

# Five Years of Nucleate

**Impact Report  
2019-2023**

**AUTHORED BY:**

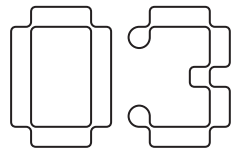
Gabriel Manzanarez  
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Sarah Chong

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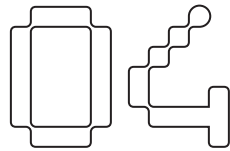




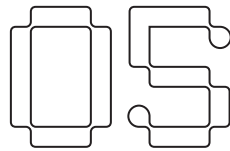
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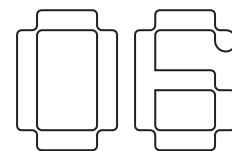
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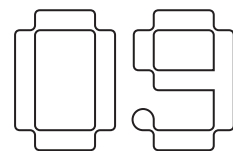
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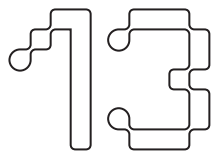
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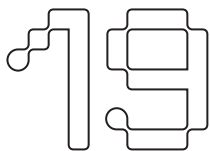
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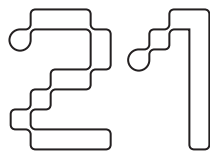
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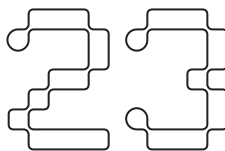
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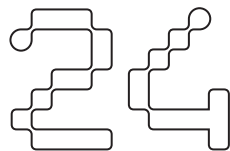
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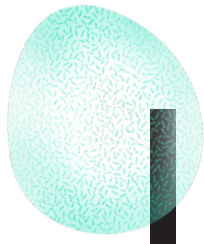
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# Foreword



In 2019, we co-founded Nucleate with a vision to bridge the gap between the diverse talent pools at Harvard and beyond—PhDs, post-docs, MBAs, and medical students.

Our goal was not only to foster a vibrant community where new projects, ideas, and companies could thrive, but also to make the intimidating world of biotech entrepreneurship more accessible. Positioned in the heart of the Harvard-MIT ecosystem, we recognized a need for a platform that welcomed those who were merely curious about the venture path, not just those with a fully formed team, idea, or technology. Nucleate was conceived to provide the earliest stepping stone in the biotech entrepreneurial journey and to thrive by coordinating and leveraging the myriad of resources available in Boston, Massachusetts.

To our delight, Nucleate resonated with many who were searching for a community of like-minded individuals, passionate about biotech innovation. Over the past five years, we have witnessed friends and early members of Nucleate go on to launch successful, venture-backed biotech companies. Others who joined Nucleate have established biotech firms or become integral parts of the ecosystem through roles in pharma business

development, venture capital, and more. What began in Boston has expanded to other thriving biotech hubs like the Bay Area and London and has helped nurture 41 emerging biotech ecosystems globally. We are immensely proud of the community and network we have built.

Reflecting on our journey, it is crucial to assess the impact of our efforts. The Nucleate Impact team has meticulously captured the quantitative and qualitative effects of our initiatives over the five year period of 2019-2023. This report offers an in-depth look at how our programs have influenced the biotech community, highlighting successes, identifying opportunities, and acknowledging areas for improvement.

We hope this report serves as both an inspiration and a call to action for all our stakeholders:

### 1. Nucleate Leadership, Volunteers & Alumni

Your ingenuity, dedication, and tireless efforts are the backbone of Nucleate. This organization thrives because of your passion for kickstarting new ventures, creating educational initiatives, and managing day-to-day operations.

### 2. Nucleate Experts, Mentors & Advisors

We know that donating time outside of your day-to-day jobs is a big commitment. We are grateful for the many hours, events and advice you provide to our teams, leadership and volunteers. You are a critical part of Nucleate’s success. We all hope to pay it forward in the future.

### 3. External Partners

We extend our deepest gratitude to biotech and pharma executives, venture capitalists, university administrators, philanthropists, and government officials. Your support, both financial and operational, has been pivotal in nurturing the next generation of biotech leaders. The impact detailed in this report would not have been possible without your contributions.

As we look to the future, we are more committed than ever to empower the next wave of biotech innovators. Thank you for being a part of Nucleate’s journey and for contributing to our collective success. Together, we are shaping the future of biotechnology.

Soufiane Aboulhouda, Sofia Guerra,  
Oliver Dodd, Marissa Pettit Jones, Matt Lanchantin

NUCLEATE CO-FOUNDERS





# Board Of Nucleate



**Soufiane Aboulhouda**  
Chair, Co-Founder

PhD Candidate,  
Harvard GSAS



**Oliver Dodd**  
Treasurer, Co-Founder

PhD Candidate,  
Harvard GSAS



**Sofia Guerra**  
Director, Co-Founder

Vice President,  
Bessemer Venture Partners



**Matt Lanchantin**  
Secretary, Co-Founder

Head of Corporate  
Development, Syntis Bio



**Marissa Pettit Jones**  
Vice-Chair, Co-Founder

Director, Genentech and Roche  
Corporate Business Development



**Peter Barrett**  
Director

Partner,  
Atlas Venture



**Mira Chaurushiya**  
Director

Managing Director,  
Westlake BioPartners



**Ann Dewitt**  
Director

General Partner,  
The Engine



**Tony Kulesa**  
Director

Partner,  
Pillar VC



**John Maraganore**  
Director

Former Founding CEO,  
Alnylam Pharma



**Travis McCready**  
Director

Head of Life Sciences,  
Industries Americas, JLL



**Chandra Ramanathan**  
Director

External R&D and Global  
Head Open Innovation,  
Danaher Corporation



**Mandi Williams**  
Director

Associate,  
Morrison Foerster



**Michael Retchin**  
Co-President, outgoing

PhD Candidate,  
Weill Cornell



**Samantha Sison**  
Co-President, outgoing

PhD Candidate, UCSF



**Zach Cogan**  
Co-President, incoming

PhD Candidate, UCSF



**Heer Joisher**  
Co-President, incoming

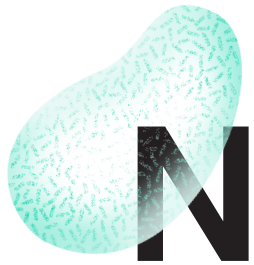
PhD Candidate,  
Harvard GSAS







# Nucleate Overview



Nucleate is a free, trainee-led 501(c)(3) non-profit dedicated to empowering the next generation of biotech leaders. As a global organization, we democratize biotech education, spark new intellectual communities, and build bridges within and across ecosystems by providing open-access programming, events and resources. Our flagship program, The Activator, focuses on increasing the quality and quantity of new biotech ventures addressing the world’s most pressing challenges.

Unified, Nucleate aims to be the world’s largest educational organization for functional and impact-driven life sciences career development in entrepreneurship, venture capital (VC), business development (BD), and more. Nucleate strengthens local biotech ecosystems and forges a global network of innovation by connecting academia and industry across borders.

## We are Global

Nucleate has a global presence across four continents. Regionally, the organization is structured into three distinct chapter types: Core, Associate, and Emerging, each tailored to meet the unique needs of their respective areas. In addition, Nucleate extends its reach through virtual programming at a global scale, ensuring engagement and participation in regions currently without a physical Nucleate chapter. This international footprint makes Nucleate truly unique.

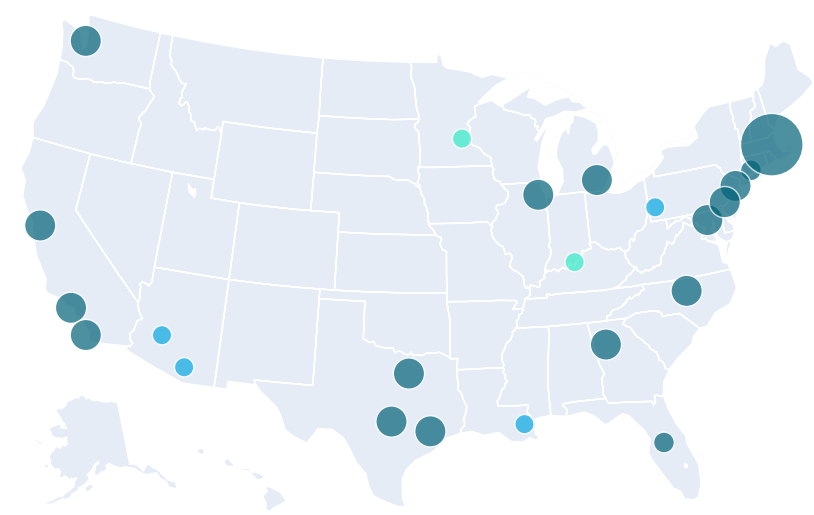
**HQ** is an international team led by a graduate student volunteer executive team and supported by three full time employees. Together, they coordinate programming, finances, and infrastructure across the organization.

**Core chapters** are full operating teams that host an annual independent Activator program. Led by local volunteer leadership, these run regional community-building events, host lecture series for skill development, and work with HQ to expand the reach of educational programs.

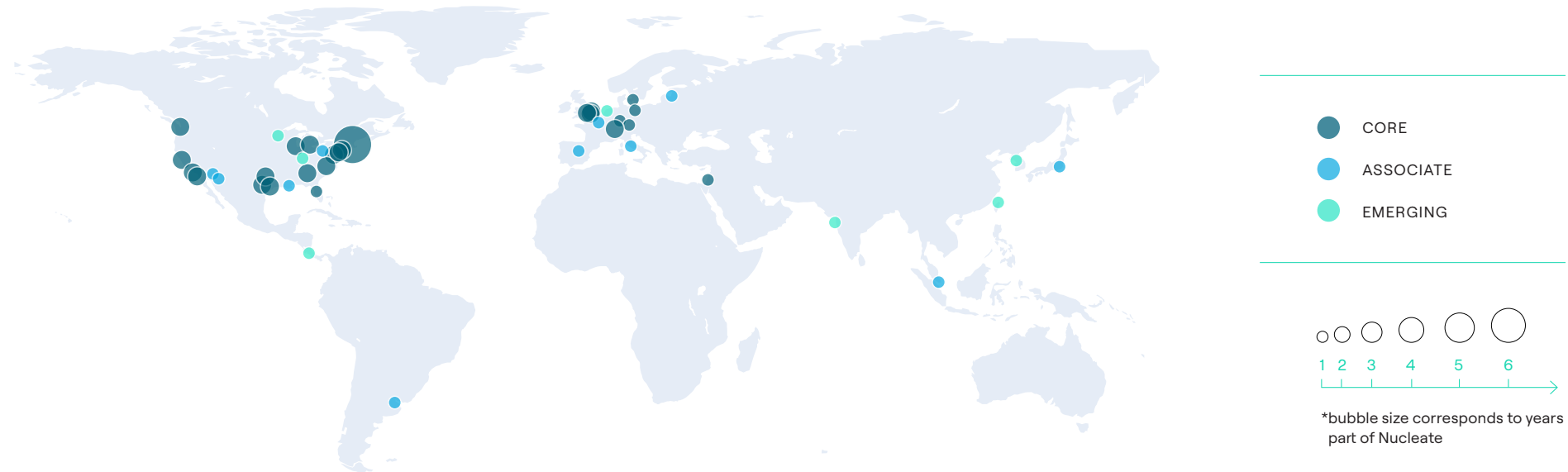
**Associate chapters** host community-building events such as speaker series, lectures, and networking opportunities, as well as one major annual event centered around bio-entrepreneurs.

**Emerging chapters** are teams that are just starting to build out their local chapter. These chapters are responsible for mapping out their ecosystem, and data are incorporated into a regional Ecosystem Report. We aim to publish these open-access reports on our website in the coming years.

NUCLEATE IN THE US, 2023



NUCLEATE GLOBALLY, 2023





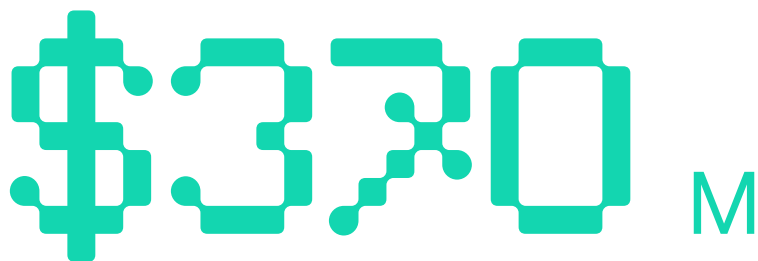
# The Activator

## The Largest Trainee-Led Global Biotech Accelerator



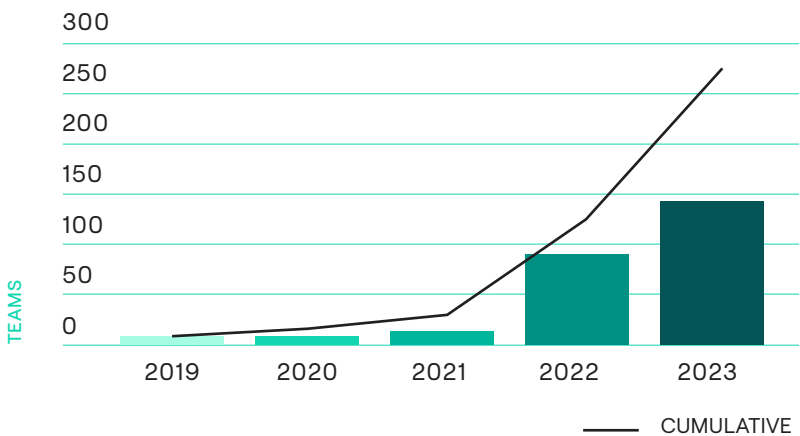
We are dedicated to fostering the development of early-career academics, guiding them to transform their research into real-world contributions in the global biotech sector. The Activator is the catalyst, providing the skills and resources needed to turn groundbreaking ideas into trailblazing life science ventures addressing human (Bio track) and planetary (Eco track) health.

To date, more than 255 teams across Nucleate’s 24 core chapters (in 6 countries) have gone through The Activator. This makes it the largest trainee-led global biotech accelerator by number of participating teams. Pioneering technologies joining Nucleate range from therapeutics and diagnostics to biomanufacturing and food & agriculture. Armed with knowledge and mentorship, many alumni go on to form successful companies. NextRNA [\$56M], Manifold Bio [\$45M], Glyphic Biotechnologies [\$44M], Concerto Biosciences [\$26M], and Limax Biosciences [\$20M], are a few examples of the 101 Activator teams which have incorporated to date. Nucleate Activator has also produced individual participants who have gone on to co-found successful startups, harnessing the skills and network developed during the Activator program (Apertura [\$67M] and Amber Bio [\$26M]). As of June 2024, Activator alumni teams and participants from the 2019–2023 cohort have raised a cumulative amount of:

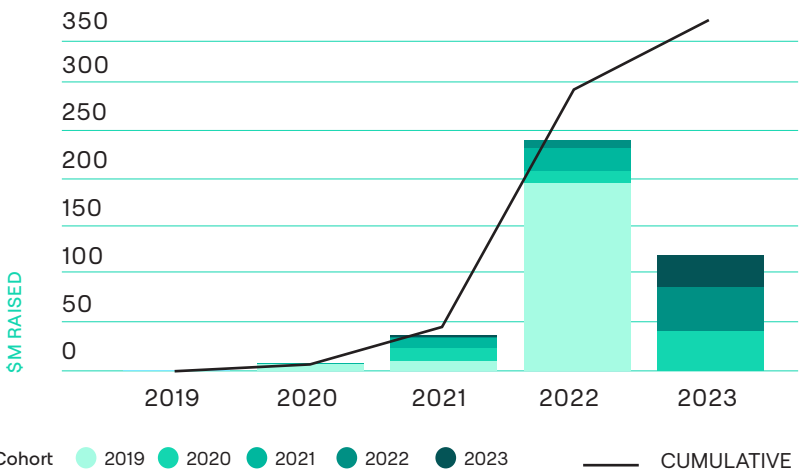


Being part of the Nucleate ecosystem means getting the earliest access to innovative life science technologies around the world. This is seen in the graph below showing funds raised by Activator participants. Investing in Nucleate means investing in what's next: a seed of science – packed with years of knowledge and expertise.

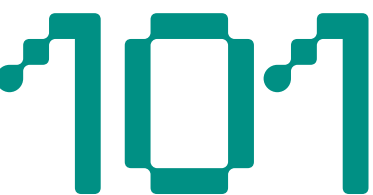
23-FOLD GROWTH IN ACTIVATOR COHORT SIZE



FUNDS RAISED BY ACTIVATOR TEAMS AND PARTICIPANTS



### COMPANIES INCORPORATED



NextRNA \$56M	Manifold Bio \$45.4M
Glyphic Biotechnologies \$43.8M	Concerto Biosciences \$26M

### TECHNOLOGY TYPES OF ACTIVATOR TEAMS

THERAPEUTICS	53
TOOLS	22
DIAGNOSTICS	21
MEDICAL DEVICES	21
SERVICES	18
DIGITAL HEALTH	12
COMPUTATIONAL	10
PLATFORM & OTHER	9
FOOD & AGRICULTURE	8
BIOMANUFACTURING	6
CARBON SEQUESTRATION	3

TECHNOLOGY TYPE







# Educating the next generation of bio-entrepreneurs

## The Activator provides immense value

### For the biotech community

- Identify and nurture technologies and founders at the earliest stages
- Enable the translation of innovation from academia to real-world impact
- Inspire the next generation of scientific entrepreneurs to become future leaders

### For participants

- Benefit from hands-on workshops focused on key aspects of starting a life science company
- Leverage our network of 2000+ top industry experts, mentors, and alumni to inform company formation
- Work with our extraordinary partners in pharma, biotech, venture capital, banking, and law for increased opportunities
- Millions awarded in non-dilutive grants, SAFEs, and in-kind services

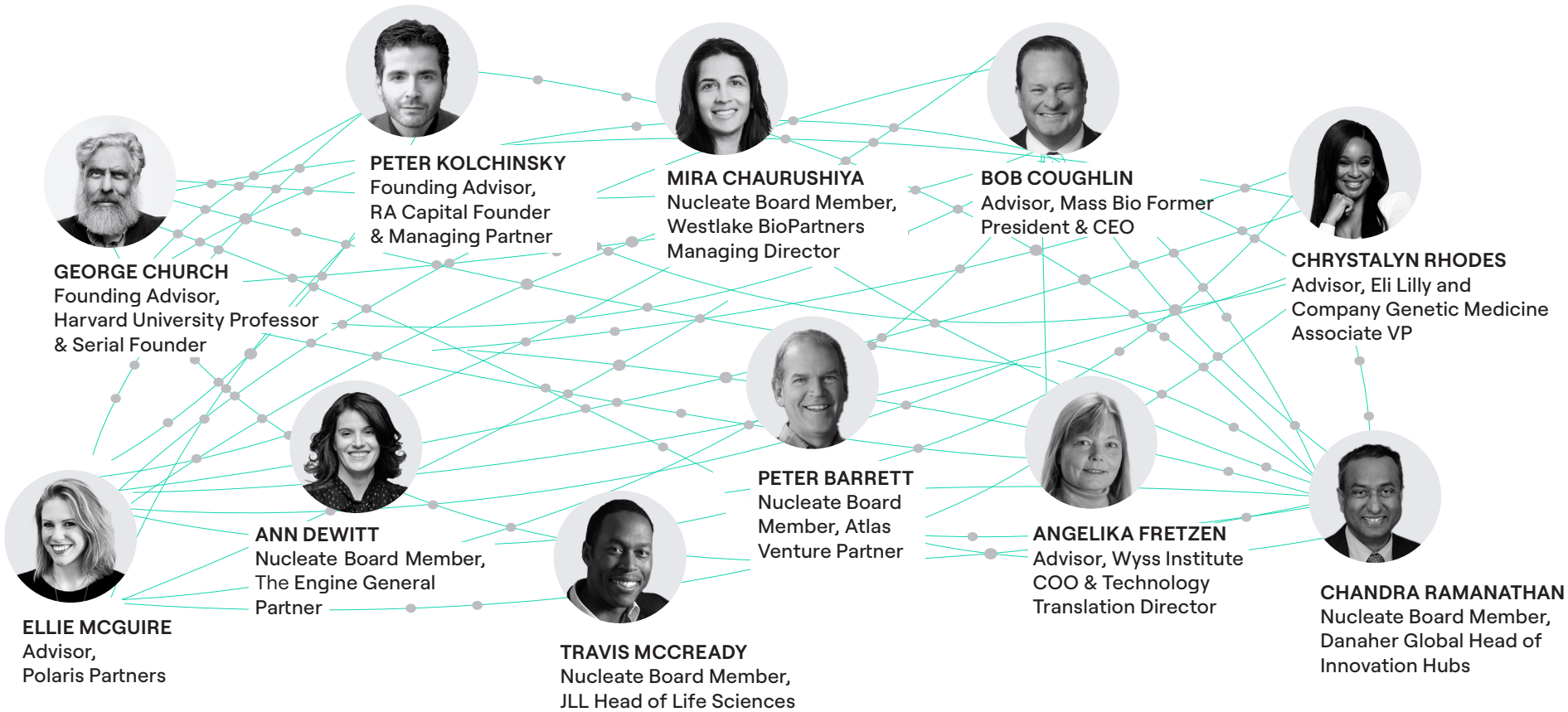
“Nucleate is designed and run by trainees, so it understands what founders need as they start out of academia. I am proud to advise Nucleate to enable future biotech leaders.”

**PETER BARRETT**  
Partner, Atlas Venture; Senior Fellow at Harvard Business School

“The connection to partners and mentors that Nucleate provides for students is very valuable. 99.9% of labs do not have this. Even my students, who have an advantage, benefit from Nucleate, and for that they are very grateful.”

**GEORGE CHURCH**  
Professor, Harvard University

## Strong global network of advisors 2000+ top industry experts, mentors, and alumni



## ACTIVATOR TIMELINE



Our curriculum starts with technology sourcing and culminates with a final pitch showcase. Our Activator alumni are celebrated together with our entire community at the Global Summit (see [page 19](#) for more on The Summit).





# Supporting founders



Beyond running workshops, the Activator is about building community and supporting scientist entrepreneurs through their venture creation journey. Sharing insights from founder to founder, connecting teams with leaders in their fields, and growing the translational energy of the ecosystem by helping ventures take their first leaps into the world; this is what the Activator is about.

“We met through Nucleate and quickly started Glyphic with the mentorship we received. **Without Nucleate, Glyphic would never have been formed.** We’re fortunate to have had Nucleate Bio as our launchpad.”

> **JOSHUA YANG**  
CEO & Co-Founder, Glyphic Biotechnologies  
(Activator Alumni, 20-21)

“Participating in Nucleate was critical in helping us prioritize our efforts and forge a path to get the company started. **I don’t think we would have been as successful without the resources provided by the accelerator program** and the people who helped along the way.”

> **IVANA VASIC**  
CEO & Founder, Vitra Labs (Activator Alumni, 20-21)

“The workshops provided a brilliant framework that made us consider aspects of the venture that we otherwise may not have thought about, and its regular structure helped us to keep at it until we ended up with a much more rounded and better developed idea. **More than anything, I loved how we got to meet and chat with awesome founders from startups I had been following in the news** – hearing about their journey and receiving advice through their direct experience was inspiring.”

> **DARIUS ZARRABIAN**  
Co-Founder, Jodo Biotech (Activator Alumni, 22-23)

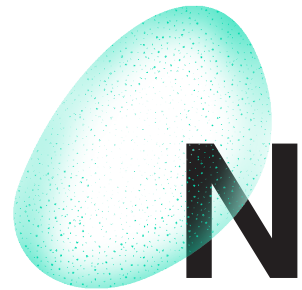






# Professional Development

Nucleate is the global leader for training the next generation of life sciences talent



Nucleate offers a suite of educational initiatives dedicated to empowering academics stepping into the dynamic realm of biotechnology. Our focus spans critical areas such as Business Development, Venture Capital, and Innovation, each tailored to accommodate individuals at every academic stage. These transformative programs are curated in collaboration with industry trailblazers, ensuring a seamless connection between our community of early-career academics and potential future employers.

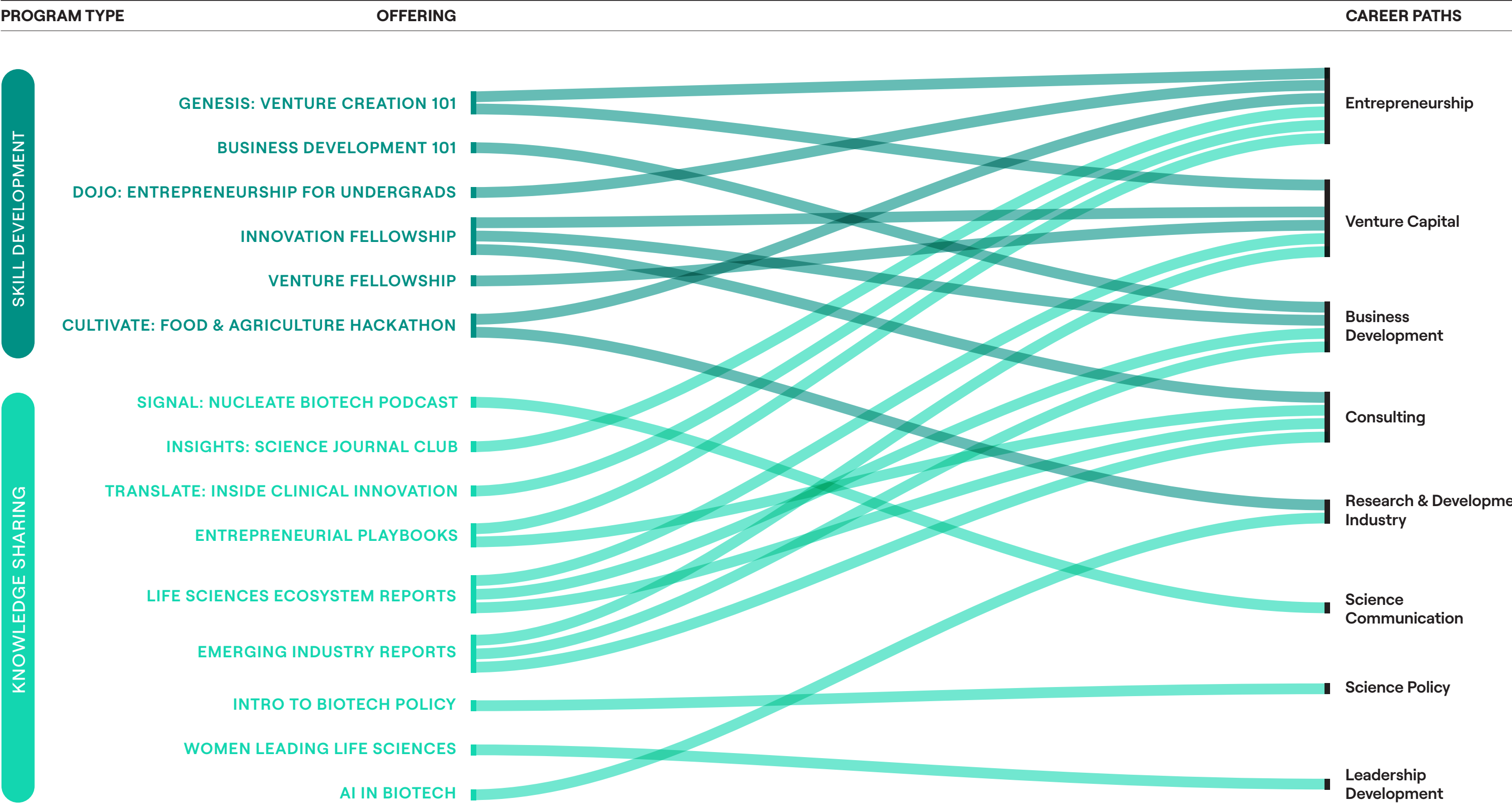
Nucleate's educational offerings not only enrich academic journeys but also serve as a bridge connecting aspiring minds with opportunities in the biotech landscape. Through our 'open and free to all' mission, Nucleate is democratizing access to life science education at a global scale.

We organize our programming into two verticals: Knowledge Sharing and Skill Development. Our combination of lectures, workshops, and fellowships each support the next generation of biotech leaders that make up the Nucleate community.





# Educational Programs



SKILL DEVELOPMENT

KNOWLEDGE SHARING







# Skill Development Programs

DOJO EXPLORE

**Dojo Explore** is a 6-week introductory biotech course aimed at training undergraduate researchers in the fundamentals of the biotech sector. Workshops and seminar series are oriented around venture creation and early-stage biotech product development.

3 virtual cohorts to date	25 individuals per cohort
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→ Learn More

GENESIS AND CATALYSE

**Genesis** (USA) and **Catalyse** (UK) are open to individuals from all levels of STEM and business education. The program runs as a series of six modules focused on ideation around venture creation.

3 cohorts to date (Catalyse)	1 company formed from an ideation
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→ Learn More

CULTIVATE

**Cultivate** is a hackathon program born from a merger with Cultivate Tomorrow. Reimagining the future of food and lowering the barrier to entry of cell-cultured innovation, Cultivate aims to foster a community around entrepreneurial students and has as pitch to industry leaders as final deliverable.

Mentorship from top industry startups including Perfect Day, Wildtype, and Upside Foods	121 participants
	82% rated mentorship as valuable to their learning pathways

→ Learn More

BUSINESS DEVELOPMENT 101

**Business Development 101** (Nucleate and Genentech partnership) is a course aimed at graduate-level trainees (PhD, MBA, JD) interested in or pursuing a career in business development (BD). The course covers the fundamentals of BD in the life sciences industry, including buy-side and sell-side roles, and culminates in a team project aligned with Genentech's strategic interests and a day-long site visit to Genentech.

1 cohort run so far	25 participants
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→ Read more below



INNOVATION FELLOWSHIP

**Innovation Fellowship** is a partnership with local academic centers and venture capital firms to provide current graduate students and postdocs with an opportunity to gain hands-on experience in innovation landscaping and an introduction to due diligence of new technologies.

4 cohorts at UC Berkeley	2 cohorts at UC Santa Cruz
1 cohort at UC San Diego in partnership with Autobahn Labs	19 fellows total to date

→ UCSC program

→ Berkeley cohort

“The Innovation Fellowship was a great exercise to look at science through a totally different lens and learn through case studies within my specific field what the motions are to translate an idea from an academic paper to a flourishing company. I appreciated how each fellow had the scope to tailor their project to their interests to create something unique, and it gave me the impetus to spend time learning about all the exciting work happening on campus outside of my research group and build my network.”

» ELIZABETH GILL  
Innovation Fellow, UC Berkeley

VENTURE FELLOWSHIP

**Venture Fellowship** program is a 16-week fellowship for highly motivated trainees in the life sciences, culminating in the selection of the 2024 Nucleate Venture Prize winners. The Venture Prizes are SAFE notes without a valuation cap or discount, and founders can choose to defer for up to a year.

8 winners have raised seed funding to date	27 Prize Winners to date with \$4.6 million in SAFE notes awarded
In 2023, 5 international fellows participated	

→ Learn More





# Knowledge Sharing Programs

## THE SIGNAL PODCAST



**The Signal Podcast** is the voice of the next generation of biotech leaders and is led by an all-scientist editorial team. It builds on the previous **Insights** initiative, which hosted discussions between life sciences trainees and scientists who transformed academic projects into thriving biotechnology companies.

**Insights had:** 35+ universities represented, with 30 founders including founders of Twist Biosciences, Dyno Therapeutics, and Cellino.

**Signal** has hosted 6 episodes to date, with guests such as Sean McClain (CEO & Co-Founder of Absci) featuring exciting technical discussions ranging from IVG to CO2!

→ [Learn More](#)

## ENTREPRENEURIAL SCIENTIST PLAYBOOKS



**Entrepreneurial Scientist Playbooks** help bridge critical knowledge gaps experienced by academic trainee founders during their transition from academic research to viable commercial ventures. Supported by Schmidt Futures, the Entrepreneurial Scientist Playbooks complement the Activator by extending resources to both founders and academic trainees.

**Three playbooks:** [Partnering with Pharma](#), [Licensing from Universities](#), and [Operationalizing Your Therapeutics Spinout](#), all free and open to the public.

→ [Learn More](#)

## TRANSLATE



**Translate** is a virtual, open-access short course that equips trainees with a deeper understanding of how clinical expertise drives the development and implementation of biotech innovations.

**Inaugural 2023 series:** 5 sessions attended by 1600 trainees and clinical professionals worldwide

→ [YouTube series](#)

→ [2024 program](#)

## DOJO HOUSE AND GRANTS



**Dojo House and Grants** programs empower U.S. and Canadian undergraduate students to become the biotech leaders of the future. Dojo House collaborates with Harvard OpenBio laboratory to provide fully covered (living expenses included) internships in world-class academic labs, cutting-edge startups, or early-stage deep tech VC funds. Dojo Grants, in partnership with the Intuitive Foundation, is an institution-agnostic, year-long undergraduate research fellowship aimed at increasing diversity in academia and promoting research that is typically underfunded.

**Grants:** Research projects ranging from investigating endometriosis treatments for women to cardiovascular risk of diabetic African Americans - all areas that are currently underfunded.

**House:** 2 iterations of cohorts with 8 selected participants in each.

**Grants:** 5 scholars selected from +130 applicants.

→ [Learn More](#)

## WOMEN LEADING LIFE SCIENCES



**Women Leading Life Sciences** was created to inspire and empower women pursuing science careers to take on leadership roles. Promoting gender equity is done by providing a space for women to share their stories as well as to celebrate the contributions of women in biotech and life sciences.

**4 events** across **4 cities**

**Leadership 101** program in development

→ [Read more below](#)

## AI IN BIOTECHNOLOGY



**AI in Biotechnology** helps students tap into the rapidly growing opportunities in artificial intelligence by hosting information sessions, initiating ideas around techbio startups, and compiling resources.

**4 workshops**

**Rapid growth & interest**

→ [Learn More](#)

**“Nucleate is playing a critical role in empowering academic trainees to launch the next wave of biotech startups. The Entrepreneurial Playbooks will help early-career scientists develop the next life-saving therapy, vaccine, or diagnostic, or bio-based climate solution.”**

➤ **TOM KALIL**  
Chief Innovation Officer, Schmidt Futures

## INSIGHTS JOURNAL CLUB



**Insights Journal Club** invites life science trainees to engage in deep dive discussions with company founders who transformed academic projects into thriving biotechnology companies. In these journal club-style discussions, we uncover what helped founders fully realize and grow the commercial potential of their original academic projects.

**8 sessions**

**3 modalities:** gene therapy, cell therapy and synthetic biology

**25** selected participants from **285 applicants**

→ [Learn More](#)



Women in biotech leadership dinner







# PARTNERSHIP PROGRAMS



Business  
Development 101  
with Genentech



Genetic Medicine  
Grand Challenge  
with Eli Lilly and Company



Venture Prizes and  
Fellows Program  
with BlueYard Capital and Pillar VC



Women Leading  
Life Sciences  
with Lyda Hill Philanthropies



BioVenture  
Challenge  
with Alnylam Pharmaceuticals

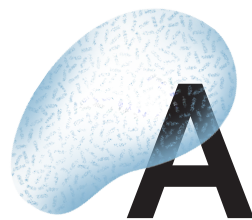






# BUSINESS DEVELOPMENT 101

## Genentech and Nucleate



structured learning environment centered around business development was one of the most requested areas of interest from Nucleate members. Consequently, Nucleate and Genentech partnered together to design a free educational series demystifying the nuances of the career path through the Business Development 101 program, catalyzing the next generation of life sciences business leaders coming from diverse graduate-level degrees (PhD, MBA, JD).

The course covers the fundamentals of BD in the life sciences industry in 6 sessions: Intro to BD, BD Search & Eval, Buy-Side BD, Sell-Side BD, BD Finance, and Alliance Management. The course culminates in a team project aligned with Genentech's strategic interests and a day-long site visit to Genentech. Furthermore, a major goal of this partnership is to continue to promote DE&I in the field by engaging in targeted outreach to underrepresented communities, affinity groups, and individuals in order to actively source diverse talent for the applicant pool.



**“We applaud Nucleate’s commitment to empowering the next generation of life science leaders through their ‘Partnering With Pharma’ playbook and BD101 Course. As industry partners, Roche and Genentech are proud to collaborate on this initiative, sharing insights and expertise to demystify the intricate process of partnerships between pharmaceutical companies and startups.”**

**MARISSA PETTIT JONES**  
Director, Genentech and Roche Corporate Business Development;  
Co-Founder & Board Member, Nucleate

**“It has been extremely rewarding and energizing to work with the Nucleate team on developing and delivering their inaugural BD101 course offering. In just a few months we went from concept to execution with a cohort of very high caliber students taking part. I have no doubt that many of the future leaders and disruptors of biotech will come from the Nucleate network of students.”**

**GRACE D. CHEN**  
Senior Director, Genentech and Roche Corporate Business Development



IN OUR  
INAUGURAL YEAR  
  
WE RECEIVED  
APPLICATIONS FROM

435

APPLICANTS

24 countries  
6 continents

25

PARTICIPANTS

1 cohort to date

100%

WOULD RECOMMEND  
THIS COURSE

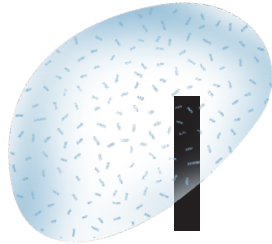






# WOMEN LEADING LIFE SCIENCES

Lyda Hill Philanthropies and Nucleate



In the United States, only a fifth of the C-suite positions in the life sciences are held by women. The portion of venture capital raised by women in life sciences is woefully low at 2%. To help promote women in life science leadership roles and bring awareness towards gender equality, the Women Leaders in Life Sciences Series was launched.

The mission of this series of open-access, live, virtual talks is part of our Education and JDEI initiatives, as female leaders from diverse backgrounds will be spotlighted and invited to speak to our global audience about how they reached their current roles. Furthermore, the program has had a very high attendance rate that led to local community-building for women in cities across the USA.

“For me, the Nucleate Women's Dinners have facilitated some of the most meaningful connections of the past few years. The opportunity to gather with other women – from different backgrounds and walks of life, all of whom have a passion for advancing biotech – is truly a gift. Through these dinners I have found inclusivity, advice, encouragement, networking, and more. I feel grateful that Nucleate has made this initiative a priority: I know the impact they've had on my career... ..and I imagine the careers of other women too!.”

➤ **ELISABETH ARMSTRONG**  
Senior Equity Research Associate, Raymond James

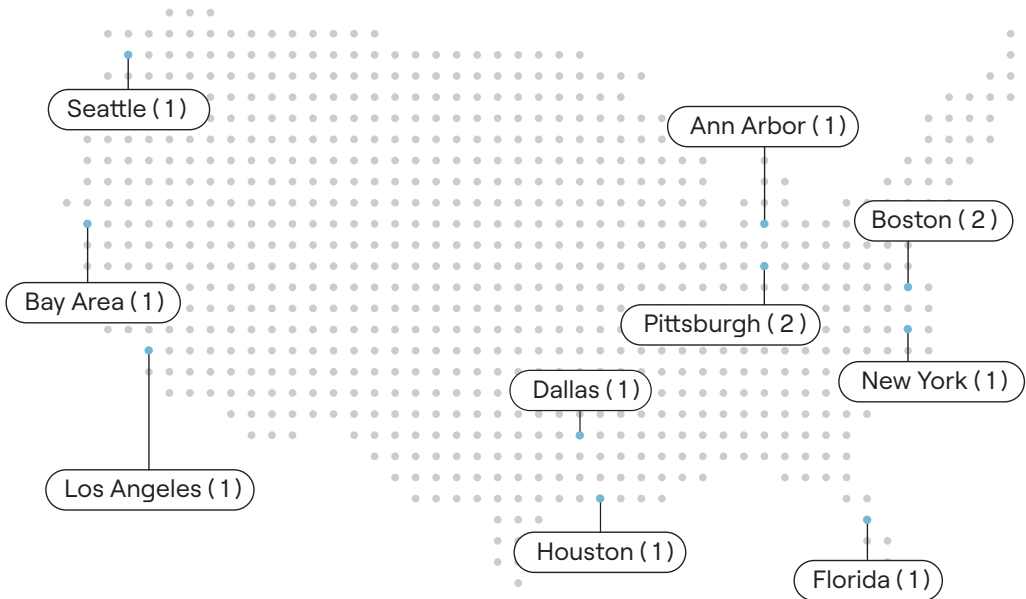


12

EVENTS AND  
DINNERS HOSTED  
ACROSS THE US

122

attendees across the US,  
including invited speakers and  
trainees







# GENETIC MEDICINE GRAND CHALLENGE

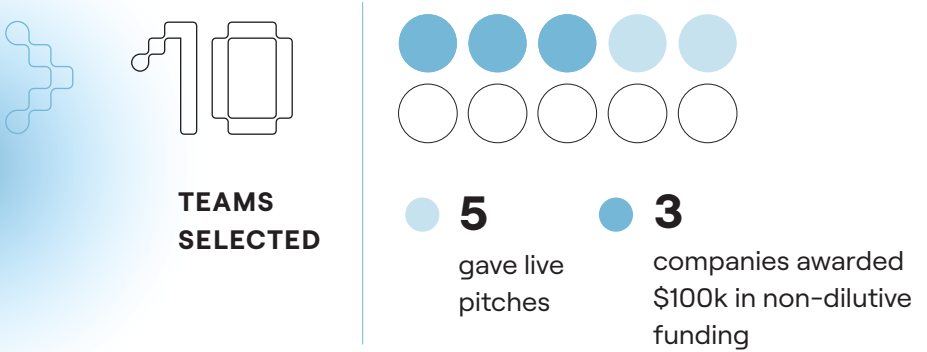
Eli Lilly and Nucleate



Eli Lilly and Company first became a Platinum Sponsor of Nucleate’s Activator program in 2023 and launched the [inaugural Grand Challenge Competition](#) to support breakthrough technologies in genetic medicine that same year. This competition, open to all innovators, brought together 10 incredible technology teams for a 2-day event at Eli Lilly HQ in Indianapolis to network and learn from top executives and scientists at Eli Lilly and compete for \$300,000 in non-dilutive grant funding. Nucleate sourced teams spanning various categories of genetic medicine, including genome engineering, regenerative medicine, delivery, manufacturing, and an open umbrella category. The 2023 event featured a poster session, tours of Eli Lilly HQ including the “Hall of History” on-site museum, and keynote talks given by Dr. Dan Skovronsky (CSO), Dr. Andrew Adams (Senior VP of Neurodegeneration Research and Co-Director of the Eli Lilly Institute for Genetic Medicine), and Dr. Christalyn Rhodes (Associate VP of External Partnerships for Genetic Medicines). Teams who attended the event gained access to Eli Lilly’s deep network of scientific and business expertise and cited the experience as a major value driver for the continued development and success of their startup.

Eli Lilly’s sponsorship aligns both organizations’ missions and fosters early-stage biotech innovation by supporting the next generation of biotech leaders. Eli Lilly’s experts and mentors have been vital in providing guidance to Nucleate’s Activator teams, not only through the Grand Challenge, but also during the Activator.

Following a successful first year, [Eli Lilly has renewed their sponsorship](#) of the Activator and the Grand Challenge Competition for three additional years. This year’s competition scope was expanded to include Neuroscience as a specific focus area, alongside Eli Lilly’s existing interest in genetic medicine more broadly. Over the coming years, we hope to continue broadening the scope of the Grand Challenge to include a wider range of Eli Lilly’s therapeutic focus areas. Eli Lilly’s support for Nucleate underscores their commitment to empowering the next generation of biotech leaders and supporting pioneering research with the potential to address unmet need for patients living with debilitating disease.



**“Thanks to Nucleate and Eli Lilly’s support, we were not only advancing our science but working to have a tangible impact on those who urgently need novel, life saving therapies. Nucleate’s leadership has prepared us for the next steps in our start-up journey and given us the opportunity to meet leaders and innovators at Eli Lilly who have thrown their support behind our efforts to cure children with rare fibrotic disease.”**

**JULIE SABA**  
Founder of Sphinxion, formerly Sphinx Therapeutics  
(Activator Alumni, 22-23)



**“Attending the Eli Lilly Grand Challenge event was an amazing experience. The \$100K non-dilutive funding has allowed us to achieve scalable manufacturing of our drug substance, fund our toxicity study, and purchase crucial equipment, significantly accelerating our progress and adding immense value to Cloverleaf Bio. We met senior Eli Lilly executives, sparking ongoing partnership discussions that may lead to future collaborations. An organic connection with another startup, Orion, has already evolved into an active collaboration where we are combining our RNA technology with their delivery vehicle. I highly encourage others to take advantage of this remarkable opportunity!”**

**COLE LEWIS**  
CSO, Cloverleaf Bio (Activator Alumni, 22-23)

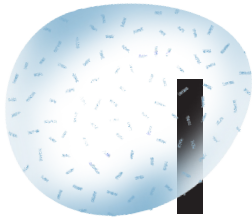






# BIOVENTURE CHALLENGE

## Alnylam and Nucleate



In 2022, Alnylam Pharmaceuticals celebrated its 20th anniversary and as a nod to their entrepreneurial past, partnered with Nucleate and focused on our Activator program to invigorate the local biotech ecosystem. This

partnership expands the connection from academia to a successful industry venture in hopes of inspiring the next generation of companies like Alnylam.

The sponsorship kicked off with the Alnylam BioVenture Challenge and a stake of the \$100,000 John Maraganore Science Entrepreneurship Award. Not only did Alnylam give a generous donation, senior leaders Greg Hinkle, Steve Bossone, Saraswathy Nochur, and Eric Olson gave insights on a wide variety of topics such as research and development, intellectual property, business development, and diversity, equity and inclusion.



**3**  
teams and  
**20+**  
leaders  
attended

WINNER RECEIVES

**100k**

**2ND AND 3RD PLACE  
ALSO WIN A 10K PRIZE EACH**

**“The Alnylam Bioventures Challenge was one of the most valuable parts of our Nucleate experience. Not only did it provide us with additional funding to support our project, but it also connected us with several senior Alnylam executives that would have taken several rounds of intros to get connected to otherwise (if at all). Most importantly, it reaffirmed our decision to pursue this project full-time and was essential to our success.”**

**DEMETRI MAXIM**  
Co-Founder & CEO, Nephrogen Biotech (Activator Alumni, 22-23)

**“As we thought about how we wanted to commemorate our 20th year as a company, we knew that we wanted to honor the entrepreneurial spirit of our founders by helping remove barriers faced by a new generation of biotech leaders. We are thrilled to be doing that through our partnership with Nucleate, and the Alnylam BioVenture Challenge.”**

**AKSHAY VAISHNAW**  
Chief Innovation Officer, Alnylam Pharmaceuticals

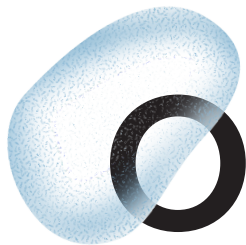






# VENTURE PRIZES AND FELLOWS PROGRAM

BlueYard, Pillar and Nucleate



Over the past two years, Nucleate’s partnership with [Pillar VC](#) and [BlueYard Capital](#) has provided \$3.7M in pre-seed funding through uncapped SAFE notes to 27 Activator teams across the US and Europe, facilitating the transition of promising research into viable ventures. Beyond this financial support, Pillar and Blueyard have worked directly with the founders to help them operationalize their venture, hire top talent, execute on critical experimentation, and secure follow-on funding.

Nucleate, Pillar, and BlueYard have also established the Nucleate Venture Fellowship, enabling 10 fellows over the past two years to gain hands-on venture capital experience. Fellows conduct due diligence, write investment memos, and guide the process of awarding capital to startups, all under the mentorship of an Investment Committee comprising representatives from Nucleate, Pillar, and BlueYard. Unlike industry-standard fellowships, this program guarantees fellows the opportunity to oversee capital deployment during their six-month tenure, providing invaluable experience that significantly enhances their credentials for future roles in the venture capital industry.

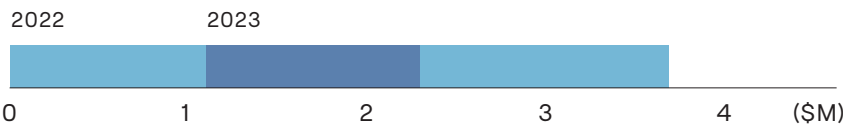
The partnership between Nucleate, Pillar VC, and BlueYard Capital is a robust collaboration that has supported early-stage biotech ventures, founders, and leaders through financial, operational, and strategic means. We are deeply grateful for BlueYard and Pillar’s support of our community, and we look forward to the future achievements this support will unlock for our past and future Activator teams.

UP TO

\$3.7M

IN SAFES AWARDED TO  
ACTIVATOR TEAMS OVER  
THE LAST 3 YEARS

SAFE NOTES GIVEN TO NUCLEATE TEAMS DURING 2022 AND 2023



AWARDING A TYPICAL  
SAFE NOTE OF

\$200k

WITH NO DISCOUNT OR  
CAP TO WINNING TEAMS

SELECTED WITH THE  
SCIENTIFIC EXPERTISE OF

10

NUCLEATE VENTURE  
FELLOWS OVER  
THE PAST 2 YEARS

“At Pillar VC, our mission is to increase the rate of successful biotech companies and helping more scientists make the entrepreneurial transition. This collaboration with Nucleate has facilitated the creation of over 30 new biotech companies. Our commitment to Nucleate reflects our belief in nurturing the next generation of biotech entrepreneurs, driving groundbreaking advancements and strengthening the broader biotech ecosystem.”

TONY KULESA  
Partner, Pillar VC

“The support from BlueYard and Pillar has been transformative for Dart Bioscience. Their strategic advice has guided us through critical decisions, defining our strategy and setting us on a path to success. We are blessed to have investors who fully support our team and technology. The funding has enabled us to generate significant data, submit our patent, and make substantial improvements in our capabilities. The venture prize award has allowed us to reach important milestones, significantly accelerating our growth and development.”

ALON GALOR  
CEO, Dart Biosciences (Activator Alumni 22-23)



“We believe tomorrow’s industry-defining biology companies will be founded by technologists and scientists who are building the interconnected elements that can become the fabric of our future. We are excited about empowering this next generation of founders and have renewed our partnership with Nucleate to support sparking science innovation at its earliest stages.”

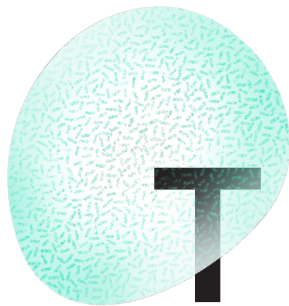
JUAN PINILLA  
Principal, BlueYard Capital







# Summit 2023



The Nucleate Alumni Summit is more than just a networking event – it is a beacon of industry collaboration, a joyous commemoration of our annual Activator cycle, and a heartfelt reunion of our esteemed Alumni. This exceptional gathering delivers an immersive experience that seamlessly blends celebration, connection, and innovation.

This exciting assembly serves as a dynamic platform where like-minded individuals converge to exchange ideas and collectively shape the future of bio-innovators. With participants coming together from every corner of the globe and bolstered by the support of global sponsors, esteemed thought leaders in the bioeconomy, and influential biotech venture capitalists, this summit distinguishes itself as one of the largest gatherings of next-gen bio-innovators the industry has ever witnessed.

**“It was an honor to be a part of the Nucleate Summit 2023 in sunny San Diego. I was surrounded by amazing future leaders of science: the next Carolyn Bertozzi, Jennifer Doudna, and George Church... this is the future of science and humanity, and it looks brighter than ever. I had some great conversations all week with some unbelievable leaders of science, leading to one of the best events I've attended in my career.”**

➤ MATTHEW STOCKEL, Sales Enablement Business Partner, Millipore Sigma

**“Nucleate Summit in San Diego has to be the most fun I’ve ever had at a conference. Less of a Ted Talk, more of a Q&A and fireside chat over drinks. So many real connections were made; I’ve never attended anything like it. The Summit was incredible, and a perfect extension of Nucleate’s larger mission: to connect people across the life sciences and business spaces.”**

➤ JON CHEE, CEO, Excedr



3

DAYS OF NETWORKING

542

TOTAL ATTENDEES

- 217 Student Leaders
- 151 Alumni
- 91 Sponsors
- 75 Industry Professionals and Academics

350

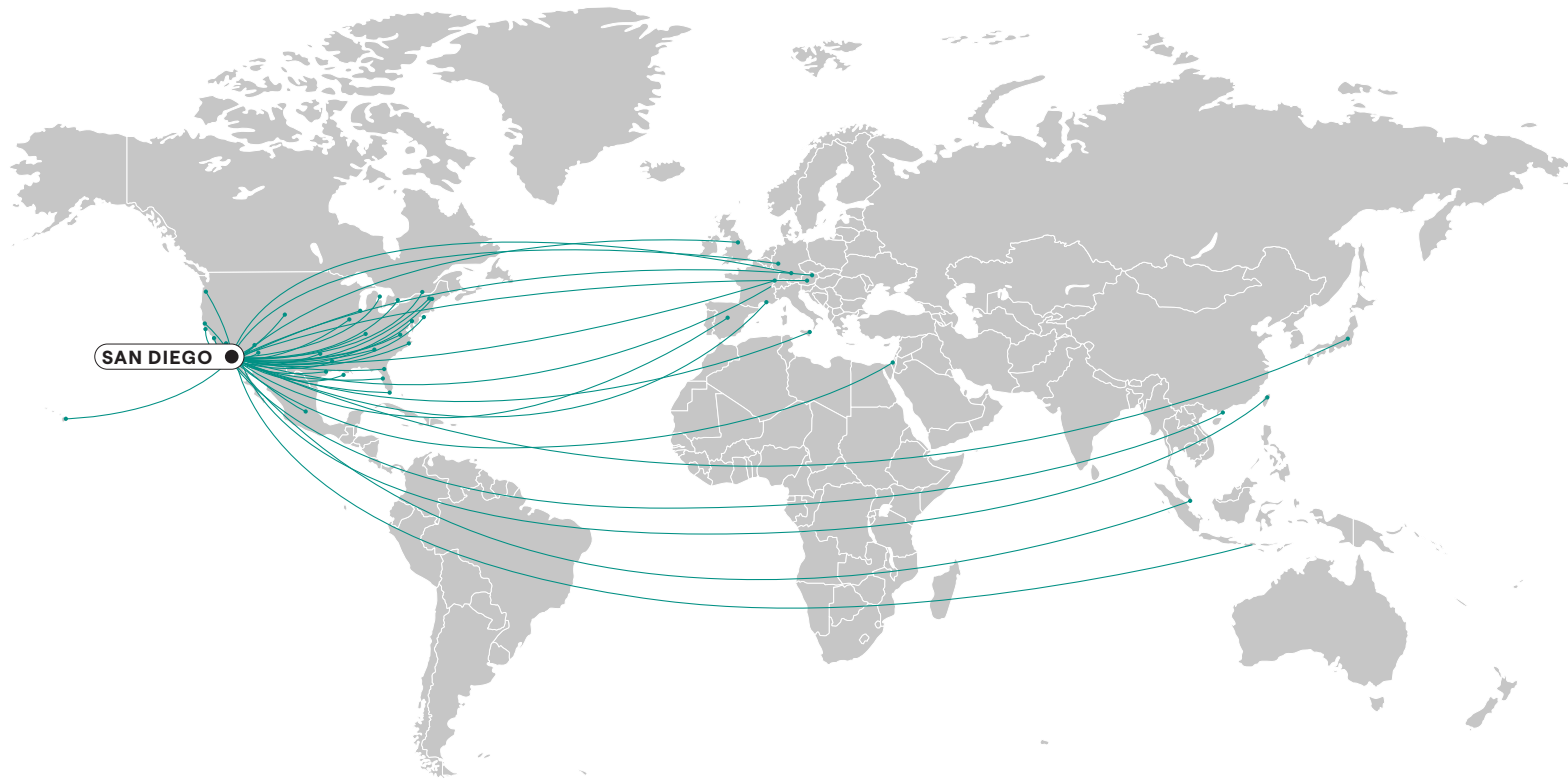
TRAVEL GRANTS SPONSORED

82%

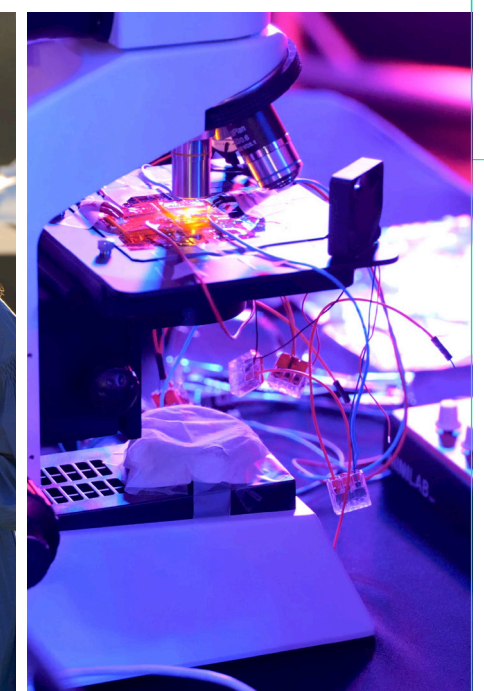
OF PARTICIPANTS MET SOMEONE THEY PLAN TO WORK WITH IN THE FUTURE

92%

OF 2023 PARTICIPANTS ARE EXCITED TO ATTEND THE ALUMNI 2024 SUMMIT







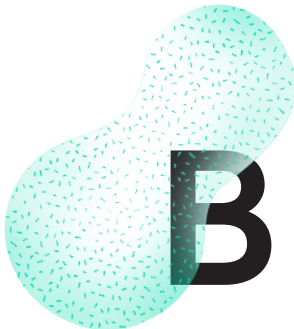
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# Leadership

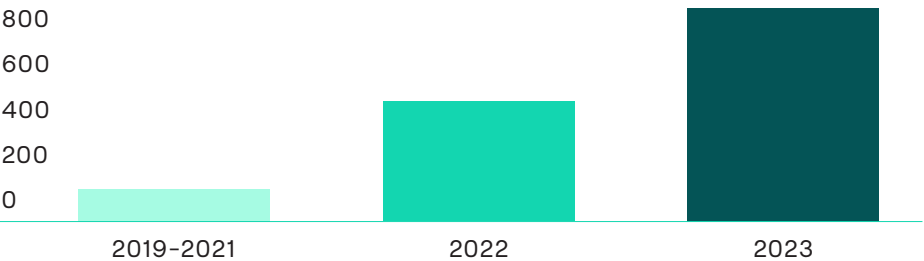


uilding the next generation of biotech education wouldnot be possible without the community of volunteer student leaders (and partners, see more on [page 24](#)). With over 800 active leadership members as of 2023, the Nucleate team includes academic trainees in various disciplines worldwide. More than half of the Nucleate leadership is currently pursuing a PhD. The remaining majority comprises an equal mix of MBA, Master's, and Undergraduate students.

### DEGREE BACKGROUND

JD STUDENT	0.9%
POST-DOC	4.6%
MD STUDENT	5.0%
OTHER	6.7%
MBA STUDENT	9.0%
UNDERGRADUATE	10.3%
MASTERS STUDENT	10.8%
PHD STUDENT	52.7%

### LEADERSHIP GROWTH



### Where are leaders located?

At present **41** chapters are associated with Nucleate globally.

### What career aspirations do leaders have?

At the start of their journeys with Nucleate, leaders have a strong interest in expanding the bioeconomy in as many ways as possible. With 'entrepreneur' and 'venture creation' ranking as the top career goals, it is evident that Nucleate's leadership is as passionate as its Activator participants about bringing cutting-edge science forward to make positive impact.

In addition to operating educational programs, many Nucleate leadership participate in biotech fellowship programs. Focused on building skills for careers in Venture Capital, Industry, Consulting, and Finance, fellowships provide professional development and an experience that complements academic training.

Upon completing their Nucleate journey, leaders emerge with strong leadership skills that expedite their entry into the life science sector. Contributions extend beyond entrepreneurship into other roles in the bio-economy such as consulting, regulation, finance, journalism, policy, and many more.

### GENDER RATIO

WOMAN	249
MAN	254
NON-BINARY	2
AGENDER	2
GENDER QUEER / GENDERFLUID	5
PREFER NOT TO SAY	11



**“Being a part of Nucleate leadership has been an amazing career development opportunity. Being able to network and work with the biotech community including VCs, Founders, CEOs, and key leaders in the field is an experience I don't think I could get anywhere else as a PhD student. Additionally, the most valuable skills I've gained from Nucleate are leadership skills. Being a student-led organization provides huge leadership opportunities that you cannot get from biotech internships, such as leading teams, leading initiatives, and building programs. Being a member of Nucleate has been the highlight of my PhD.”**

**> SAMANTHA SISON**  
PhD student, UCSD & 2023-2024 Co-President, Nucleate

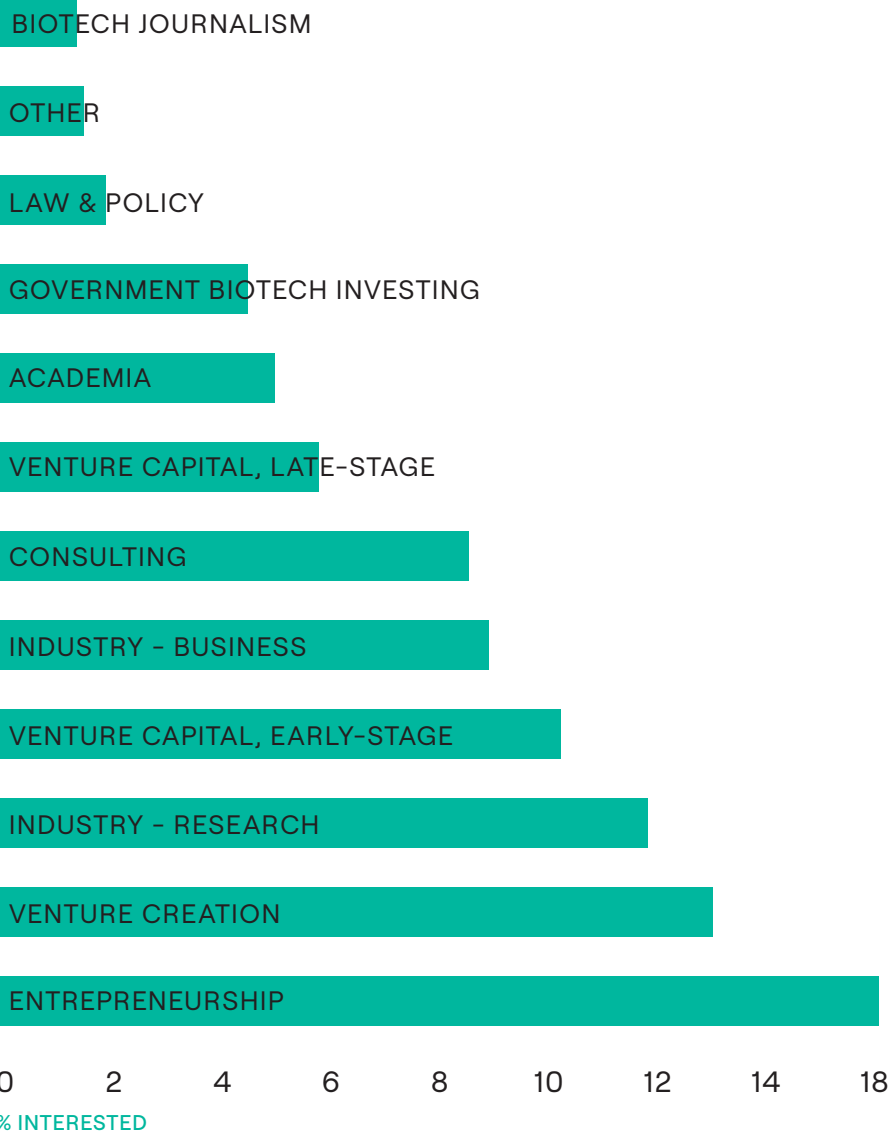




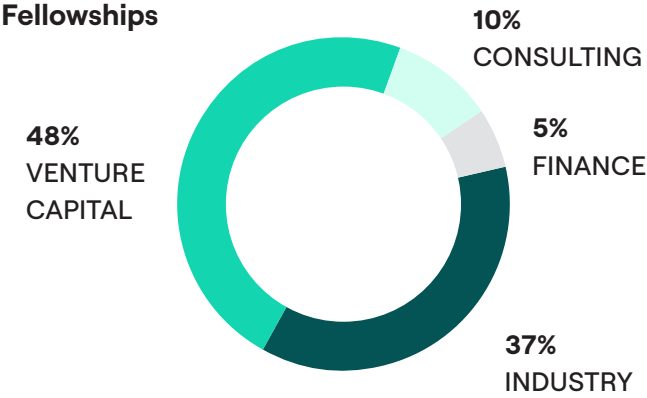
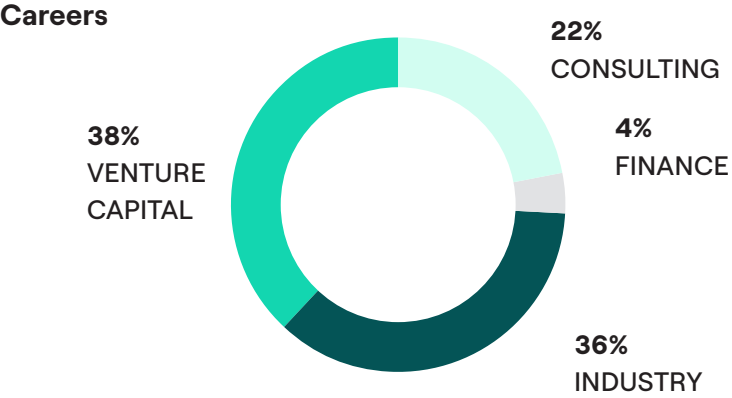


LEADERSHIP

CAREER GOALS



CAREER OUTCOMES, ALUMNI



“While I was in graduate school, Nucleate opened my eyes to brand new career avenues in biotech and entrepreneurship. The educational and networking opportunities provided through Nucleate directly led me to my current role in life sciences venture capital!”

➤ MACKENZIE SCURKA  
Nucleate Eco Activator Lead (2023), Current Program Director at Climate Capital Bio Incubator

“Being part of such a huge community of amazing and talented students has reinvigorated my passion for the life sciences. Memorable moments include leading the expansion of Nucleate to Latin America and being part of other initiatives that improve the ecosystem for all students. In connecting again with my home country, Argentina, and other LATAM countries I feel happy that I can do something for my people. ”

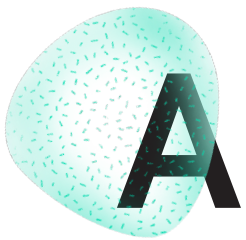
➤ GUSTAVO CARRIZO  
Co-Founder of Nucleate Argentina Chapter and PhD student, John Hopkins University







# Envisioning a Transformative Future



As we set our sights to the future, we continue to solidify our core mission: empowering the next generation of life science leaders to solve the biggest problems in human and planetary health. We see a future that is bolder and more transformative – so how do we picture this?

1. We aspire to see the medicines developed within our community reach the clinic, making a tangible difference in the lives of patients worldwide. Our goal is to facilitate the growth of companies that scale their innovations in therapeutics, products, diagnostics, and platforms, propelling scientific advancements and placing cutting-edge technologies into the hands of those who can make the most impactful use of them.

2. We aim to touch the lives of every student in STEM programs across the globe through our expansive and inclusive communities. By empowering students from all backgrounds to explore entrepreneurship, business, and innovation in the sciences, we hope to cultivate a diverse and dynamic pipeline of future leaders.

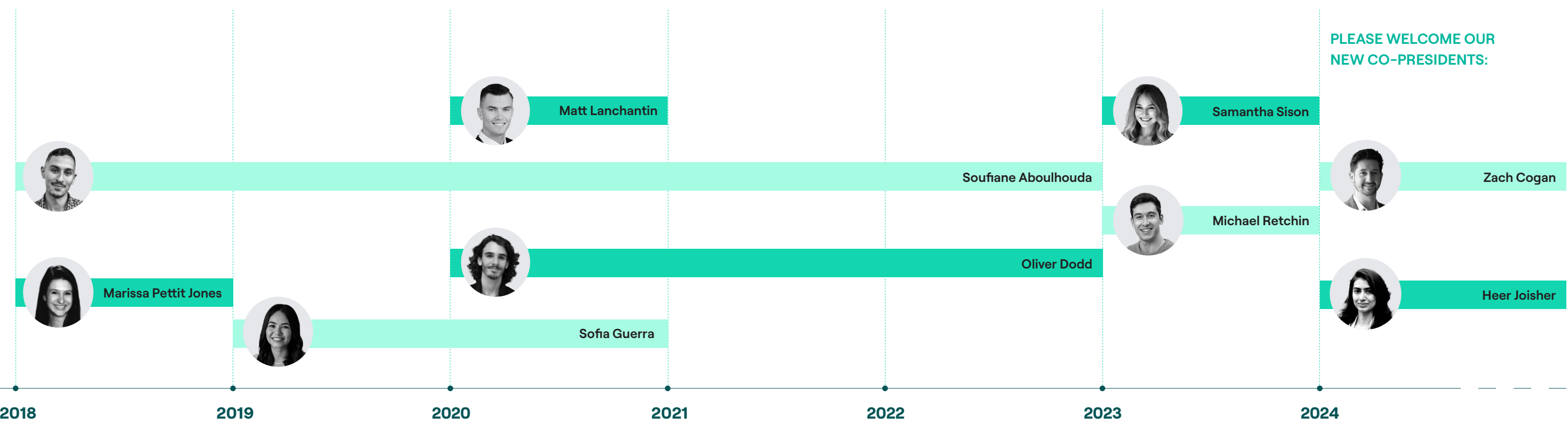
3. We hope to grow not just the quantity but the quality of Nucleate initiatives and achieve exponential impact of these efforts showcased in this report continuously year over year.

Looking ahead to the next 20 years, our vision is to establish Nucleate as a sustainable pioneering organization that endures beyond its original founders, co-presidents, and volunteers.

We hope to enable many generations of successful Nucleate leadership, ensuring that the organization continues to thrive and adapt.

Together, we are not only shaping the future of biotechnology but also building a legacy that will inspire and empower countless innovators for generations to come. Thank you for being a part of this extraordinary journey, and we look forward to the next chapter with immense optimism and determination. Reach out, support, and come aboard with us on this journey.

Thank you for the support,  
Nucleate Co-Presidents over the years



PLEASE WELCOME OUR  
NEW CO-PRESIDENTS:





# Sponsors



A special thank you to all of our Sponsors for making Nucleate possible and supporting our free-to-all, open-to-all mission. As a volunteer-led non-profit, we are supported entirely through sponsorships and donations to organize our educational programming. With your help, we are democratizing access to life science education, strengthening the translation of innovation, and building a globally aligned community. Together, the future of biotech is bright.








## 2023 HQ sponsors

### GLOBAL SPONSORS

 <i>A Member of the Roche Group</i>				QIAGEN SCHRODINGER CROMATIC BIOCOM CALIFORNIA WSGR ACADEMIC LABS NOVO NORDISK
			 	

## 2023 Summit sponsors

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“Supporting Nucleate was a new type of sponsorship for us in 2023, but we have been nothing but grateful and appreciative for what this community brings to us. Nucleate is a breath of fresh air consisting of some of the world’s brightest, most energetic, go-getters we have ever had the pleasure to work with. Nucleate truly puts the Life back in Life Sciences. We can not wait to see the adventures that await as our partnership expands with us across the globe.”

➤ **STEPHANIE HARRISON**  
Sr. Strategic Marketing Manager, MilliporeSigma







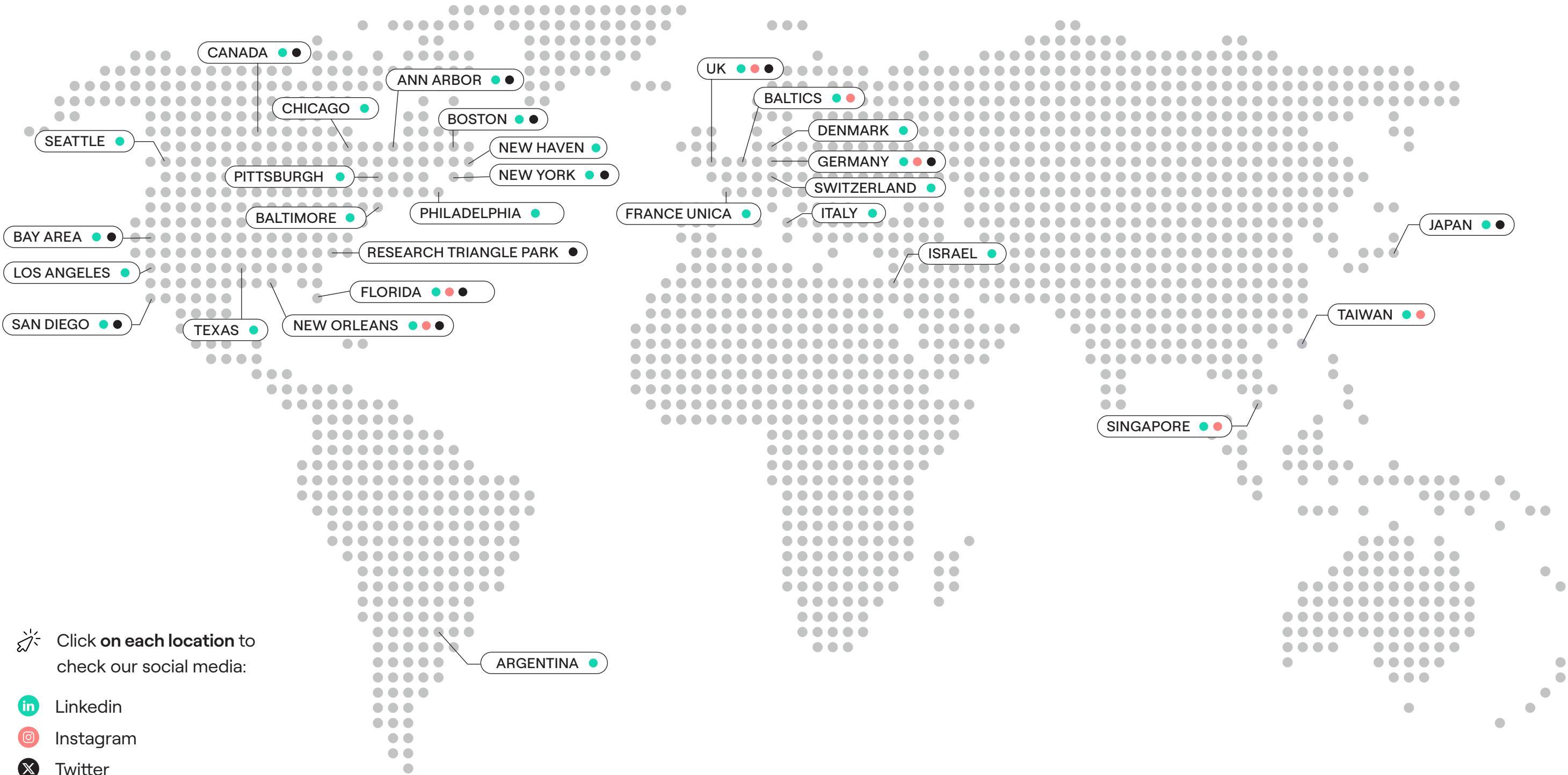
# Get in touch and learn more about us

To meet our leaders and stay up to date with the latest on Nucleate, follow us on LinkedIn, X/Twitter, or Instagram (@nucleate.hq). Our global newsletter reaches over 20,000 people, and is sent out twice a month. **Subscribe here.**

For local events, follow our Nucleate chapter social media accounts. Alternatively, send us an email to learn more and get involved!

HQ ●●●

CONTACT@NUCLEATE.ORG



Click on each location to check our social media:

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- Instagram
- X Twitter





We extend our sincere gratitude to the dedicated individuals whose contributions were invaluable for the creation of this report.

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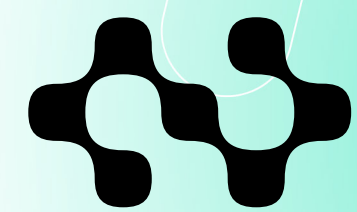
We also thank the design team, who have done an exceptional job helping us create this beautiful finalized product.

Designed by draft.cl | 2024

All content in this report covers the years 2019–2023. This includes any structural systems and leadership roles mentioned. For current updates please refer to [our website](#).







# Nucleate