YALE UNIVERSITY STARTUP GUIDE

INTRODUCTION

Yale University is a place of innovation where students and faculty are actively engaged in testing and growing ideas. At Yale, collaboration is part of our DNA and innovators come together across departments and disciplines to form teams and launch companies that are impacting nearly every industry. Entrepreneurs at Yale at every stage have access to a wealth of resources from expert-led education, to industry and investor connections, to a deep mentor pool. This potent combination of groundbreaking ideas, personalized support and extensive resources has led to major startup success stories.

About the Office of Cooperative Research & Yale Entrepreneurial Institute

The Office of Cooperative Research and Yale Entrepreneurial Institute are dedicated to fostering a culture of innovators, entrepreneurs and partners across Yale, and supporting the advancement of their innovations towards the benefit of society.

Since its founding in 1982, the Yale Office of Cooperative Research (OCR) has built a significant portfolio of inventions and patents and has grown into an engine of regional economic development. Its mission is to facilitate the translation of research from Yale's labs into products and services that benefit society. OCR is recognized as a leading force for catalyzing economic growth by identifying, counseling and nurturing early-stage technologies and guiding the transition into robust companies. In 2007, OCR launched the Yale Entrepreneurial Institute—a university department that helps entrepreneurs and innovators at Yale start scalable new ventures. YEI offers three dedicated programs for accelerating ventures at Yale from early-stage conception to investable startup: the Venture Creation Program, the YEI Fellowship and the YEI Innovation Fund, which provides $100,000 in pre-seed funding. YEI resources include a 150+ Mentor Network; resident entrepreneurs; access to in-kind services from corporate partners in legal, accounting, financial, IP, communications and branding; connections to the angel and venture community; and connections to campus and community entrepreneurship partners.

ABOUT THE GUIDE

This guide is intended for Yale faculty, staff, and students interested in launching a startup company based on intellectual property that is owned by the University. It is a broad overview of the startup process and provides background on resources available for Yale entrepreneurs. Certain sections contain information derived from An MIT Inventor's Guide to Startups: For faculty and students. Yale's policies and practices may be revised from time to time. Inventors should refer to Yale's Policies for current guidelines on intellectual property, conflict of interest and other issues. Additional information may be found by contacting our office at **203-436-8096** or by emailing us at OCR@yale.edu.

OVERVIEW

There are thousands of companies founded by members of the Yale community. Many of these businesses, including Pinterest, FedEx and Twitch, did not use intellectual property owned by the University. Other startup companies were formed to commercialize inventions that are subject to the intellectual property polices of Yale University—founded on technologies that were created with more

than incidental use of Yale resources or in the course of the inventors' institutional responsibilities for research and education.

Startups are a critical part of Yale's total efforts to commercial innovations out of faculty labs. Approximately half of all exclusive licenses are to startup companies. Some examples of startups based on intellectual property owned by Yale and licensed through the Office of Cooperative Research include: Achillion Pharmaceuticals, Arvinas, CGI Pharmaceuticals (acquired by Gilead Sciences), Hadapt (acquired by Teradata), HistoRX (acquired by Genoptix), Kolltan, Melinta Therapeutics, Oasys Water, SilviaTerra and VaxInnate.

When Yale intellectual property is the basis for a startup company, Yale's goal is to maximize the chances of successfully developing and commercializing the technology while prioritizing the University's missions of research and education. This obligation is the shared responsibility of OCR and the startup entrepreneurs, especially if they expect to maintain connections to the University (as faculty, staff or students) during the creation of the startup or after it is launched. This guide summarizes some of these duties, but individuals are expected to take responsibility for knowing and following Yale's policies about conflicts of commitment and conflicts of interest and related matters. These policies can be found here.

Most Yale technologies are at a very early stage of development, and will require significant investment to bring them to the marketplace. To do this, startup entrepreneurs must have a passion that borders on irrational optimism and faith in the technologies, along with an eagerness to commit their own time and resources to develop these inventions. OCR also brings significant passion and resources to working with new companies to help them succeed. We do not claim to know which new ventures will be successful—that's left to luck and hard work—but we want to work with these new companies so they can get a start.

TECH TRANSFER AT A GLANCE FOR STARTUPS

The technology transfer process at Yale can be conceptualized as a continuous cycle wherein discoveries in the laboratory are developed into licensed products in the marketplace that then help fund the next generation of research and innovation. For the most part, the steps of the cycle are similar whether the company commercializing the technology is a new venture or an established one.

Here we've highlighted some of the steps that may be particularly relevant to entrepreneurs starting a new venture based on Yale intellectual property.

1. RESEARCH

Observations and experiments during research activities often lead to discoveries and inventions or the development of software and other copyrighted works. An invention is any useful process, machine, composition of matter (e.g., a chemical or biological compound), or any new or useful improvement of the same. Often, multiple researchers—including trainees and research staff—contribute to an invention and may be inventors.

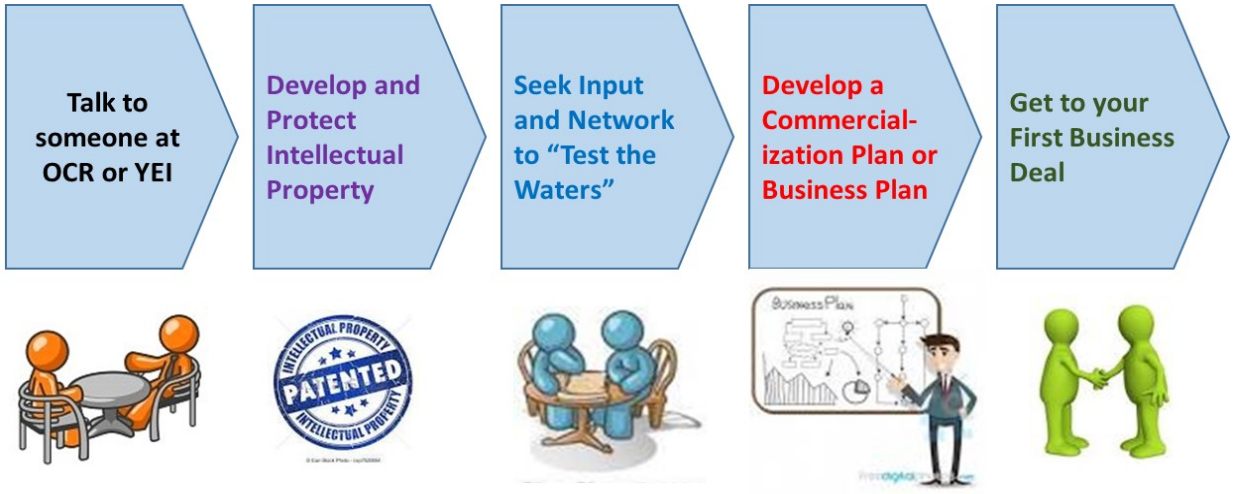
2. TALK TO US

If you've got a new discovery or technology it's best to first reach out to someone at OCR or YEI for advice about next steps. You can do that by calling the OCR office at 203-436-8096 or by signing up for

Office Hours with one of our Entrepreneurs in Residence. In your initial meeting we'll explore questions such as: project goals, objectives for advancing the idea and any research or understanding of the market need required to move the idea forward. Experts at OCR and YEI will also provide guidance on options for additional engagement and available resources.

3. INVENTION AND TECHNOLOGY DISCLOSURE

A technology disclosure is critical if research will be published or presented in a public forum outside of Yale. It is important that OCR has sufficient advance notice (usually a couple of months) in order to establish protection for intellectual property. In addition, many developments require that intellectual property rights be established to protect the idea and to be the basis for a new company and/or license. That being said, there are many ways that ideas can be protected –for example, patents, copyrights, or know how based on the expertise of the individual. The need for protections and patents will be assessed based on this information. The Invention Disclosure is a confidential document, and should fully describe the new aspects of the invention, including the critical solution it provides and its advantages and benefits over current technologies. Invention disclosures can be submitted through OCR's website here.



4. INTELLECTUAL PROPERTY PROTECTION

(if appropriate, necessary, or warranted) 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 requires several years and up to one hundred thousand dollars or even more to obtain an issued patent. Other common forms of IP protection include copyright and know-how. Unique biological materials and software can often be successfully licensed without formal IP protection.

5. SELECTING THE BEST LICENSEE(S)

Often, there is only one party or none at all interested in licensing. If there are several parties interested in a license, OCR may grant non-exclusive or field-of-use licenses. If it is not possible to accommodate all interested parties, OCR will license the company most committed and able to bring the technology to

the marketplace. To choose the best licensee OCR evaluates, in consultation with the inventors, which company is in the best position to develop the technology and bring it to the marketplace. A well-established company typically has resources, business networks and product development experience but can lack commitment to the technology. A small company often has the singular focus and passion of a technology champion, the drive and "fire in the belly" to bring the technology forward and see that it succeeds – but insufficient experience or resources to make sure it can happen.

To assess the commitment of potential licensees, OCR asks companies for a development plan with details about how they intend to develop and market the technology. This plan should make the case that the company and its leadership are the best choice for commercializing the invention. It is important to note that inventors may not serve a management role in the startup company unless they plan to leave Yale (either permanently or on a leave of absence).

To ensure fair and open access to potential licensees, OCR markets many Yale technologies, including those of interest to startups. Broad marketing helps the University find companies who may be interested in developing the technology, which may help to avoid the conflicts of interest if the technology is licensed to a startup.

6. LICENSING

OCR negotiates and executes a license or option agreements. These agreements are contracts between the University and a company in which certain University rights to a technology are granted to a company in return for financial and other benefits. Most startups request an exclusive license because they believe it is required to raise funding for the company. Typical terms for an exclusive license with a startup company include but are not limited to equity, royalties diligence milestones and fees.

YALE STARTUP LICENSE

Yale strongly encourages innovators with non-therapeutic discoveries looking to start companies to take advantage of our pre-negotiated Startup License (See "Yale Therapeutic Licenses" below for more information on this distinction). This license is intended to greatly speed up and streamline the licensing process. The Startup License is based on transparency and fairness, offering the exact same, very favorable terms to all Yale startups. It has been designed in consultation with attorneys that represent startups, seasoned entrepreneurs, and investors to be a "no negotiation" license that any of them can encourage Yale entrepreneurs to sign without reservation. By reducing the time and legal expense to get a license done, entrepreneurs can focus their efforts on developing their businesses. Further, by reducing all uncertainty as to the terms of the license, startups can comfortably take an option to license the technology, thus deferring the need to sign the license until such time that they feel ready to assume the responsibilities of a licensee.

While Yale's primary mission in licensing technology to startups is to promote the development of products or services that benefit society based upon Yale research, Yale does seek a reasonable financial return from its licensees so that it can reinvest in its education and research missions. Understanding that startups need to carefully ration their precious equity and cash in its early phases, Yale has adopted a new approach: the typical upfront "payment" for the license has been replaced with a "liquidity event" payment, due only if, and when, the company achieves an IPO or becomes acquired. No cash or equity is due to the university upon signing the license. The "liquidity event" payment is 1% of the company's

value upon sale or IPO, but can be significantly reduced if companies have paid patent expenses and other bills on time.

STARTUP LICENSE PROCESS

For Yale entrepreneurs demonstrating a diligent effort to start a company based on Yale technology that includes one or more Principal Investigators as founders of the company, the process of getting a Startup license is very simple. Entrepreneurs receive an option to the technology while they develop their ideas for a business. The option is a promise by Yale not to license the technology to anyone else for a period of time. The entrepreneur or team is required to work through an OCR/YEI program to develop a mutually agreed upon business plan. The business plan development and review process is intended to partially substitute for the more rigorous commercial due diligence obligations in typical license agreements. The process also provides entrepreneurs with the opportunity to access assistance from YEI and one of the many other entrepreneurial initiatives on campus. Throughout this process, the team will receive access to YEI resources such as the Corporate Partners, Venture Mentor Network, Entrepreneurs in Residence, Venture Creation Consultants and Advisors to support the development of the new venture. Once a mutually agreed upon plan is in place, the option will be updated to include a promise to provide the license under the Startup License terms. Entrepreneurs may then execute the Startup License immediately, or, if still in the formative stage, extend their option as they seek to raise financing or other sources of cash that will allow them to make the payments required once the license is executed.

Benefits to Startups and to Yale Community:

- Reduces the time and legal expense to get a license done, freeing time and resources to focus on developing business
- Offers predictable, consistent, and fair license terms to all startups
- Raises visibility and attractiveness of partnering with Yale researchers to entrepreneurs and investors
- Frees OCR staff time to spend even more time supporting Yale researchers developing inventions
- Provides reasonable chance for Yale to recoup its investment in patents and generate revenue to reinvest in Yale's educational and research missions

More information on the Yale's Startup License can be found here.

YALE THERAPEUTICS LICENSES

Therapeutic startups are not eligible for the Yale Startup License. To ensure that Yale discoveries for new medicines get to patients in need, Yale requires that licensees to therapeutic technologies commit to significant financial and non-financial milestones that are highly tailored to the drug discovery and clinical development programs required. These typically require the commitment of tens of millions of dollars to very high-risk ventures, and our licenses are tailored to meet both the investors and Yale's needs. Yale, like any university offering such a license, reserves the right to terminate licenses for failure to make progress towards these development milestones. But rather than letting an adversarial

situation develop after years of startup underperformance, OCR works hard to be strong partners to the startups, providing significant support and assistance over a period of months to years to get biotech companies launched.

NIH-funded research in the biosciences represents the bulk of funded research at Yale, and as a consequence, almost all of the most significant startups with licenses from Yale are for drug discovery technologies and/or for therapeutic agents themselves. The entire licensing staff at OCR has significant prior experience in the pharmaceutical and biotechnology industries, as well as significant experience assisting Yale faculty in every aspect of developing plans and launching biotech startups. The staff arranges for hundreds of introductions every year between faculty seeking to start companies and prospective startup business executives and venture investors. In addition to these meetings, we also actively seek meetings with pharmaceutical companies that may be interested in licensing technologies directly. Rather than view large companies as lesser-preferred alternatives to a startup, many of our startups have been launched with the participation of pharmaceutical companies, either with license to a very limited field, research collaboration or sponsorship, and/or investment from their corporate venture group.

Finally, when Yale inventors are involved in a startup company, licensing to that company raises concerns about conflicts of commitment and interest. The University needs to maintain an arms-length relationship in all its business transactions (including license negotiations). The final license agreement must fall within the normal range of terms and conditions of similar licenses to non-inventor-associated companies (taking into consideration the unique circumstances of each technology and transaction).

Inventors must disclose their financial interest in any outside entities to the University's Conflict of Interest office. Additional information about negotiations and conflict issues can be found in the FAQs and Yale Policies sections of this guide.

7. COMMERCIALIZATION

Most University inventions are very early stage and require further research and development efforts. The licensee typically makes significant business investments of time and funding to commercialize the product or service. These steps may entail regulatory approvals, sales and marketing, support, training, and other activities. The licensee will be expected to meet commercialization milestones described in the license. It is fairly common for licensees, particularly early stage ventures, to evolve their strategy and development plans as the company grows, faces technical challenges, and recognizes new market opportunities. OCR can work with licensees to amend and renegotiate license agreements in response to these changes if the request and reasons to renegotiate are reasonable.

8. REVENUES

Revenues received by the University from licensees are distributed annually to inventors according to Yale policy. Revenues include both cash and equity received from licensees in consideration for granting the license. The inventors, including those who are involved in the startup, will receive their share under the Yale policy. The Inventor's Distribution Agreement outlines the distribution of royalties for an invention. The patent policy specifies that royalties derived from a Yale invention are shared between Yale and the inventors according to the following table:

Yale/Inventor(s) Royalty Split			
Cumulative Royalty Income	<$100,000	>$100,000 <$200,000	>$200,000
Yale/Inventors	50% / 50%	60% / 40%	70% / 30%

Royalties from inventions which Yale has returned to the inventors are shared 30% to Yale and 70% to the inventors. Royalties on copyrights owned by Yale are treated the same way as patent royalties.

9. REINVEST

Revenues to the University are re-invested in research to collectively foster the creation of the next generation of research and innovation.

GETTING THE BUSINESS TO TAKE OFF

Launching a successful startup company requires commitment, dedication, and perseverance. Many companies fail even if the core technology is innovative and promising. However, when the right technology is implemented at the right time, it has the potential to significantly benefit society. Components of a successful start-up include a compelling concept, a strong market opportunity, a competitive advantage, a sound business and financial plan, sufficient financing to execute this plan, and an experienced management team. Luck and timing are also important.

Entrepreneurs spearheading the new company formation will be the key champions for the technology and the startup. In addition to navigating the standard technology transfer process, they are responsible for a variety of tasks such as identifying the market opportunity, developing a business plan, and pursuing financing. Every startup follows its own unique path. But there are many common steps to get the business off the ground as outlined in this section. Additional Resources are available in the Resources section to help guide Yale entrepreneurs through this process.

Often an important immediate question for Yale inventors is whether they want to be involved in these tasks directly as part of the company team or to continue in their Yale roles as faculty, research staff or students. Guidance about these decisions and information about options (e.g., taking a leave of absence) is available from School Deans and the Provost's Office.

Also, faculty mentors often share their personal experiences with other inventors.

NETWORK AND SEEK INPUT

Throughout the startup process, advice and mentorship are invaluable in building the foundation for a successful business. Yale cultivates a strong entrepreneurial spirit and has many resources to help with networking and provide guidance for a path to commercialization. Yale's formal programs and entrepreneurship classes, combined with informal advice from advisors, friends, and colleagues, can

help shepherd entrepreneurs through all facets of the startup process – such as writing a business plan, building a management team, attracting board members, and meeting potential investors.

Entrepreneurs should be careful to separate their outside startup activities from their Yale responsibilities. For example, faculty are expected to use the time they are allowed for outside professional activities, typically "one day in seven" amounting to 13 days a quarter, and students need to consult with advisors overseeing their academic progress.

YALE ENTREPRENEURIAL INSTITUTE

Yale entrepreneurs searching for advice, mentors and networking opportunities can start at the Yale Entrepreneurial Institute (YEI). YEI serves as the hub for Yale's many entrepreneurship-related campus programs, including the Center for Biomedical and Interventional Technology (CBIT), InnovateHealth Yale, the Center for Business and the Environment at Yale (CBEY) and the Center for Engineering, Innovation and Design. YEI offers introductory, interactive workshops on topics of interest to Yale faculty and researchers as part of its Yale Innovation Series. It offers regular office hours with entrepreneurs in residence, provides connections to mentors and industry experts and offers early-stage support for new ventures. Information about additional YEI programs and resources is available at yei.yale.edu.

DEVELOP A BUSINESS CASE

A thoughtful business case must be developed to understand the market potential, competition, and funding needs. This should include a plan for developing the technology and attaining sufficient revenue to sustain and grow the company. This plan will be useful when meeting with investors and pursuing funding.

Key factors to consider when deciding to form a startup company:

• Technology innovation and patent/IP position – Is broad patent coverage possible? Are there background patents owned by others? Will the company have freedom-to-operate to develop the product?

• Development risk – How far along is the technology? How much time and money is required to bring a product to market?

• Development costs versus investment return – Can investors obtain their required rates of return (e.g. 10X initial investment in 5 years)?

• Product strategy – Does the technology lend itself to opportunities for multiple products/platforms?

• Market size, dynamics and potential – Is the market big enough? Is it controlled by a few players? Is there a healthy growth trend?

• Financial potential – What market share can be obtained? Is it worth the effort?

A business plan should be clear and concise. It will be easier to "sell" the vision to investors and attract management talent with a formal business plan. Investors are interested in investing in startups with high growth potential. The business plan should address what investors want to know: the compelling concept, competitive advantage (including patent/IP position), market and financial potential, and

proven management team. The business plan is generally a confidential document and should be carefully distributed.

Components of a typical business plan:

• Company name

• Mission statement – A guiding vision for the company.

• Current market situation – How big is the market? What are its critical problems and shortcomings? How is the landscape changing? Who is the competition? Is it a consolidated or fragmented industry?

• The company's solutions – Which products or methods will be developed? How long will it take? What are its applications? What are the company's unique advantages and are those advantages sustainable? How will the current market change due to the company's products, methods, etc.?

• Patent/IP landscape

• Marketing and sales strategy – Pricing, Product, Placement. How will the target market know about the product? Which sales distribution channels will be used?

• 5-10 year strategic/financial plan:

• Financial projections – When will the company break even?

• Key milestones required to meet financial projections.

• Key metrics to be measured and tracked.

• Key assumptions and how they change based on a competitor's response.

• Funding requirements.

• Management team – Members with resumes/CV and roles.

• Timeline and key milestones

• Risk factors and mitigation measures

The Resource Guide of this booklet contains a list of references that provide additional information about writing business plans.

PURSUE INVESTORS/FUNDING

Commercializing technology is typically a capital-intensive process, with the exception of some software development. Entrepreneurs need to present their opportunity to people with the funds to help them make it happen: typically these are venture capitalists, angel investors and – perhaps in the initial stages – friends and family. Using Yale's network is one way to start the personal introduction process that can help get the attention of angel and venture capital investors.

There is a broad network of investors that support ventures. The most common forms of technology startup funding are angel investing and venture capital (VC). In very early stages of startups, entrepreneurs raise funds on their own and through friends and family funds (FFF). However,

technology commercialization often requires multiple rounds of funding from multiple sources. Angels and Venture Capitalists (VC's) are private investors who take on high risk ventures with goals of high returns. Return requirements vary based on industry and stage of funding, but many investors seek 10x their initial investment over 5 years.

Angel Investing

Angel investors are typically high-net-worth individuals who have a personal interest in funding new companies. They are often willing to invest in earlier stages and with smaller amounts of money than VC's, in exchange for equity. They can take passive or active roles in the startup and typically have a longer investment horizon than VC's. According to the Securities and Exchange Commission 2015 report there were approximately 316,600 active angel investors in the United States in 2014 and angel investing funded 73,400 entrepreneurial ventures. According to the survey, the average angel deal size in 2013 was $328,500.

Venture Capital

Compared to angels, venture capitalists can invest larger amounts of money (usually millions of dollars) in a company and in exchange they tend to receive more equity. VC's also exercise control and bring experienced management talent to help guide and grow the company. Sometimes they invest in several rounds of funding and are part of a larger consortium of investors in the company. According to PriceWaterhouseCoopers (www.pwcmoneytree.com), the U.S. total of VC investments in 2015 was $58.811 billion from 4,380 deals.

This graphic is an example of a startup financing cycle using traditional funding sources, through an initial public offering (IPO). There could be more or fewer rounds of funding. The 1st, 2nd, and 3rd rounds can be equivalent to Series A, B, and C. (Source: "Startup Company" Wikipedia, The Free Encyclopedia. Wikimedia Foundation, Inc. 11 March 2009. Web. June 2012 < http://en.wikipedia.org/wiki/File:Startup_financing_cycle.svg>)

Non-traditional Funding

Startups may also pursue funding from non-traditional sources. Some examples of these are:

• Government grants – Certain research grants are available through programs such as SBIR/STTR (Small Business Innovation Research and Small Business Technology Transfer – http://www.sbir.gov/) or the Department of Energy (https://arpa-e-foa.energy.gov/).

• Banks – Banks do not usually participate in equity investments in new companies, but they are a source of loans, particularly for capital purchases when there is some kind of collateral (such as large equipment).

• Crowdfunding – Various companies enable entrepreneurial fund-raising by pooling small investments from a network of individuals.

HOW INVESTORS EVALUATE A COMPANY

Investors listen to pitches constantly and only a small portion of startups get funding. The investors will determine if the start-up meets their strategic and financial goals and if the company fits into their

current portfolio of investments. VC funds are targeting at least an overall 20% annual return on the fund which is significantly higher than other investment vehicles such as stocks and bonds.

Investors typically perform due diligence before funding new opportunities, and they often view the fact that a new company is working with OCR positively in this analysis. For example, OCR's involvement may provide an extra measure of reassurance to investors that IP rights are being properly secured by the company. (Bear in mind, however, that OCR will carefully evaluate the patentability and commercial potential of an invention before embarking on the costly and lengthy process of obtaining patent protection.)

Here are Top Ten Techniques for Startup Valuation from Martin Zwilling, CEO and Cofounder of Startup Professionals.

EXIT STRATEGY

Investors plan to recoup their investments via exit strategies. Typically, a VC hopes to sell its equity in a portfolio company within 3-7 years, ideally through an initial public offering (IPO). Another exit strategy could be through mergers and acquisitions (M&A) instead of an IPO.

PITFALLS

New company formation is a high risk proposition. While many Yale startups are successful, others are not. Some common problems that can cause academic startups to fail are:

• Inexperienced management – A strong, experienced, cohesive team is required for a successful startup company. Problems can arise if founders or other members of the team do not have enough startup and business experience or if founders, new management, and investors do not have the same strategic vision.

• Lack of funding – A startup needs sufficient capital to overcome technical challenges, reach critical business milestones, and progress to the next phase of development. To attract investors the company must have a solid business plan and a strong management team.

• Technology does not meet commercial need – Sometimes the science is innovative and exciting but does not correlate to a critical commercial need, or current solutions are still better than the new technology.

• Timing – Even when a commercial need exists, the company may miss the market. Sometimes this is because the market is not ready for a product, e.g. it's too early, still too expensive, or the market need is unrecognized. Sometimes it is because the product is too late to the market and the need has already been filled by a different technology, or competitors have leapfrogged over the company with an even better product.

• Marginal Niche – If the target market is smaller than expected the company may not meet its financial targets.

• Bad luck – Sometimes events outside of the entrepreneur's control can negatively impact a company. But even failure is often seen as one of Silicon Valley's greatest strengths.

Additional information about why University startups fail can be found here.

FREQUENTLY ASKED QUESTIONS

HOW ARE ENTREPRENEURIAL INVENTORS INVOLVED IN THE LICENSING PROCESS?

A close relationship between inventors and OCR is critical when inventors want to start a company. Inventors are the source of Yale's inventions and copyrighted works. In a sense, they produce the "product" OCR is trying to "sell." OCR works closely with our inventors because we rely on their participation in the patenting and marketing process. OCR encourages inventor input: for leads on potential licensees; for informed assessments of the technical and market feasibility of the invention; and for suggestions on which licensing strategy would best commercialize the technology.

However, inventors do not participate in the actual negotiation of license agreements with potential licensees. OCR gives careful consideration to inventors' input and strives to keep them informed throughout the process. But, the conflicts that may arise from an inventor's multiple potential roles and relationships – University researcher, royalty recipient, company consultant, company board member – make such participation unwise at best.

Direct involvement in negotiation places a faculty inventor in a management role for the new company, which is not permitted by Yale policy.

DOES OCR GIVE ANY SPECIAL CONSIDERATION TO INVENTOR STARTUPS WHEN SELECTING A LICENSEE?

Unlike some universities, Yale does make a special effort to support inventors with a preference to try a startup. OCR and the University recognize the importance of the inventor's role in helping to transfer technology and in evaluating the ability of a potential licensee to develop licensed products.

Inventors who are interested in starting a company or who have a strong preference for a particular company may be wary of Yale's efforts in marketing their inventions to other companies. Sometimes inventors worry that their "baby" will be given away to a stranger. However, Yale feels strongly that marketing is one way of being a good steward of the technology and managing institutional conflicts of interest. Also, because of its non-profit status, the University must avoid the appearance of privileged access to its intellectual property (IP).

Marketing mitigates allegations of no bid contracts and allows all interested parties to have an opportunity to learn about new technologies from Yale and to negotiate a license. In a fair and open process, the best licensee can be chosen.

Inventors should cooperate in good faith with OCR's marketing efforts. Inventors should share information with potential licensees to help them determine if they are interested in investing resources to develop the technology. Inventors often benefit from such interaction by learning more about the commercialization processes and the type of information that a company needs to evaluate a technology. Even if Yale ultimately grants a license to the inventor startup, inventors often get a better sense of the marketplace, or even find potential partners, from Yale marketing the technology.

With a transparent process, the University can be confident that, in the unbiased professional judgment of OCR, the best licensee is developing the technology.

FOR THERAPEUTIC STARTUPS, WHEN CAN THE CEO OR OTHER STARTUP MANAGEMENT NEGOTIATE A LICENSE?

After broadly marketing the invention, if the startup is the best choice for commercializing the technology, OCR will negotiate with a representative of the company to grant a license to the new company. Yale markets its inventions because it is committed to looking for the best licensees to transfer technology from Yale to the marketplace for the public benefit.

Also, under the Bayh-Dole Act, the University has an obligation to ensure that inventions funded by the Federal government are effectively commercialized. Under Yale policy, faculty, staff and students cannot represent the company in negotiations due to conflicts of interest.

WHICH COMES FIRST, THE LICENSE AGREEMENT OR THE FUNDING AGREEMENT?

This is a chicken and egg scenario. Investors usually want to be sure the entrepreneur has an option or license to the technology before investing in the company but the entrepreneur often does not know what kind of license (field of use, financials, etc.) the investor requires. One solution is for an entrepreneur to take an option to a license, with the terms of the license to be negotiated later. The negotiations for an option/license and investment funding agreement will often occur in parallel.

WHAT IS AN OPTION AND CAN A STARTUP TAKE THAT INSTEAD OF A FULL LICENSE?

An option agreement is nothing more than a promise from Yale not to license the technology to another party. It is often used to reserve a "right" to license an invention while a company evaluates the technology, explores funding opportunities and raises the capital needed to fully license the rights in question. Startups that are eligible for the Startup License can receive a "no cost" option to the technology, provided they are engaged in one of the many business development programs at YEI.

For therapeutic companies, option agreements often include financial consideration to Yale in order to reserve those rights, particularly if the startup seeks Yale's commitment to a set of negotiated terms. Startup companies sometimes prefer this route and OCR may grant options for any time period up to one year in duration, most often in 6-month increments.

HOW LONG DOES IT TAKE TO LICENSE A THERAPEUTIC TECHNOLOGY FROM OCR?

The time it takes to license an invention varies. After the technology is disclosed to OCR it could take up to a couple of months to review the invention and then apply for a patent application (if OCR feels filing an application is appropriate). During this time, the entrepreneur(s) could begin to develop other aspects of the new venture to better position the start-up as a potential licensee (e.g. develop a business plan, research entrepreneur resources, begin seeking investors) but there is no guarantee that the new venture will get the exact license they want. If OCR decides that the startup company is the best possible licensee, negotiations with OCR for a license could take several weeks to several months. However, some negotiations may only take a few days if both parties can agree to terms easily.

In addition, licensing to startup companies usually presents and conflict of interest (COI) issues that must be disclosed by inventors and managed by the University (see Yale Policies & Procedures). If faculty, staff or students propose to have a management role in the startup company, approvals for leaves of absence must be obtained. OCR cannot conclude any agreements until the appropriate COI reviews and approvals have been completed. This review can take place in parallel to license

negotiations and can begin once the basic parameters of the license are decided and the faculty member submits the required ad hoc COI disclosure to the appropriate Yale administrators.

WHAT ARE TYPICAL LICENSING TERMS FOR YALE'S AGREEMENTS WITH THERAPEUTIC STARTUP COMPANIES?

License agreements have both financial and non-financial terms. These vary based on the particular set of facts for each agreement – for example, type of technology, the stage of development, the field of use, and the commercialization risks are all taken into consideration. Typical terms consist of:

• Negotiated financial terms may include upfront and annual fees, payments when technical milestones are achieved, royalties on product sales, sublicense income, and an assignment fee. Exclusive licensees are generally expected to pay patent expenses. Financial terms may also include a small, minority share of equity in the company.

• Field of use restrictions, since a start-up company often does not have the resources to develop all the applications of an invention.

• Diligence terms to ensure reasonable progress in the growing the company and commercializing the invention. Many entrepreneurs are concerned that the financial terms are overly onerous and unreasonable. OCR has completed hundreds of agreements with startups and understands the constraints they have. OCR's goal is to negotiate an agreement that is fair and reasonable based on our experience, on the industry and on how the Yale technology fits into the ultimate product.

Because the University needs to maintain an arms-length relationship in all its business transactions, license negotiations and the final license agreement for Yale-associated companies must fall within the normal range of terms and conditions of similar licenses to any other company (taking into consideration the unique circumstances of each technology and transaction).

There are several documents on OCR's website that provide further information about valuations and provisions found in standard license agreements:

DOES THE UNIVERSITY TAKE EQUITY IN STARTUPS?

Sometimes, Yale may accept a small equity share as part of the financial terms of the license. Because most startup companies have limited cash, equity is sometimes substituted for some of the cash consideration.

Equity is also a way for the University to share some of the risk associated with the startups. A decision to take equity must make sense for both the University and the company. In addition, when OCR enters into an exclusive license agreement with a privately-held company (such as a startup), the standard contract allows Yale (or its designee) to participate as a co-investor to purchase additional equity in the company's private financing rounds prior to initial public offering (IPO).

HOW DOES OCR MANAGE THE EQUITY GRANTED AS PART OF A LICENSE AGREEMENT?

The distribution of equity follows the same sharing formula as distribution of cash royalties. Unlike cash, however, Yale typically waits until equity can be sold for cash before distributing to inventors, sparing inventors the need to pay income tax prior to any liquidity event.

The University generally liquidates equity as soon as a public market exists. If Yale holds equity in a company that conducts a clinical trial at Yale, the University may need to divest itself of the equity for institutional conflict of interest reasons.

DOES YALE TAKE A SEAT ON THE COMPANY BOARD?

On occasion, Yale takes an active role in providing direct ongoing support to the company the by serving on the Board of Directors or as an Observer to the Board of Directors. Faculty are generally not permitted to serve on the Board of Directors of their own startups or other corporations, although on rare occasions exceptions have been made by the Provost of the University. In the absence of such permission, Yale's involvement on the Board of a startup can help ensure, in part, the opinions and concerns of faculty founders are fully and properly represented.

WILL YALE ASSIGN THE PATENT TO A STARTUP (OR EXISTING COMPANY)?

No, Yale does not assign or transfer IP rights. When appropriate, Yale may grant an exclusive license after deciding that the startup is the best candidate to commercialize the invention.

WHAT HAPPENS IF THERE ARE FOLLOW-ON PATENTS TO THE ORIGINAL PATENT?

It depends on who owns the follow-on patents. Typically, Yale will have filed the initial patent application that is exclusively licensed; the exclusive licensee provides input for the prosecution of this original patent. Follow-on inventions conceived by the licensee without Yale involvement usually belong to the licensee. These patents must be filed by a different law firm than the original patent (to avoid the conflict of interest caused by the attorney representing both Yale and the licensee). Follow-on inventions based on work at Yale will be owned by Yale and the licensing of the new invention will be handled by OCR as if it were a new disclosure. In other words, the existing licensee will not be automatically granted a license to the follow-on invention.

CAN A STARTUP GET A LICENSE WITHOUT BEING INCORPORATED?

The startup must legally be incorporated to execute a license agreement Prior to that, if a prospective startup would be eligible for the Startup License, the founding faculty member can get an option to the technology without incorporation. For all other agreements, OCR must sign an agreement with a legal entity, not with individual inventor. Yale employees may not sign an agreement on behalf of the company nor have positions/titles at the company that imply a management role.

IF THE STARTUP IS BASED ON AN INVENTION JOINTLY OWNED BY YALE AND ANOTHER INSTITUTION, WHAT HAPPENS TO THE INVENTION?

Typically, OCR enters into an Inter-Institutional Agreement whereby one of the institutions will take the lead. This way a company can negotiate a single agreement with an exclusive license to both parties' IP rights.

IF A STARTUP NEEDS TECHNOLOGY FROM ANOTHER INSTITUTION BESIDES YALE, BUT THE TECHNOLOGY IS NOT JOINTLY-OWNED WITH YALE, WILL THE COMPANY NEED A SEPARATE LICENSE?

Under most circumstances the company will need to negotiate separately with the other institution for a license. However, schools do sometimes package their technologies together in a single license agreement. For complicated technologies, the company will need to conduct a freedom to operate

(FTO) analysis and confirm that the company has a path to acquire all the necessary IP components the start-up will need to make its proposed products.

IF THE INVENTION IS UNPATENTED SOFTWARE, WILL THE STARTUP STILL NEED A LICENSE?

Yes, a copyright license is required if the software falls under Yale's ownership policy (see Yale University Copyright Policy).

CAN I CONTINUE TO DO RESEARCH AT YALE ON THE TECHNOLOGY THAT IS THE BASIS OF A STARTUP?

Yale always reserves the right to practice its own inventions for research purposes. However, researchers may not be permitted to continue to develop technology at Yale for the benefit of a start-up in which the researcher has a financial interest unless Conflicts of Interest are appropriately managed. See the next section (Yale Policies and Conflict of Interest) for further details.

YALE POLICIES, CONFLICT OF INTEREST AND CONFLICT OF COMMITMENT

INTELLECTUAL PROPERTY POLICY AND OWNERSHIP

Yale's intellectual property (IP) policies can be found online here. For new companies started by Yale faculty, staff, or students with technology created at Yale and falling under Yale policy, ownership of IP rights will be with the University.

This ownership policy applies to any sort of intellectual property, including patents, copyrights on software, semiconductor maskworks, trademarks and tangible research property.

MANAGING CONFLICT OF INTEREST AT YALE

OCR works with Yale inventors both to facilitate technology transfer and to manage the licensing process. In the case of Yale-affiliated startups, this process often raises issues regarding conflicts of interest (COI). A full explanation of Yale's policies and procedures for managing COI can be found in the Yale University Policy on Conflict of Interest.

OCR must be particularly sensitive to public perception when a potential licensee is a Yale-affiliated startup or a faculty-associated company. Marketing inventions and negotiating from an arms-length relationship are two ways that OCR manages potential COI.

In addition, ad hoc disclosures are required whenever a current or prospective relationship creates the potential for COI (e.g., when there are additional financial relationships proposed between a faculty member and a prospective licensee or research sponsor). A COI occurs when there is a divergence between an individual's private interests and his or her professional obligations to the University such that an independent observer might reasonably question whether the individual's professional actions or decisions are determined by personal financial considerations. A COI depends on the situation and not on the character or actions of the individual.

COI reviewers are concerned with whether or not a researcher/faculty member can separate University research from company research, provide unbiased and appropriate guidance and support to students, maintain academic integrity in research and education, and adhere to government mandated policies.

OCR may not be able to conclude license agreements until the appropriate COI reviews and approvals have been completed.

CONFLICT OF COMMITMENT

Yale faculty members owe their primary professional allegiance to the University. Their primary commitment of time and intellectual energies should be to the education, research, and scholarship programs of the institution.

Conflicts of commitment usually involve issues of time allocation. If a situation raising questions of conflict of commitment arises, faculty should discuss the situation with their department chair or school dean. More information about University policies concerning conflicts of interest and commitment can be found in the Yale University Policy on Conflict of Interest.

CONSULTING AND OWNERSHIP OF INTELLECTUAL PROPERTY

Startup companies may hire Yale inventors as consultants. Since the University does not ordinarily review consulting arrangements, inventors should be clear about the delineation between University work and private consulting. Yale inventors cannot enter into any agreement that creates copyright or patent obligations that conflict with their Yale Patent Policy Acknowledgment & Agreement to assign their rights to Yale. Faculty members must separate and clearly distinguish ongoing University research from work being conducted at the company.

Yale will ordinarily presume that intellectual property developed 1) while a faculty is consulting at the company; and 2) on an on-going company program (e.g., drug development, medical device, chip development, software issue, or any other specific company research or design activity) belongs to the company as long as there has not been more than incidental use of Yale resources. Yale resources are considered to include facilities, funding, equipment, or the time and expertise of students and post-doctoral fellows and research staff. However, Yale resources do not include use of personal computers, telephones or libraries.

When a faculty member is consulting for a startup company with which he or she has another financial relationship, it is particularly important to make certain that the separation between consulting activities and the faculty member's academic program, including research and teaching activities, is clear to all parties. These policies also apply during sabbatical leave.

Information on requirements for faculty consulting activities can be found here. When a question arises as to the appropriate delineation between a researcher's University responsibilities and a researcher's consulting obligation, the researcher should discuss the situation with his or her cognizant dean. If there is a question of IP ownership, the IP should be disclosed to the University.

OBLIGATION TO SPONSORS

Inventors should take particular care in disclosing all sponsors, including companies or non-profit foundations whose funding or materials led to the invention. Sponsored research agreements specify what rights a sponsor has in any IP developed as a result of the sponsored research. Under most circumstances, Federal funding of research leading to an invention will not impose significant impediments on commercializing the invention via a startup. Funding or materials provided by other entities (such as companies or non-profit foundations) may result in license or other rights to those entities, limiting the license rights available for a startup. Corporate sponsors are typically granted rights to negotiate a license for any IP arising from sponsored research, but sponsorship agreements vary

widely. The Licensing professional responsible for the invention reviews the research agreements listed on the invention disclosure to identify any licensing restrictions on the invention.

FOR FACULTY: BEST PRACTICES FOR STARTUPS

Faculty-associated startup companies ("startups") are both opportunities and challenges for Yale. Yale has had a long history of entrepreneurial activity by faculty, students, staff and alumni and the university is, in general, supportive of its entrepreneurs.

On the other hand, Yale is an institution of public trust, with education and research as its mission, and a requirement to maintain openness in research. Therefore, entrepreneurial activity must be balanced by careful review of the proposed relationships, which may or may not be allowed. These relationships may require active management to assure openness in research, academic freedom for trainees, and clear understanding about how conflicts of interest are to be managed.

Yale is committed to avoiding either perceived or actual conflict of interest issues with respect to faculty startups. Both Yale and its faculty members have responsibilities to optimize technology transfer and mitigate COI when licensing Yale IP to a startup is considered.

UNIVERSITY/OCR RESPONSIBILITIES

OCR makes licensing decisions based on its professional judgment about technology transfer to achieve the best possible benefit to the public, without undue influence from internal or external parties.

OCR takes several steps to effectively transfer the technology while managing conflict of interest. First, OCR markets all Yale technology to ensure fair and open access to potential licensees – faculty startups should not receive or be perceived as receiving preferential treatment. Second, Yale faculty/employees are not allowed to represent the potential licensee and must not negotiate directly with OCR. Third, OCR licensing agreements may be exclusive or non-exclusive depending on what is most suitable for a given technology. Finally, the faculty member's School Dean must review any actions that present a potential conflict of interest, specifically:

• If, after thorough marketing, OCR determines that a faculty-affiliated company is the appropriate licensee, then it documents its marketing results and summarizes the rationale for its licensing decision for the Deans.

• The faculty member must disclose any interest (consulting fees and/or stock options) in the startup to the Deans.

• The faculty member must agree to separate University responsibilities from company responsibilities according to the criteria listed under Faculty Responsibilities.

• OCR may proceed with licensing only if the conflict is deemed manageable by the Deans (based on the faculty member's plan for separating responsibilities).

FACULTY RESPONSIBILITIES

Faculty members are responsible for separating University duties for research and education from personal financial interests in the company.

Faculty must:

• Separate and clearly distinguish on-going University research from work being conducted at the company.

• Serve only in advisory or consultative roles at the company [as opposed to managerial roles or titles (e.g., CTO) suggesting management responsibility].

• Seek a leave of absence if intending to engage in a management role.

Faculty must not:

• Negotiate with the University on behalf of the company.

• Involve research staff or other University staff in activities at the company. Company personnel cannot be affiliated with the University.

• Involve current students in company activities. If a student asks to take a leave of absence to participate in the company, the student should be referred to the COI Committee who will review the request and offer independent advice.

• Involve junior faculty that they supervise in company activities prior to review by the COI Committee. Even if the faculty member does not have a supervisory role, he or she should avoid situations in which junior faculty might feel expected to be involved in the company.

• Use University facilities for company purposes.

• Undertake human subjects research at the University as PI/protocol director.

• Supervise faculty who are PI/protocol directors for human subjects research related to the company.

FOR STUDENTS: BEST PRACTICES FOR STARTUPS

Innovation and the translation of inventions into products that serve the public are deeply ingrained in Yale's culture and we have benefited greatly from it. Yale is supportive of faculty and students becoming inventors and starting companies – whether or not these companies are based on Yale technology. In addition, Yale is committed to avoiding either perceived or actual conflict of interest issues with respect to startups. When licensing Yale intellectual property to a startup, both Yale and its entrepreneurs have responsibilities to optimize technology transfer and mitigate conflict of interest (COI).

OCR makes licensing decisions based on its professional judgment about how to achieve the best possible benefit to the public, without inappropriate influence from internal or external parties.

To effectively transfer the technology in an unbiased way:

• Startups should not receive or be perceived as receiving preferential treatment.

• If the inventor is at Yale, the inventor's School Dean and/or the COI Committee will review any actions that present a potential conflict of interest.

• The inventor must disclose any financial interest (consulting fees and/or stock options) in the startup to the COI Committee.

Student inventors must describe:

1) how they will separate and clearly distinguish their on-going activities as students (e.g., thesis research) from work being conducted at the company; and 2) measures that will allow them to avoid all use of Yale facilities and personnel for company purposes (e.g., availability of off-campus office or R&D space and support personnel). Ideally, the separation between Yale and the company will occur contemporaneously to any formal option or license agreement. However, in some cases, a transition period of up to 1 year might be acceptable.

• The COI Committee must also review and approve any conflict of interest under policies that apply to faculty if Yale faculty are involved with and have a financial interest in the startup company.

• OCR options and licensing agreements may be exclusive or non-exclusive depending on what is most suitable for achieving technology transfer and the best possible benefit to the public.

RESOURCE GUIDE

PROGRAMS/WORKSHOPS

YALE ENTREPRENEURSHIP & INNOVATION SUMMIT

The **Yale Entrepreneurship & Innovation Summit** is an event tailored to Yale innovators to encourage the sharing of new discoveries and technologies with market potential with the broader investment community. The event includes the **Biotech Bootcamp**, aimed at those interested in commercializing ideas for drug discovery and biological therapeutics, and the **Tech Bootcamp**, for those interested in commercializing ideas from the physical and computer sciences, engineering, software and services. In both cases, the emphasis is on developing fundable ideas and taking an entrepreneurial approach to getting pharmaceutical companies and venture capitalists to engage. Annual event is held in May and includes keynote speakers, pitchoffs and a poster session with internal workshops and pitchoffs leading up to the event.

EXPERTISE

YALE INNOVATION MENTOR NETWORK

The Yale Innovation Mentor Network taps the Yale alumni and regional networks to create a robust, engaged circle of more than 150 experienced founders and senior executives who can advise growing student startups. This Mentor Network is one of the Yale Entrepreneurial Institute's leading resources and provides invaluable connections to university startups. Through practical, results-driven mentoring, teams learn how to move their ideas to the marketplace—how to hone products or services, identify markets, build networks and seek funding. Mentors are selected for their expertise in business formation and operations and for their skills as advisors and have wide-ranging fields of expertise, including engineering, computer science, biotech, clean tech, chemical, pharmaceutical, venture capital, law, marketing and digital media. Students and faculty involved in the Yale Entrepreneurial Institute's Venture Creation Program and YEI Fellowship are all paired with mentors. CONTACT: Priscila Bala, Director of the Yale Innovation Mentor Network, priscila.bala@yale.edu.

ENTREPRENEURS IN RESIDENCE

Entrepreneurs in Residence are industry experts who provide guidance to Yale students and faculty entrepreneurs, meeting one-on-one with them to discuss strategy and best practices. Current EIRs

include Susan Froshauer, the President and CEO of Connecticut United for Research Excellence (CURE) assisting biotech teams; Ron Lennox, partner at Alia Ventures who advises biotech teams; John Dexheimer, the president of LightWave Advisors, Inc. who lends expertise to teams with an engineering background; Patrick Struebi, the founder of Fairtrasa, who provides guidance to teams developing for-profit, mission-driven companies; and Tom Jasinski ('78) and Richard Hunt (SOM '81) who provide marketing insight and guidance to teams considering applications to YEI's Venture Creation Program. CONTACT: Erika Smith, Deputy Director of YEI, erika.smith@yale.edu.

CAMPUS INNOVATION CENTERS

Yale Entrepreneurial Institute: The Yale Entrepreneurial Institute is a university department that helps entrepreneurs and innovators at Yale start scalable new ventures with education, expert guidance, mentorship, funding, opportunities for collaboration and acceleration.

> **Highlights include:** Innovation Series workshops, Lean Startup Education, Office Hours, Entrepreneurs in Residence, the Venture Creation Program, Venture Creation Consultants, Venture Creation Advisors, the YEI Fellowship, the Mentor Program and the YEI Innovation Fund. **yei.yale.edu**

Office of Cooperative Research: The Office of Cooperative Research manages a significant portfolio of intellectual property and has grown into an engine of regional economic development. Its mission is to facilitate the translation of research from Yale's labs into products and services that benefit society. OCR is recognized as a leading force for catalyzing economic growth by identifying early-stage technologies, creating and nurturing startup companies to grow those technologies, and guiding their transition into robust companies.

> **Highlights include:** Office Hours, Patent Advice, Licensing Expertise, Corporate Partnerships, Startup Assistance, Sponsored Research Agreements, BioHaven Series, Biotech Entrepreneur Bootcamp. **ocr.yale.edu**

Center for Engineering Innovation and Design: Membership with the Center for Engineering Innovation and Design (CEID) grants access to innovating equipment and technology like laser cutters, 3D printers, and machine shops. Members can sign up for special and recurring workshops and training sessions that take place in the CEID.

> **Highlights include:** Workshops, Makerbot Training, Laser Cutter Training, Machine Shop Training, CEID Wednesday Night Event Series, Hackathons, and the CEID Summer Fellowship. **ceid.yale.edu**

The Yale University Center for Biomedical and Interventional Technology: CBIT is an interdisciplinary initiative to foster greater innovation in medical technology. It is a consortium of engineers, clinicians, businesspeople, industry and entrepreneurs working together to identify unmet needs, form teams, connect to mentors, and achieve pilot funding, all with the goal of improving patient care.

> **Highlights include:** Clinician Pitch Nights, Workshops and Speaker Series, Healthcare Hackathons, Biomedical Innovation Coursework including MENG404/BENG404 (Medical Device Design and Innovation) and MGT657 (Creating Healthcare Ventures), and Seed Funding for Proof of Concept Work. **cbit.yale.edu**

Center for Business and the Environment at Yale: CBEY provides a platform for generating, incubating and launching innovative action at the intersection of business and the environment convening diverse resources and skillsets from across the Yale School of Management and the Yale School of Forestry and Environmental Studies.

> **Highlights include:** Faculty Research Grants, Sabin Prize, Sabotka Collaborative Research Grant, Sabotka Seed Stage Venture Grants, Alcoa Leadership in Municipal Recycling Program, Sabin Program, Solar Decathlon, WWF Internship Partnership, Yale GreenLight. **cbey.yale.edu**

InnovateHealth Yale: InnovateHealth Yale is a group of Yale faculty, program directors and students focused on using the principles of entrepreneurship and innovation to promote health and prevent disease. Based at the Yale School of Public Health, IHY partners with leading organizations for innovation on campus .Its focus is on students—providing skills, making connections, helping to prepare the next generation of social entrepreneurs.

> **Highlights include:** Health Hackathons, InnovateHealth Yale Sponsored Internships for Undergraduates and YSPH Students, the Thorne Prize for Social Innovation in Health or Education, and Global Social Venture Creation awards. **innovatehealth.yale.edu**

School of Management Program on Entrepreneurship: SOM's Program on Entrepreneurship manages Yale SOM's curriculum in entrepreneurship, resources to support SOM founders and various extracurricular events that contribute to Yale's culture of entrepreneurship. **dev-som.yale.edu/faculty-research/our-centers-initiatives/program-entrepreneurship**

> **Highlights include:** Entrepreneurship courses in market verticals including software and the life sciences; speakers; support for five post-graduation Entrepreneurial Fellows annually.

Yale Center for Clinical Investigation: YCCI fosters the translation of disease-related discoveries from the laboratory into the clinic and then into the community to improve the care and outcome for patients locally and worldwide. **ycci.yale.edu**

Highlights include: YCCI Scholars program for junior faculty members; grant funding support; pilot awards in translational interdisciplinary research, novel methodologies, core technologies, biostatistics/bioinformatics and community-based research; research collaborations.

Yale West Campus: Yale West Campus provides extensive shared facilities to enhance the research, education and conservation efforts of Yale University. Experts from diverse disciplines across Yale work side by side using innovative technologies to address important issues in science, art conservation, health, energy and the environment. **westcampus.yale.edu**

Highlights include: Seven institutes, including: Chemical Biology, Cancer Biology, Nanobiology, Systems Biology, Microbial Sciences, Energy Sciences and the Preservation of Cultural Heritage; five core facilities that power scientific research across Yale; Yale School of Nursing; the West Campus Urban Farm, serving community, research, and teaching; West Campus Conference Center, a major resource for Yale departmental meetings, symposia, retreats, and conferences of all sizes.

Yale University Library has assembled terrific resources for anyone at Yale interested in entrepreneurship—from market research and funding databases to recommended books. Check out: **guides.library.yale.edu/entrepreneurship**

OUTSIDE RESOURCES

Connecticut Center for Advanced Technology: CCAT is a nonprofit corporation leading regional and national partnerships to help manufacturers, academia, government and nonprofit organizations innovate and excel.

Connecticut Department of Economic and Community Development: CT DECD is the state's lead agency responsible for strengthening Connecticut's competitive position in the rapidly-changing, knowledge-based global economy. The agency takes a comprehensive approach to economic development that incorporates community development, transportation, education and arts and culture.

Connecticut Economic Resource Center: A nonprofit corporation and public-private partnership that provides economic development services consistent with state strategies, leveraging Connecticut's unique advantages as a premier business location.

Connecticut Innovations: CI is the leading source of financing and ongoing support for Connecticut's innovative, growing companies. With the addition of their Small Business Innovation Team in 2009 and their merger with the Connecticut Development Authority—the state's lender—in 2012, CI now proudly serves great Connecticut companies, no matter what stage of growth they're in.

CT Technology Council: The Connecticut Technology Council is a statewide association of technology oriented companies and institutions, providing leadership in areas of policy advocacy, community building and assistance for growing companies.

Connecticut United for Research Excellence: CURE serves as the bioscience cluster of Connecticut, a diverse community of small and large life and healthcare sciences companies. Universities, government agencies, scientists, educators, mentors, students, entrepreneurs, business experts, service providers and investors join in to form the breadth of the network. As participants in CURE, we educate, cultivate entrepreneurship, support the build of bioscience companies and collaborate to ensure a sustainable, high-value bioscience and healthcare community that improves our quality of life and keeps the Connecticut community strong.

Crossroads Venture Group: The Crossroads Venture Group (CVG) is a voluntary professional organization that is committed to connecting leading Venture Investment Professionals with high-growth emerging companies. Their mission is to assist the development of these high-growth enterprises through the promotion of capital formation in Connecticut.

Economic Development Corporation of New Haven: The EDC of New Haven is a private, nonprofit organization dedicated to business and economic development within the city of New Haven, CT. EDC's mission is to enhance the thriving business environment in New Haven by securing and expanding the City's diverse business base, attracting new businesses and additional capital investment, as well as by retaining and attracting a diverse workforce and intellectual capital.

Elm Street Ventures: Elm Street Ventures is a seed and early stage venture fund based in New Haven, Connecticut. Yale University is our largest investor. While our emphasis is on the life sciences, with approximately 70% of our investments to date in companies developing therapeutics, laboratory tools, diagnostics, medical devices, and other health care related products and services, we are also active investors in software, materials, sustainable technology, and other industries.

Greater New Haven Chamber of Commerce: The mission of The Greater New Haven Chamber is to provide unrivaled partner services and lead regional economic growth through bold and effective advocacy.

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