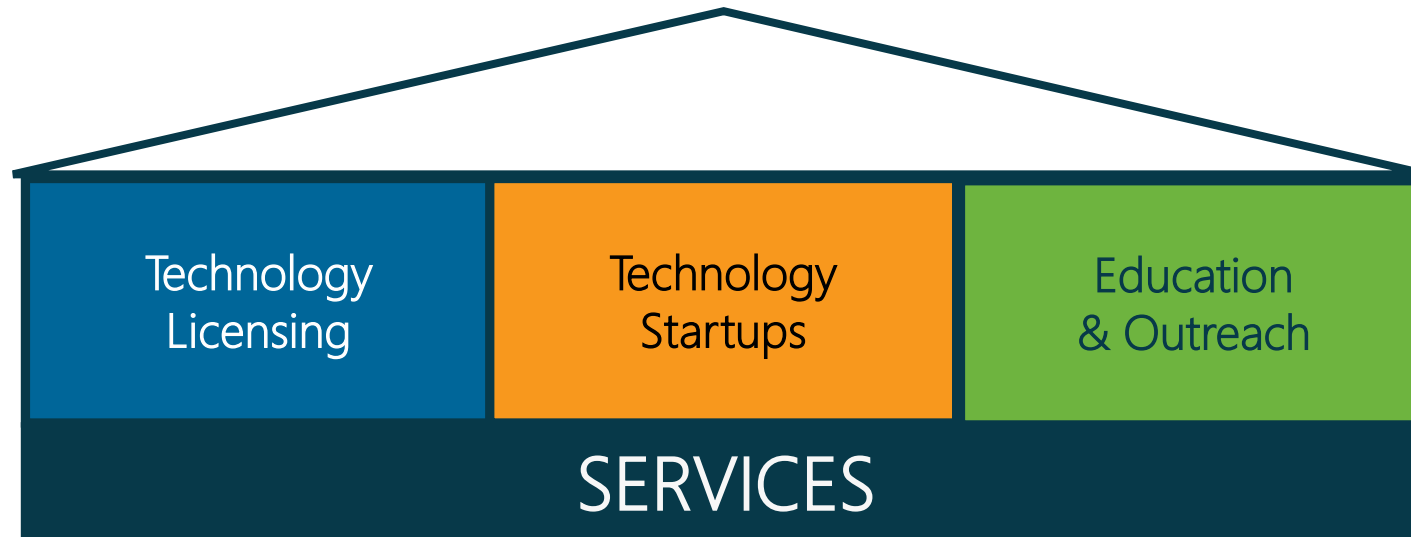


Weill Medical College
Qatar



CTL MISSION

- Catalyze technology commercialization to develop products and services from university innovations for societal benefits
- Promote new technology ventures to foster economic development within New York State and across the nation



CTL ACTIVITY OVERVIEW (FY 2020)

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Technology Licensing

- Manage University IP
- Negotiate Licenses

518 IP Disclosures

408 Issued patents

69 Licenses & Options

\$20.5 Million in revenue

Technology Startups

- IGNITE Gap Funding
- FastTrack
- Startup Networking
- VC Relationships

13 Startups

- 8 in NY State

IGNITE – Gap funding

3 startup projects funded

8 research-lab project funded

Education & Outreach

- CTL Practicum
- WI2
- Externally focused events
- Internally focused events

9 Practicants

27 outreach events



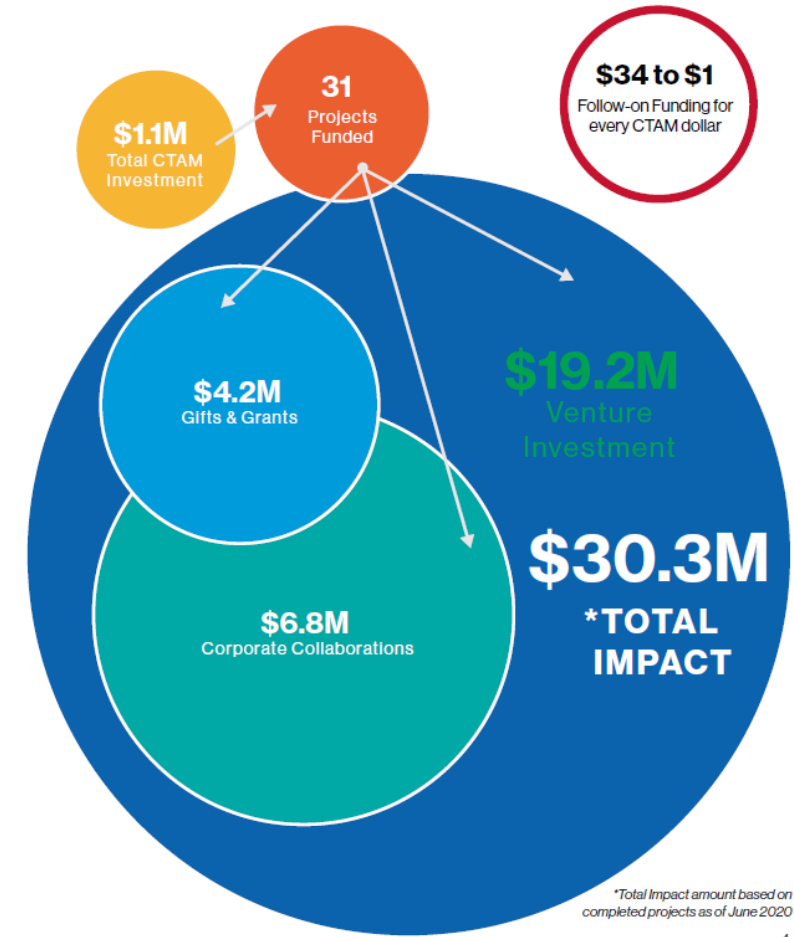
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IGNITE (FORMERLY CTAM)

9

- Gap funding Program



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CTL PRACTICUM

Internship program for Cornell graduate students

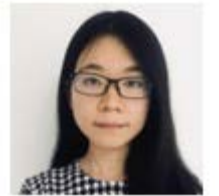
- A year commitment
- Up to 10 hours/week
- A formal onboarding training
- Support of the marketing process

CTL PRACTICUM

1st cohort



2nd cohort



INNOVATION FELLOWSHIP

- Program for Ph.D. graduates and postdoctoral researchers interested in a career in business development, commercialization or entrepreneurship.
- Full-time employees
- 3-year contract



Marie Donnelly
Innovation Fellow



Brandon Regensburger
Innovation Fellow

<https://news.cornell.edu/stories/2021/02/innovation-fellows-help-research-commercialization-startups>

WOMEN INNOVATORS INITIATIVES (WI2)

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Cornell Women Inventor Invention Disclosures to CTL 2009-2017 (Preliminary)

**Women Inventor Rate
For Faculty** 23%

(172 out of 762 faculty inventors)

Cornell Women Founders In Tech Startups 2009-2017 (Preliminary)

Women founders 18%

(10 out of 56, those with Cornell inventor founders)

1. Webinar series

- “Women Inventors” on 6/25
- “Women Investors on 9/30

2. Mentor Program



CTL GROUPS & SERVICES

The **Technology Initiatives & Outreach** group oversees CTL's marketing and branding, outreach, and communication efforts, and also works to establish and strengthen relations with venture funds and CTL's startup companies.



Lynda Inséqué

Program Manager,
Technology Initiatives & Outreach



Gary Gabisan

Manager, Digital Media
and Communications



Roy Loomis

Administrative Coordinator

CTL GROUPS & SERVICES

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The **Intellectual Property Management** group



William Pegg

Associate Director for IP

Bill leads the IP Management group which oversees the management of Cornell's IP and works closely with the BD & licensing officers to align business objectives with IP protection.

Patent Management (Ithaca)



Eugene Masters

Intellectual Property Officer, Life Sciences



Zoe Zhong

Patent Manager, Physical Sciences

IP Services



Michelle Shields

Intellectual Property Services Manager



Renee Passeri

Intellectual Property Assistant



Stephen Wolfolds

Intellectual Property and Governance Administrator



CTL GROUPS & SERVICES

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The **Licensing Team – Physical Sciences** group



Martin Teschl

Associate Director, Licensing &
Business Development –
Physical Sciences

Martin leads the Physical Sciences Business Development and Licensing team. He also supports CornellTech and manages a portfolio of technologies relating to materials, cleantech, electronics & semiconductors, IT, and software.



Ryan Luebke

Licensing & Business
Development Officer

Ryan, who joined the CTL team in 2017 as a Technology Commercialization Specialist, currently manages a technology portfolio covering optics, electronics and energy.



Brandon Regensburger

Innovation Fellow



CTL GROUPS & SERVICES

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The **Licensing & BD Team – Life Sciences** group



Phillip Ow

Associate Director, Licensing
& Business Development –
Life Sciences

Phillip leads the Life Sciences Licensing and Business Development team and manages a broad IP portfolio covering human and animal health, synthetic biology, bioengineering, and polymers, among others



Aris Despo

Senior Licensing & Business
Development Officer

Aris manages a broad IP portfolio covering agriculture, food, nutrition, chemistry, and medical devices, among others.



Jessica Stein

Senior Licensing & Business
Development Officer


Jessica manages all of Cornell's plant varieties and germplasm. She works closely with the College of Agriculture and Life Sciences, Cornell AgTECH, in Geneva, NY, and the Horticultural Research and Extension Center, in Riverhead, NY.



Marie Donnelly

Innovation Fellow





University Technology Transfer & Bayh Dole

TECHNOLOGY TRANSFER – WHAT & WHY?

- Process by which a discovery is brought to the marketplace for the benefit of the general public
- The [Center for Technology Licensing at Cornell University](#) is the office engaged in technology transfer on behalf of Cornell University
- Almost every University that receives federal research funding has a technology transfer office to assist faculty and staff



- University priorities
- Bayh-Dole Act - 1980

CORNELL POLICIES & PRIORITIES

<http://www.ctl.cornell.edu/inventors/cornell-policies.php>

Cornell claims ownership of its employee's inventions and most other forms of intellectual property and seeks to develop them:

- for the public good – NY State is first priority
- to get a reasonable return – licensing

As with other universities, licensing is a tool to:

- recruit and retain faculty and students
- increase research sponsorship
- create closer ties to industry

Zero financial risk in working with CTL for faculty, staff and students



BAYH-DOLE ACT

The Economist (2002):

Possibly the most inspired piece of legislation to be enacted in America over the past half-century was the Bayh–Dole act of 1980

- 1996-2013: University licensing increased U.S. gross industry output by \$1.1 trillion
- Since 1980
 - 3.8 million new jobs created
 - almost 5,000 start-up companies
- In 2014 alone:
 - 914 new companies
 - 965 new products
- Model for other countries worldwide
- Not without controversy

BAYH-DOLE ACT



1. Must try to commercialize
2. Preference for licenses to US companies
3. Preference for small business over large
4. US manufacturing requirements
5. Distribution of \$ to inventors

NOTE -- University must also:

1. Grant non-exclusive rights to US Gov't
2. Allow "march-in" rights (never used)

Bayh-Dole requirements drive CTL behavior



Intellectual Property Primer

TYPES OF INTELLECTUAL PROPERTY

Intellectual Property: Not Just Patents

IP Right	Development Step(s)			
Trade Secrets/Know How	Mentally Develop Secret			
Copyright	Mentally develop "Expression"	Render Expression - Tangible Medium		
Trademark	Select Distinctive Term will use as Mark	Use Term in Commerce		
Tangible Research Materials	Mentally Develop Secret	Reduce to Practice		
Patent	Mentally Develop Secret	Reduce to Practice	File/Prosecute Application	Obtain Govt Grant

You Are Always Creating Intellectual Property

PATENTS

- 35 U.S.C. §101 – Subject Matter to be protected is limited to one of the four statutory categories:
 - Process, machine, article of manufacture, composition of matter
 - Judicial exceptions: laws of nature, natural phenomena, abstract ideas
- 35 U.S.C. §102 – “**Novelty**” - No one has done exactly this before
- 35 U.S.C. §103 – “**Non-Obvious**” - Even if no one has done exactly this, a person of ordinary skill in the relevant art would not modify known prior art to arrive at the claimed invention.

PATENTS

- **Provisional** Patent Applications
 - Informal Application
 - Can be filed relatively quickly
 - Not Examined – Priority “placeholder” for subject matter disclosed
 - Expire after one year
- **Non-Provisional** Patent Applications and Patent Cooperation Treaty (PCT) Applications
 - Formal applications that must be filed within one year of provisional application(s) and which must fully describe the invention and which must have sufficient detail to enable a person of ordinary skill in the art to make and use the invention.

PATENTS

- Inventorship
 - Defined relative to **claimed** subject matter.
 - Inventorship can change during prosecution if claims are amended, cancelled or added.
 - One must contribute to the **conception** of the claimed invention to be an inventor.
 - Merely assisting implementation, being on a team, or supervising a team does not automatically make a person an inventor.
- Cornell Policy 1.5 – “Inventions and Related Property Rights”

COPYRIGHT

- Copyright protects “original works of authorship fixed in a tangible medium of expression.”
- Copyright protects computer software as a “literary work”
 - *Google v. Oracle* – U.S. Supreme Court (decision pending)
 - Google copied some Java code to use in Android OS.
- Data are considered “facts” under U.S. law and are not copyrightable because they are “discovered,” not created.
- Although data itself cannot be copyrighted, a creative arrangement, annotation, or selection of data (a compilation) can be protected by copyright.
- Cornell Policy 4.15 – “Copyright”





Evaluating & Commercializing Inventions

PATENTABILITY & OPPORTUNITY ASSESSMENT

- Not scientific peer review - We don't scrutinize your science.
- We assess technologies through a different lens
 - What problem(s) does your invention solve? How serious is the "pain"?
 - What are potential commercial applications?
 - Platform technology or improvement to an existing solution?
 - What is the potential market size? Is there an existing market?
 - Are there competing technologies? On the market or in development. What are important metrics?
 - What are the next steps in developing the technology? More lab experiments? IGNITE funding?
 - Startup vs. licensing to established company?
 - What businesses may be good industry partners to commercialize your invention?
 - Can your invention be 'policed'?

MARKETING INVENTIONS

- In concert with inventors CTL (Practicants) will:
 - Generate marketing materials (focus on commercial value proposition)
 - Identify and contact target companies, entrepreneurs, investors
- Web postings, cold calls, email campaigns, social media
- Technology Showcase Events
- Network, network, network!
 - Seek recommendations, information, referrals
 - Alumni & Friends of Cornell with various backgrounds, expertise and industry experience
 - Cornell and Ithaca ecosystem – E@C, Rev:Ithaca, eLab, UNY iCorps, McGovern, Praxis incubators, etc.

THE INVENTOR'S ROLE

- Inventors are critical to marketing success!
- Anecdotal: 80% of university licensing deals are with startups and/or begin with the researcher's existing industry relationships (CTL's hit rate higher)
- Make industry contacts at conferences and let CTL know about them
- You are not “just” a scientist at the conference; you are also “selling” your inventions

SERIES #2 "WHAT IS PATENT ELIGIBLE IN THE U.S.?"

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March 19, 2021
12 PM



John D. Lopinski, Ph.D.
Partner, Hodgson Russ

CONTACT INFORMATION

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THANK YOU!



@CornellTechTransfer



@Cornell_CTL



<https://ctl.cornell.edu/>