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Insights

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NAVIGATING THE STARTUP ROAD TO SUCCESS

From Idea to Exit

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Emily Morgan
emorgan@califesciences.org

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Matt Ballard
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Dear Reader,

In my role at CLS, I have the privilege of supporting our Innovation & Entrepreneurship programming, which has allowed me to work with several inspiring startups. As I prepared the opening remarks for this edition of *Insights Magazine*, I found myself reflecting on the many founders that I've encountered over the years.

Each startup has its own unique scientific innovation, and a fascinating journey filled with challenges and triumphs. Despite their differences, two qualities they have all consistently presented—creativity and courage.

When we think of emerging innovators, we often visualize a modest lab space with a couple of fervent founders working around the clock. They juggle a myriad of responsibilities: managing operations and finances, coordinating supplies and services, consulting with legal and regulatory experts, planning their next experiments, racing against grant deadlines, and refining their pitch decks to attract investors. The role of a startup founder who wears many hats, perhaps one too many hats all at once, is a tough demanding job.

In my view, the founders who succeed aren't necessarily those who master every aspect of their multifaceted role but those who, despite the challenges, maintain their creativity and courage. Many of the companies we serve at CLS are small, with fewer than 10 employees, and we strive to ease the burden of the multiple roles these small teams must carry.

Bottom line, we are dedicated to providing our startup members with the resources and support they need so that they can focus their creativity and energy on advancing their science. I am thrilled about this issue of Insights Magazine, which taps into the collective wisdom of our community, offering peer to peer engagement, to help founders bring their innovative solutions to patients.

I welcome the opportunity to speak with you and explore how we can promote California's emerging innovators.

Shikha Sharma, PhD
Senior Director, Innovation and Entrepreneurship
California Life Sciences

ssharma@califesciences.org

Increasing the Chances of Early Stage Biotechs to Get Successfully Funded

Submitted by Ambreen Farook MBA, CA-AM, Biotech Executive, Board Member, Speaker, Advisor

Ambreen Farook, MBA CA-AM

There is an unmet need in the current market environment for biotech startups to move to market more quickly while being strappy. The greatest challenges at this early stage are attracting investments based on viable drug development pathways, medical device maturity and development risk. Reducing the hurdles for successful funding along with partnering and mentorship with an accelerator enables a faster path to getting funded.

Venture backed funding, via the VC route, makes investment decisions based on the therapeutic area trends, the startup team, and the biotechnology. While the VC route is highly selective, the expectations are similar to big pharma deals: a detailed 1-2 year roadmap, competitive advantage, business model, mentors/advisors, IP protection, regulatory strategy, development milestones to progress to clinic with human translatability success, budgets to scale up manufacturing, funding strategy and future exits. VCs tend to be risk averse and require a clear path to meaningful milestones and ROI.

Biotech startups are increasingly turning to private accelerators to get them investor ready. Startup accelerators supporting early-stage biotechs with a team of experienced advisors have become an attractive and viable pathway. Biotech startups that successfully receive early-stage funding come from accelerators with competitive programs providing cross matrix team mentorship, focused training for investor pitch readiness along with a peer group of startup founders/advisors and exposure to investors. Startups who graduate from top tier accelerator programs have a 60%-70% probability for funding.

Mapping Innovation: How Biotech Startups Can Benefit from Conducting a Patent Landscape Analysis

Submitted by William Fried, Arati Navaan, Jonalyn DeCastro, and Zihao Zhuang, Biotech Connection Los Angeles Consulting

In the competitive biotech sector, startups have the unique challenge of figuring out how their innovation fits in the larger market. A startup can benefit from conducting a patent landscape analysis which examines patent data to generate a comprehensive understanding of the field being investigated. By understanding the patent landscape, startups can avoid infringement issues, identify collaborators, differentiate themselves from competitors, secure intellectual property rights, and attract investment.

Patent landscaping can be a critical component of strategic planning for biotech startups. Utilizing patent lawyers to conduct this search can be quite expensive, so a cash-strapped startup can benefit from learning how to conduct a preliminary search on their own.

Conducting a patent landscape analysis involves creating a database of relevant patents by searching online patent databases using keywords and Cooperative Patent Classification (CPC) codes that describe the technology being investigated. CPC codes are a hierarchical system used globally to classify patents based on the technology they cover, making

it easier to search for related patents in a specific field. Once the database is populated, it is annotated with descriptors representing different aspects of the technology. Analyzing trends such as patent filing frequency, total patent counts, and ownership patterns provides insights into market dynamics and key players, effectively mapping the patent landscape.

While a preliminary patent landscape analysis cannot replace the detailed review by patent lawyers, it offers significant benefits for founders. It allows them to identify potential legal conflicts, guide future intellectual property generation, monitor competitor activity, and discover synergistic technologies for partnerships. Though daunting, especially for founders focused on R&D and business development, a proactive approach to patent landscaping provides startups with a sense of security as they navigate market entry and scale-up. ■

Trends in Life-Science Fundraising

Submitted by Gary Li, PhD, R&D Leader, Scientific and Venture Advisor

The life-science startup funding scene has experienced dramatic swings in the past four years. The current market has been on a moderate recovery mode from summer 2022 bottom. While some clinical stage startups with experienced management teams are able to raise mega rounds, many companies at various stages are struggling to survive and layoffs are stacking up.

Gary Li, PhD

As a biotech executive (Ignyta, BridgeBio and RayzeBio) and advisor for multiple venture capital (VC) firms, the following trends are most noteworthy in current life-science fundraising.

- Clinical stage companies are heavily favored by investors. While early-stage startups are still expected to elaborate on a clear path toward clinic.
- Multi-asset pipeline appears to be much more favorable than a single-asset approach. A balanced pipeline is viewed as a time-tested strategy for mitigating risk, and increasing efficiency.
- Differentiation is key. Despite significant advances in genetics, biology and discovery technologies have been made in the past decades, good therapeutic targets are still hard to come by. Numerous programs are crowded into the limited number of validated targets, and investors are having a tough time picking the winners.
- Management team with a strong track-record matters a lot. Main consideration for their investment decision-making is the quality and experience of the founding team.

Despite significant advances in genetics, biology and discovery technologies have been made in the past decades, good therapeutic targets are still hard to come by.

Besides traditional VC firms, corporate VCs are stepping up to support early-stage startups. Not only do they invest as a syndicate investor, but they are also increasingly taking on lead role. For startups, finding potential synergy with the corporate VC backers (big pharma) is a good strategy to initiate the discussion.

Additionally, for early stage startups whose platform or lead programs are not mature enough to attract private funding, government grants and not-for-profit foundation grants are good alternatives. ■

Access to Funding for Healthspan Startups

Submitted by Barry Burgdorf, Partner, Houston; David Fox, Partner, Washington, D.C.; Blake Wilson, Partner, Philadelphia, Hogan Lovells

Healthspan is the period of life spent in good health, free from the chronic diseases and conditions responsible for most mortality and disability. An emerging field of healthspan research and development has taken hold. Healthspan, alongside the field of geroscience, has opened a new perspective on reducing the risk of onset of major chronic diseases by addressing the underlying factors that make aging the dominant risk factor for these diseases. To overcome the challenges presented to secure large investments in this area of research, healthspan startups can take strategic steps early on to better position their development programs for long term success by considering available non-dilutive funding opportunities.

For example, Advanced Research Projects Agency for Health (ARPA-H) may provide a unique opportunity for healthspan innovators to seek federal funding. ARPA-H aims to support fundamental research that cannot readily be accomplished through traditional research or commercial activity. ARPA-H's Proactive Health initiative supports preventative programs promoting treatments and behaviors to reduce the likelihood that people will become patients. ARPA-H also provides opportunities to work directly with FDA to accelerate

innovation and accelerate better health outcomes. As with any government funding program, grantees must balance considerations regarding governmental rights and other restrictions on the use of funds. ARPA-H regularly makes announcements of large scale grant programs in the healthspan field.

There are also several state-level programs supporting chronic disease research. While it may be necessary to designate a specific disease indication to secure this type of non-dilutive funding, this is often not possible given the multifaceted impact of healthspan products.

Public-private partnerships will likely play an outsized role in the healthspan area not least because of the less clear regulatory pathways for approval of these therapies. However, many chronic diseases have national nonprofit foundations that can provide funding opportunities for companies involved in research and commercialization within specific focus areas. Socializing with these organizations the idea of targeting the "pre-disease" state will be an important building block in creating a healthspan investment ecosystem.

ARPA-H's Proactive Health initiative supports preventative programs promoting treatments and behaviors to reduce the likelihood that people will become patients.

Finally, while more traditional venture and institutional equity financings will continue to play a role, emerging healthspan companies will need to demonstrate to stakeholders both a clear and manageable regulatory pathway for the approval and marketing of healthspan products, and a revenue generating endpoint in the commercial market.

Scaling Your Startup: What's Needed to Get from Idea to Exit

Submitted by Claire Jeong, VP, Investor Relations, Life Science Nation

Life science companies have a high failure rate. Most occur before clinical PoC. This is typically due to inexperience of the scientist-turned-CEO rather than lack of investor interest. So what's needed to raise capital?

Time

Raising a round takes 9 – 18 months.

Money

It takes hundreds of investor meetings to get a raise. Investors meets with 400 – 800 companies before investing in one. Most meetings happen at venture investment partnering events. Warm and cold introduction come in 2nd and 3rd place. In-person meetings are preferable. Discounting legal and cost of living, the price of a fundraise is:

1. 6 – 8 partnering meetings annually, ideally with a colleague: $10K - $11K per event = $45K to $132K
2. 3 – 6 therapeutic conferences: $10K - $20K
3. 10 trips in the US and one in Europe or Asia to meet with investors: $13K
4. Total: $68K - $155K.

Friends & family, savings, spousal income, credit cards and home equity loans are the tools used by successful CEOs to fundraise.

Strategy

To reduce time/money while maximizing the round size:

1. Read a book on life science fundraising/ pitching. Here's a free e-book.
2. Take a class. Offered by tech hubs like CLS, these usually cost $2K or more.
3. Subscribe to an investor database.
4. Manage your outreach with a CRM.
5. Purchase a company presentation/pitch at a partnering event.
6. Pick your partnering conferences wisely.
    1. Target events located in life science hubs and combine it with local investor meetings outside the event.
    2. Choose events with a 1:1 ratio of companies to investors.
    3. Don't spend more than $3K for a normal partnering registration.

Successfully raising capital is hard however the process is well understood. Are you willing to learn and execute the process to increase you chance of success?

*Data based on LSN's investor interviews

Strategically Accessing Capital for Your Organization in 2024: What You Should Know

Submitted by Dr. Monae Raphael, CEO, and Jewel Perry, Content Specialist, One River Consulting

One River's Dr. Monae Raphael, CEO, and Jewel Perry, Content Specialist, discuss a tailored approach to business capital. Founded in 1998, One River is a women-led consultancy providing Advisory, Capability building, and Managed services client solutions.

In the U.S., the 2024 post-pandemic and pre-election business climate is dynamic. Securing capital for an existing company or startup requires a robust strategy for success. Weeding through the numerous funding options available—from debt financing, to bootstrapping, finding an investor, crowdfunding, and seeking grants—can be daunting even for seasoned experts. Consequently, both established and new businesses often rely on adept consultants to navigate their funding options and tactically chart their approach to capital.

A key 'access to capital' strategy is to select a tailored approach; a one size fits all viewpoint is not recommended. We provide three key strategies that you should know when working with your consultants or business advisors.

1. Venture capitalists and angel investors can be popular options for funding startups. However, there are numerous less commonly considered funding sources that can offer significant support as well for businesses at all stages. Traditional corporate sponsorships along with private funding can be considered in tandem. Many corporations have a philanthropic arm (a 501c3 foundation) that provides private funding. Be sure to search for private funding focus areas that align with your organization's field of medicine, research, technology, or groundbreaking innovation. Key takeaway: Explore both popular and less common business funding options together.

2. Public funding opportunities through grants (i.e., federal, state, and local) are considered essential and pivotal sources of capital. For example, among the 20+ federal grantmaking agencies, the Department of Health and Human Services (DHHS) is the largest. In 2023, DHHS grants totaled over $218B. These grants were overwhelmingly awarded in three states: California, New York, and Texas. California leads the nation with over $104B awarded by DHHS alone. Key takeaway: California-based companies are well-positioned to leverage a plethora of federal funding opportunities (including with DHHS).
3. Data from the longest-running organization's report on philanthropy in the U.S. revealed that giving among private donors, bequests, foundations, and corporations totaled more than $557B to U.S. charities in 2023. When weighed by industry, giving in the health sectors (health research, medicine, and health/medical technology) grew by 8.7% or $56.58B 2022-2023. This funding trend is expected to continue in 2024. Key takeaway: Now is the time to pursue available funding.

The passage of the federal "Expanding Access to Capital Act" in 2024 aims to provide new opportunities for entrepreneurs, small businesses, and investors. Take a step to secure capital for your organization or startup today.

Managing 3rd Party IP & Freedom to Operate in Product Development

Procopio

Submitted by Bob Ramos, Partner, Procopio

Successfully navigating the intricate landscape of third-party IP is crucial to the commercial viability of product and drug development efforts. A patent grants the owner the right to exclude others from making, using, offering for sale, or selling the claimed invention within the United States or importing it into the country. However, a patent doesn't guarantee the right to practice the claimed invention, because a third party may have rights to another patent with claims that cover your planned commercial product or process, potentially obstructing your freedom to operate.

Effectively managing third party IP to facilitate freedom to operate requires a comprehensive understanding of the IP landscape and thorough due diligence. Frequent monitoring and assessment of the strengths and weaknesses of third-party IP is essential. When potential blocking IP is identified, several strategies can be employed to mitigate risks:

- Where the third-party IP holder does not have a competing program, the risk of being blocked from selling your drug diminishes significantly. Resolving the IP issue through a license agreement may be a viable solution.

- Where the third-party IP holder does have a competing program, the likelihood of that IP impacting your commercialization efforts depends on several factors, including the competitor's product development stage, available resources, and the likelihood of gaining FDA approval.
- As competitor programs progress to later stages of clinical development with appropriate financial backing, the potential risk increases.

Thus, identification of third-party IP risks and effectively formulating strategies to address them leads to optimal decision-making. These strategies can then be communicated to potential investors, partners, or acquirers during the diligence process, paving the way for a successful financing, deal, and/or market entry.

SankerIP FAQ for Startup IP Strategy

Submitted by David V. Sanker, PhD (Cal 1989), J.D. (Cal 2007), Founder, SankerIP

I couldn't afford to enforce a patent, so why pay to get it?

Patent litigation is expensive, but building a patent portfolio now protects your core technology for later when others learn how valuable it is. In the short term, having patents demonstrates to potential investors that your technology is protected. And in the longer term, enforcing patent rights will be easier as the company grows or is acquired by a larger entity.

Does IP include anything other than patents?

The four primary forms of intellectual property are patents, copyrights, trademarks, and trade secrets. In general, a startup should be considering all four types. Keep in mind that trade secrets can protect anything that is valuable to a business (not limited to inventions), but must be subject to appropriate secrecy.

How can I get patents when I don't have enough money yet?

Some law firms recognize the value of building relationships with startup companies, and have ways to provide legal services with alternative arrangements. For example, some firms will perform legal services now, but have deferred billing (e.g., deferred for a fixed period of time or until the close of a funding round). Other firms offer legal services in exchange for company equity. Early patents can be a startup's most valuable assets.

Can I get a patent for software or AI?

Although there is a de facto higher standard of patentability for software and AI, patents in these areas are issued all the time. Because of the higher standard, a good patent application needs to include detailed technical descriptions (not just "apply AI") and have well-drafted claims. Quality will depend on the law firm you select ■

California Suspends NOL's & Limits Credit Utilization

withum

Submitted by Penny Sweeting, CPA and Rebecca Stidham, CPA, Partner, Withum

To grapple with California's $45 billion budget deficit, Sacramento lawmakers recently signed two bills that will result in another net operating loss suspension for businesses with greater than $1 million in income and limiting business tax credit utilization.

SB 167 suspends the net operating loss (NOL) deduction for 2024 through 2026 for net business income or modified AGI subject to California tax that exceeds $1 million. In addition, the bill restricts the utilization of certain business credits to $5 million during the same period. To the extent that any NOL or business tax credit is denied, carryforward periods are extended to account for lost utilization.

The second bill, SB 175, provides additional benefits for California research and development (R&D) credits. A taxpayer will be permitted to make an irrevocable election to receive a refund equal to 20 percent of the qualified credits that would have been available to the taxpayer in the absence of the $5 million limitation imposed by SB 167. The "refundable period" is the first five consecutive tax years beginning the third tax year after the tax year for which the taxpayer makes the election. The 20 percent annual credit is only refunded to taxpayers to the extent that the unused annual credit and other credits and/or NOLs exceed the amount of tax due for that tax year.

In addition, the bill restricts the utilization of certain business credits to $5 million during the same period.

If the Director of Finance determines that revenues over a multi-year forecast are sufficient without the revenue impact of the NOL suspension and credit limitation, the Director of Finance can lift the NOL suspension.

These Senate Bills will significantly change the impact of credits and NOLs that Taxpayers had been planning to use in 2024 or later, and 2024 estimates must be reevaluated to consider the impact of these changes for the 2024 – 2026 tax years.

Interview with Richard Yu, PhD Co-Founder & CEO, Abalone Bio

Please introduce us to your company.

Abalone Bio is a preclinical stage drug discovery company that creates antibodies that go beyond the existing capabilities of antibody drugs to activate challenging drug targets to access promising disease-treating biology. Antibodies are molecules originally used by our immune system to shut stuff down- kill invading bacteria and viruses- but what we want to do is fulfill the full drug-like potential of these wonderful molecules. Many targets that need to be activated to treat diseases haven't been addressable by other drug types, and we can create antibodies to twiddle those receptor "control knobs" on the surfaces of our cells, like G-protein coupled receptors, to access therapeutic biological activities. We're developing one anti-inflammatory drug for neuropathic pain, and we also have a discovery stage pipeline focusing primarily on metabolic disorders but also on cancer and inflammation. What they share is a focus on targets that we believe are best- or perhaps only- activated by an antibody drug.

The technical core of our company is our platform, also named FAST (Functional Antibody Selection Technology), which not only discovers rare activating antibodies but also generates data that we can uniquely leverage with AI tools to learn how to create them. This isn't just an idea- we've experimentally validated antibody activators for some of the most challenging targets for ourselves and our partners.

Our 14-person team operates at our labs in Emeryville,CA in the former foley art (sound effect) studio of Pixar that we converted into lab and office space.

Tell us about yourself and your team.

I'm a scientist by training. I started with Legos and working on cars with my dad as a kid, and found my way to a Berkeley undergrad in the late 80s-early 90s in physics and computer science and then biophysics, a year off doing neural network prediction of protein second structure prediction at LBL, a structural biology degree at Yale. After grad school, I hopped off of the traditional academic track and did a research fellowship at Syndey Brenner's and Roger Brent's Molecular Sciences Institute, which exposed me a lot of -ologies: systems biology, synthetic biology, cell biology and genetics. I also had another founder experience as CSO of an algae biofuel company in the late 2000s. Pack into this a lot of other life skills from home maintenance, motorcycle wrangling, endless to-do list of repairs and it's surprising how many elements of my past experiences have translated into essential skills to build Abalone Bio.

Richard Yu, PhD

Our team initially grew quite a bit through personal connections. The UCSF and Bay Area scientific network was and remains key. Monica Schwartz, our VP of Antibody Discovery, knew my friend and co-founder Gustavo Pesce back as postdocs. Our VP of Data and AI, Sameer Soi, was made through our mutual friend and former director of the Nikon Facility. Advisors have turned into executive team members; for example our VP of Preclinical Development, Lauren Schwimmer; Toshi Takeuchi, who was one of our first antibody drug development advisors, joined to take over as CSO after Gustavo Pesce passed away in an accident a few years ago. His death of course was a huge loss to the company and to me personally, but we've been able to continue and keep his part of the dream growing. I'm very grateful for our solid team of folks who cover the technical requirements but, more importantly, are kind and non-pathologically ambitious. We're small enough and this is an e-pub, so hopefully I have enough room

to give a shout-out to them all: Adnan, Carlos, Jingjing, Miguel, Miles, Raghu, Sophie, Swastik, and our interns Arianna, Lily, and Xixi.

Can you tell us about how you heard about CLS and your experience working with us.

I was fairly tapped into the UCSF community through a previous position and that's where I initially heard about FAST. Gustavo knew someone who personally recommended it as well.

The FAST program was fantastic; we had a large group- at least 8 advisors, which is a lot!–and I still talk with some. We'd bring empanadas to our in-person meetings–maybe that had something to do with it! That's a lot of a time in aggregate generously committed by experienced people. The program forced us to present and defend our ideas, think more carefully about our business plan and who we're hiring, and how to be nimble and competitive. Having an independent, external mirror during company development is so helpful.

Another thing–since we started, there's been a boom of resources for entrepreneurs, with accelerators, podcasts, reading resources, fellow entrepreneurs to talk with, etc. It can be hard to determine who to listen to and who to ignore or how to translate experience into something useful for your situation. With the FAST program, it was great to have live people to talk with about their experiences with some nuance rather than the usual platitudes of Startup School 101 and internet article information.

What goals are you looking to accomplish in the next few years.

You know, so much of this journey is challenging and stressful. But we have best reason and motivation in the world for doing what we're doing – we get to use our skills to reduce human suffering. So in the next four years I would like to see one of our molecules get through phase 1 clinical trials. That will be awesome- to see a positive efficacy signal in some fellow humans. It also would be great to expand our impact by continuing to help partners discover drugs and get their help to develop some of our non-core programs.

Any advice to first time founders/academic entrepreneurs.

Before running a company, I put a strong premium on 'doing it all yourself". The most important thing that I've learned about is the social element, working in teams and leaning on people. So many have been so incredibly generous with their valuable time and resources- FAST advisors being a great example. Another is that most of the money we've raised has been from connections made by founders. But even more importantly, I found the biggest key to being a more effective CEO was to know myself better and learning the tools to live a more examined life. Coaching and meditation have done wonders for me. It's so important to clearly look at and improve on your weaknesses and acknowledge your strengths. My improved ability to build and nurture positive, kind human relationships–including with myself- has not just helped me be more effective in my job, but also to simply live better.

Interview with Beth Hoffman, PhD Founder & CEO, Origami Therapeutics

Please introduce us to your company.

Hi, I'm Beth Hoffman, Ph.D., Founder and CEO of Origami Therapeutics. Origami Therapeutics is based in San Diego at the BioLabs San Diego incubator space. The genesis of the Origami concept really started when I moved to Vertex in San Diego and started to work on Cystic Fibrosis. The key around this was that we used small molecules to change the shape of proteins, and this ultimately became a blockbuster drug, and more importantly, it has changed the way the disease is treated and the outcomes the patients can expect. My foray into working in Cystic Fibrosis provided insights into how this approach might work well in other diseases; some of the principles rang true and I thought "Oh, this might work in neurodegeneration". And that is the original concept for Origami, a coming together of my neuroscience background and my experience at Vertex working on Cystic Fibrosis drugs. This is what has driven Origami forward with our vision to restore the lives of patients, so that they won't suffer from neurodegeneration.

Our strategy has been to start with a monogenic disease, caused by a mutation in a single gene. We know what the gene is, we know what is wrong and so, we know what we need to fix. In other words, on the pre-clinical side, we know what we need that drug to do. On the other side is the clinic: we know who to recruit, we know what to measure and we know who to treat. The pre-clinical and clinical sides coming together hugely de-risk a disease area what many people see as too risky to pursue. I didn't start out thinking "my goal in life is to be a CEO". My goal in life was to make medicines that help people. I became a CEO because I didn't see anyone else doing anything like this. I came to appreciate that I had a unique background, and combined with the huge unmet need, that I had a responsibility to see whether my unique approach to tackling neurodegeneration would work.

Beth Hoffman, PhD

We are presently in the lead optimization stage, expecting to have a development candidate in the first half of next year, and in the clinic by Q2, 2026. By the end of phase I clinical trials, we should have proof of concept in individuals affected by Huntington's disease in terms of mechanism of action and we will know what doses we need to treat these patients. This is huge because we will be able to do a complete Phase 2 proof of efficacy trial to drive a decision on whether our drug works.

I'm a fan of going to the root of the problem to solve it.

Overall, we know what we need to do and how to best de-risk it. Our platform is based on strong human biology. Because we are going after diseases where we know what is broken, we know what we need to fix. We design phenotypic screens using a clinically relevant readout rather than picking a target and using a biochemical assay. We examine these relevant readouts in human primary cells. Our technology incorporates proprietary screening of small molecules in combination with deep know-how to prosecute the drug discovery process using primary human cells.

Tell us about yourself and your team.

I'm a cell and molecular biologist by training, but my background is primarily neuroscience. Back when I was a tenure-track staff scientist at National Institute of

Mental Health, NIH, I was approached by Steve Paul about joining Eli Lilly & Co. At the time, I felt that I was doing what I was meant to do, which is helping people, so I joined Lilly to make medicines that matter. I learned so much about drug discovery and this shaped my thinking and provided background for me to use in starting Origami Therapeutics. My goal in life was to make medicines to help people.

Origami incorporated in 2015 in large measure to arrange contracts with contract research organizations (CROs). I was joined by my co-founder who had complementary skills sets shortly after incorporating and we got started implementing our innovative concept for treating neurodegeneration. When you do large screenings, you don't typically have the instrumentation in your garage. We intentionally didn't hire employees until we knew we had something. I've worked my way from mailroom to CEO, so to speak. Consequently, the idea of hiring someone whom I may potentially have to lay off in six months wasn't an option to me.

When you're a small start-up, each hire is very important. So, it wasn't until 2019 that I interviewed and hired the first two scientists. We wanted to build purposefully and not hire too many people at the same time. For example, we use CRO's or collaborations with small companies for access to cutting edge techniques and often bring the technology in-house once we determined the value to our platform. Along the way, I realized it was very hard to troubleshoot challenging biology remotely which, in turn, slowed us down when we didn't realize any meaningful data from the contracted work. This was the case for some of our stem cell work. We then hired a talented individual to perform these studies in-house. Importantly, this harkens to one of our core pillars, the use of primary human cells. To maintain a lean business model, it can be a challenge to balance outsourcing with internal resourcing.

We have multiple programs that we are trying to push forward, however we always prioritize accelerating the lead asset and that meant we need additional hands. Presently we are looking for a scientist with experience in protein degradation and industry experience in in vitro assays in addition to a project manager.

Can you tell us about how you heard about CLS and your experience collaborating with us?

There are so many opportunities in San Diego and throughout California for all kinds of networking and mentoring. I heard about FAST through one of my contacts from the Women in Bio Female Founders Forum here in San Diego. There weren't many people in my network to provide feedback on FAST although it looked very interesting, so I applied and was accepted. The program was very well-organized and there was tremendous oversight to maximize benefit to Origami and myself. I had a great diverse group of mentors/ advisors! The experience was very productive, in large measure due to the people who were recruited as mentors / advisors and the care taken to match the right people with the right company. There really were the right people in the room to have a discussion. People were very generous with their time, listening, advising, and making connections. I thought it was also just the right length of time. I was involved in another program that went for months, and months, and months and it wasn't nearly as helpful. It wasn't the right people, right perspective. Having experienced multiple programs, it's clear that you have to go in with an open mind and sort out what you can gain from the program.

Any advice for those going from bench to office?

Any hands-on experience you can get shadowing, chatting with a mentor, connecting with people in different roles, etc. you should take it! I'm in a unique position as I've been in a series of corporate roles including Vice President, involved with Human Resources with 20+ years of experience. This experience has provided an excellent network from which to seek advice, and yet, I still work hard to seek out connections with specific expertise. I suggest that you network to find potential co-founders and make connections with people who have the experience and connections to assist you.

One key skill is the ability to build high performing teams with a breadth of capabilities. Sometimes you have some of these skills, but you don't quite realize it yet. Other times, you need to tackle an opportunity head-

on to learn such skills. For me, I was presented with a rather daunting opportunity to lead a large diverse group of scientists – this was outside of my previous experience and training. I realized that I was very good at building high performance teams. The bottom line – be brave, be courageous and say yes to opportunities where you have not previously contributed because that is where you can find new strengths. All this builds perspective and gathers strength and leads to success.

It is good to be honest with yourself about your core strengths. My background is not in finance. As a new CEO, I knew I needed to find someone with these skills whom I could trust. This enabled me to focus on the strategy, science, team building and company structure.

Any advice to first time founders/academic entrepreneurs?

You must be willing to bootstrap, try new things and be flexible! Embrace it!

CALIFORNIA LIFE SCIENCES

THE MANY BENEFITS OF CLS MEMBERSHIP

For more information on how members of California Life Sciences can take advantage of our Innovation & Entrepreneurship programming, Cost Savings Programs or to learn how CLS Policy & Advocacy is working on your behalf with legislators to protect California's R&D tax incentives (i.e. net operating loss deduction and R&D tax credit) along with many other bills that will impact life sciences, please contact our membership team – BD@califesciences.org.

ADVOCACY: A UNIFIED VOICE FOR PROGRESS IN CA

Advancing life sciences innovation through policy and advocacy leadership at all levels of government.

- Drug Pricing
- Inflation Reduction Act
- Patient Access
- R&D Tax Amortization
- Health Equity
- Coverage of Breakthrough Medical Technology
- Intellectual Property

NETWORKING & COLLABORATION

CLS events foster engagement, idea sharing, and connection while convening thought leaders around topics of relevance to our industry.

- Portfolio of Events
- Committees and Working Groups
- Discounts to Major Industry Conferences
- Thought Leadership

COST SAVINGS

Through our CLSAdvantage and BIO Business Solutions partners, CLS members recognize annual average savings on core business products and services.

1-20 EMPLOYEES	21-100 EMPLOYEES	100+ EMPLOYEES
savings of	savings of	savings of
$20,783	**$129,243**	**$587,566**

EXTENDED MARKETING ARM

CLS offers a platform for brand visibility, pipeline development and thought leadership to a network of more than 15,000 contacts.

- Event Sponsorship
- CLS *Insights*
- Digital Advertising
- Member News and Spotlights
- Social Media

DIVERSITY, EQUITY, AND INCLUSION

CLS is committed to creating a more diverse, inclusive and equitable industry.

- Health Equity
- Talent
- STEM Development
- Inclusive Leadership
- Public Health Policy
- Professional Development

ENTREPRENEURSHIP RESOURCES

CLS connects life sciences startups to the resources needed to help them effectively scale their ventures.

- FAST Advisory Program
- Access to Capital
- CLS Innovation Showcase and Partnering Forum
- Peer-to-Peer Exchange
- Accelerating Diverse Entrepreneurs Playbook

About California Life Sciences (CLS)

California Life Sciences (CLS) is the state's leading advocacy organization for the life sciences. CLS advances public policy that promotes innovation and improves access to transformative technologies. With offices in South San Francisco, San Diego, Sacramento, Los Angeles, and Washington DC, CLS has spent the past 30 years supporting organizations of all sizes, from early-stage innovators and startups to established leaders in the fields of biotechnology, pharmaceuticals, and medical technology. CLS' core mission is to advocate for a world class life sciences ecosystem in California, whose innovation leads to healthier lives around the world. #WeAreCaliforniaLifeSciences

CALIFORNIA LIFE SCIENCES

califesciences.org