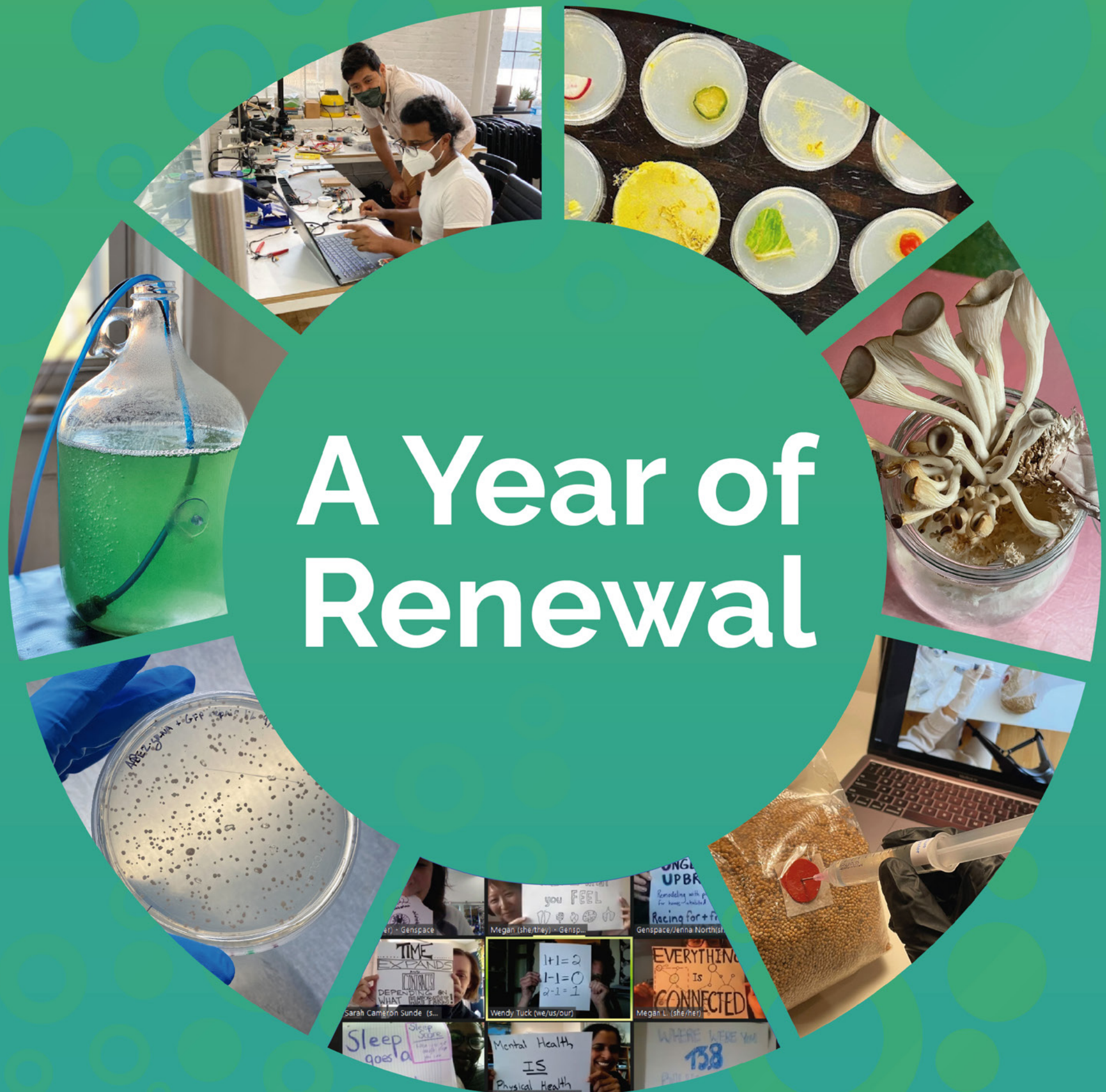


2021 Annual Report

A Year of Renewal



Thank you!

Without our community of volunteers, members, project leads, instructors, youth interns, partner nonprofit organizations, board members, donors and sponsors, none of our work would be possible. We are profoundly grateful for each and every one of you.

The following foundations and corporate sponsors gave generously to support our mission in 2021:



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Acknowledgments

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To our individual donors, whether you contributed \$5 or \$5,000, **thank you for keeping our community thriving.**

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Mary Ann & Tony Wolf
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Biofabricate

2021 Annual Report

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Letter from the Director

Beth Tuck, Executive Director



2021 has been another year of ups, downs, sideways, inside outs, upside downs, and every which way. But thanks to you, our community, we've continued to weather this storm. We are truly proud of what we've been able to accomplish together, creating opportunities for nearly 3,000 people to learn, create, and grow this year!

Some 2021 highlights:

ROCKING VIRTUAL LEARNING

Thanks to YOU, we engaged learners from all over the globe in creative life sciences from the comfort of their homes. Learners experimented with spirulina, 3D printing, all sorts of bioinformatics, mushroom gardening, DIY devices, sourdough and revolutions, and so much more!

REOPENING THE LAB

And accidentally getting the new staff locked out on the roof with the food for the reopening party! Fortunately the community came to the rescue and we formed an assembly-line to move all the goodies through the window and down to the street to have a fabulous and fun party! We are so grateful for our community sticking with us through the pandemic.

GROWING THE TEAM

After saying goodbye to previous Genspace team members, we were delighted to welcome **Vanessa, Jehovani, and Leyla** to the team. They have each brought such special skills, knowledge, and visions to this community, and I count my lucky stars every day that we get to work together to make this magic happen.

BUILDING A GIVING AND RECIPROCITY CULTURE

With massive thanks to Vanessa for her "let's try it" attitude, and to our generous donors and funders, we experimented with a variety of new fundraising tools and strategies this year, helping us move toward our sustainability goals. Our volunteers, interns, instructors, and community project leads also made tremendous contributions this year, while learning new skills and gaining a platform to share their work with various public audiences.

DEVELOPING YOUTH LEADERS

Between the Biorocket Research Internship Program and the Teen Leadership Council, our youth are changing the world. Their research and podcast projects tackled everything from water pollution to quorum sensing, health equity, social stigma and mental health. They raised both awareness and funds, and took care of the community and each other.

As we look ahead to 2022, we are hopeful to continue on our path of rebuilding and growth. We are excited to expand the lab and provide learning and innovation opportunities for even more people this year, as life sciences continue to radically transform our world.

We can't wait to see you at the lab to see what science fiction you will bring to life.

A handwritten signature in black ink that reads "Elizabeth Tuck".

Elizabeth Tuck



About Genspace



OUR STORY

Genspace is a community biology laboratory in Brooklyn, New York where anyone can learn the fundamental scientific concepts and lab skills they need to meaningfully engage with the life sciences—including biology, biotechnology, microbiology, genetics, and related subjects.

We got our start in 2009, when a small collective of biology hobbyists, entrepreneurs, artists, and scientists gathered in a North Brooklyn living room. The group reflected on their shared interest in the emerging field of biotechnology, and dreamt up visions of what a more accessible, democratized biotechnology could look and feel like.

A year after that initial meeting, co-founders Nurit Bar-Shai, Russell Durrett, Ellen Jorgensen, Daniel Grushkin, and Oliver Medvedik opened Genspace, welcoming community scientists, artists, engineers, designers, hackers, and anyone with passion and curiosity to join the lab. Early members started billion-dollar companies, created groundbreaking artwork, and competed in international contests.

Our opening had ripple effects around the nation, with a handful of similar community biology laboratories opening in California, Maryland, and Washington shortly after. Over the last decade, more than a hundred community groups and labs have cropped up across the United States and around the world. While this global community thrives, we are thinking about what we can and should do to shape the future of this movement.

Coinciding with our 10th anniversary in 2019, we purposefully restructured our work to center equity and inclusion. We see Genspace as a home for people from diverse backgrounds to shape the experiences, conversations, and potential of emerging global technologies. We believe that the Genspace community can proactively lead this field by promoting a socially-conscious life sciences ecosystem.

OUR VISION

The world that we work to realize.

Everyone is empowered to use the life sciences to explore questions and develop applications that are connected to their lives and rooted in their communities.

OUR MISSION

The work that we do.

Our mission is to foster a safe and inclusive community where all people—including those from non-traditional and underrepresented backgrounds—can experientially learn, boldly create, and meaningfully grow with the life sciences.



OUR CORE VALUES

Guiding principles for our staff, board, members, instructors, interns, and volunteers. We embody these values as we work together to fulfill our mission, engage our community, and recruit new employees.

Who we are

DIVERSITY AND INCLUSIVITY

Each person's unique identity and life experiences enrich the Genspace community. We work to break down barriers, build access, and listen to and learn from each other in order to exchange ideas and create a space that welcomes everyone.

TRANSPARENCY

We are open and honest. We communicate our goals, activities, and projects. We are accountable to each other. We strive to create systems that make information accessible to each other on staff, within the Genspace community, and with the general public.

ETHICS

We strive to be responsible stewards of technology by considering the implications of our work and the impact that we will have on others and our environment. We evaluate who carries the risks and who benefits from our work. We practice integrity and work towards a more just society.

What we cultivate

CURIOSITY

We believe that learning is a lifelong process. We are eager to ask questions, to wonder at the world around us, and to follow our interests. We build pathways to spark inquiry and engagement.

EXPERIMENTATION

We try new things and embrace unexpected outcomes. We think outside the box and make connections between traditionally siloed disciplines. We explore new concepts, iterate on our processes, and are resilient and brave.

COLLABORATION

We believe that the best ideas are sparked by many minds coming together. We work to build a community of support and exchange. We acknowledge each other's contributions, respect each other's expertise, ask for help when we need it, and offer our time and skills when we can.



2021 At a Glance

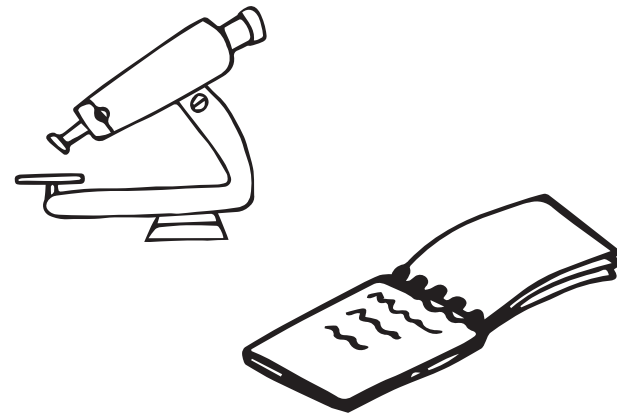
COURSES AND WORKSHOPS:

- 8 in-person classes and workshops
- 20 new classes
- 23 new instructors
- 33 virtual classes and workshops
- 229 hours of hands-on learning
- 562 learners



PARTNERSHIP PROGRAMS:

- 1 community-based organization partner
- 2 university programs
- 3 K-12 school programs
- 109 hours of hands-on learning
- 236 learners



YOUTH DEVELOPMENT:

- 1 collaborative exhibition at BioBAT
- 4 community fridges stocked
- 5 posters and podcast clips produced
- 12 Teen Leadership Council members
- 12 Biorocket Research Internship Program alumni leaders
- 15 Biorocket Research Internship Program interns
- 48 hours of afterschool science and podcasting
- 54 hours of volunteer service
- 100 at-home STEAM Challenge kits packed
- 125 hours of mentored summer research



MEMBERSHIP PROGRAM:

- 3 Premium Members
 - Aiga Biological
 - Envirobe, Inc.
 - * Vader Nanotechnologies
- 3 Member "Unsocials"
- 19 Individual Members
 - 7 artists/designers
 - 12 scientists/hobbyists

COMMUNITY PROJECT TEAMS:

- 1 Biodesign Sprint Team
- 3 Community Project Teams
 - Open Plant
 - Expressive Matter
 - Atomic Force Squad
- 4 Community Project Leads
- 30 Community Project Members
- 150 hours of Community Project collaboration

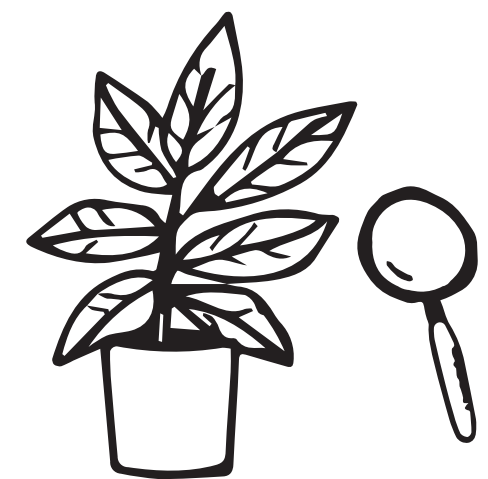
VOLUNTEERS AND INTERNS:

- 3 college interns
- 65 programs, events, committees and mentorship
- 177 volunteers
- 594 volunteer hours logged

OUTREACH AND PUBLIC EVENTS:

- 35 free or low-cost public events and discussion groups hosted by Genspace
- 767 people served onsite
- 1287 people served offsite
- 2035 new bio-enthusiasts on social media

16 free public outreach events and online conferences hosted by partners such as the [Global Community Bio Summit](#), the [BioBAT Art Space](#), the [Brooklyn Waterfront Research Center](#), [Nation of Makers](#), and the [Sunset Park Street Festival](#)



2021 Program Highlights



"I'm doing 'Synthetic Biology for Creatives' with @Krening @genspacenyc and @aminolab! I'm going to come out of this with a portrait of my cat."

Learn

We firmly believe that **meaningful, rigorous learning** and **innovation** can occur beyond the confines of a formal degree or certificate program, and outside academic and industry settings. Through our programming, **we provide learners with hands-on, experiential learning connected to their lives and interests.**

Our classes are designed for those with little or no formal scientific training, and we welcome learners from a wide range of backgrounds and experiences. 60% of our learners do not consider themselves scientists, and 30% are from STEM fields other than biology.



To date, we have hosted **more than 590 classes** and events, **attended by more than 8,900 people...** and counting!

“To me the Genspace community is really a two-way street. I think that connecting scientists with the broader community not only allows community members to enrich themselves by learning from experts about topics that are both scientifically interesting and socially important, but also provides the scientists with a chance to gain perspective from people who are outside of their field.”

— **Brendan Camellato**
Ph.D. candidate, New York University
Genome Editing with CRISPR-Cas9 Instructor

Courses and Workshops

Nurturing Interdisciplinary Explorations of Science

This year as we continued to navigate the constant changes of the COVID-19 pandemic, **we provided rich, personalized learning experiences** at the intersection of life science, art, technology, design, history, and culture. **Online and at the lab**, our learners made some truly exquisite designs, analyzed big data, observed the local biodiversity, and learned how to pipette for the first time. We love the learning that happens here.



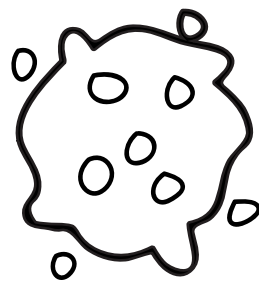
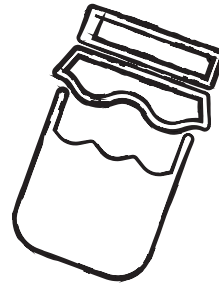
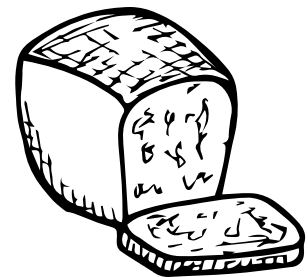
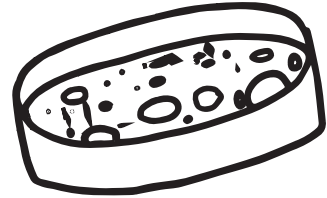
"I had a highly transformative learning experience at Genspace. The folks there are warm, generous, and inclusive. The biohacking boot camp [sic] made the staunch world of biology feel more approachable and fun!"

— **Wesley Chau**
industrial designer & educator

FEATURE: ASHLEY JANE LEWIS FERMENTS A REVOLUTION



Instructor Ashley Jane Lewis, creative technologist and new media artist, developed her *Fermenting a Revolution* workshop in response to the sister injustices of the COVID-19 pandemic's disproportionate effects on Black communities and Black Lives Matter protests against police violence. Learners were enthusiastic about baking and applying their learning to their own teaching and design practices.



MEET OUR LEARNERS

"As an artist and filmmaker, Genspace is the one place that I feel I can go to learn, ask questions and get answers without feeling judged. It's an oasis for those who not only think outside the box, but don't even see a box. I've had the privilege of attending numerous workshops and the level of hands-on knowledge and experience I've gained is unparalleled. Aside from that I've met incredibly brilliant people from all sorts of backgrounds, many of which have become friends and/or mentors for me."

— **Rebecca Adorno**
video editor, maker & breaker of things

MEET OUR INSTRUCTORS



"When I switched from academia to industry, I didn't realize how much I would miss the teaching component of science. **Working and volunteering with Genspace filled that part of my academic life that was gone.** It has been immensely rewarding to be able to show others how cool synthetic biology is, introduce how accessible data and information can be if you know where and how to look, and just how fun everything is!

When the coronavirus pandemic hit, **Genspace was very well-positioned as a community hub with scientific integrity.** Through Genspace I was able to design and deliver a scientific literacy course tailored around coronavirus mis-/disinformation to help the general public discern fact from fiction. It was rewarding to feel useful in a time when we were all a bit helpless.

Another incredibly fulfilling experience was to help Genspace coordinate a COVID Vaccine education campaign in Sunset Park. To be able to interact with local council officials, community members, scientists, and volunteers and see everyone come together was amazing. Then putting the plan into action and talking to the community at large on a very hot summer day in Sunset Park was extra amazing. We even had a little girl spontaneously join our campaign and help translate to Mandarin!

The overall good that Genspace provides to the community is immeasurable. I thank my lucky stars that I am able to contribute a little bit to its mission."

— **Marjorie Linares, Ph.D.**
Viral Sequence Analysis Using COVID-19
Bioinformatics for Beginners
Biohacker Boot Camp

2021 Course Highlights

MODELS OF CULTURAL TRANSMISSION IN HUMAN POPULATIONS

- **Instructor:** Mason Youngblood, Ph.D.
- **Course description:** Learn how to use simulations to investigate how psychology affects the cultural transmission of behaviors and ideas.



FABRICATING WITH FUNGI

- **Instructor:** Lera Neimackl
- **Course description:** Learn to work with fungi at home to create materials! We'll explore applications of fungal biomaterials and create our own myco-composites.



MOLECULAR BIOLOGY 101

- **Instructor:** Shoily Khondker, Ph.D.
- **Course description:** Learn the basics of molecular biology! We'll cover fundamental concepts, like how DNA is organized and functions; techniques, like PCR and cloning; and hot topics in the field.



Partnership Programs

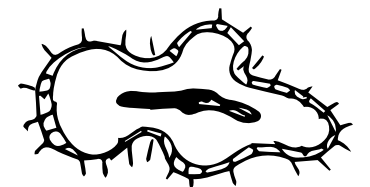
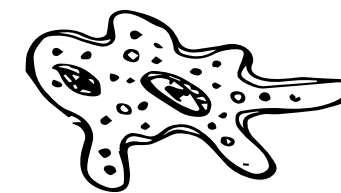
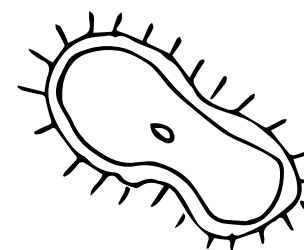
Building Relationships with Schools, Colleges, and Nonprofit Organizations

SURROUNDING A STRONG TREE IN THE MIDDLE OF A FULL CITY.

This year we revisited previous partnerships and made a few new friends. Engaging with partners who already serve various communities allows us to **expand our reach and engage in mutual learning with our partners.**

At the high school level, we engaged with 90 students at [Sunset Park High School's](#) College, Career, and Community Day. For the third year, we worked with [Uncommon Collegiate Charter High School](#) in their HS2.0 program, and students made the best of their virtual learning through biomaterials and creative coding. They took home pet slime mold, grew mycelium, and experimented with bioplastics before exploring R and Arduino-based environmental sensors. We also partnered with the [Math, Engineering and Science Academy \(MESA\) Charter High School](#) to explore the biodiversity in their neighborhoods, collecting and barcoding over 120 samples! Students discovered creeping juniper, Japanese maples, miner bees and damsel bugs!

We welcomed visitors from Parsons School of Design's [Soft Fab course](#) for a lab tour and mushroom cultivation workshop; the Human Impacts Institute's Urban [Environmental Health Fellows](#) for some agar art and discussion about the intersection of science, art, and social justice; and students from the Fashion Institute of Technology (FIT)'s [Biodesign Course](#) to participate in our hands-on workshops.

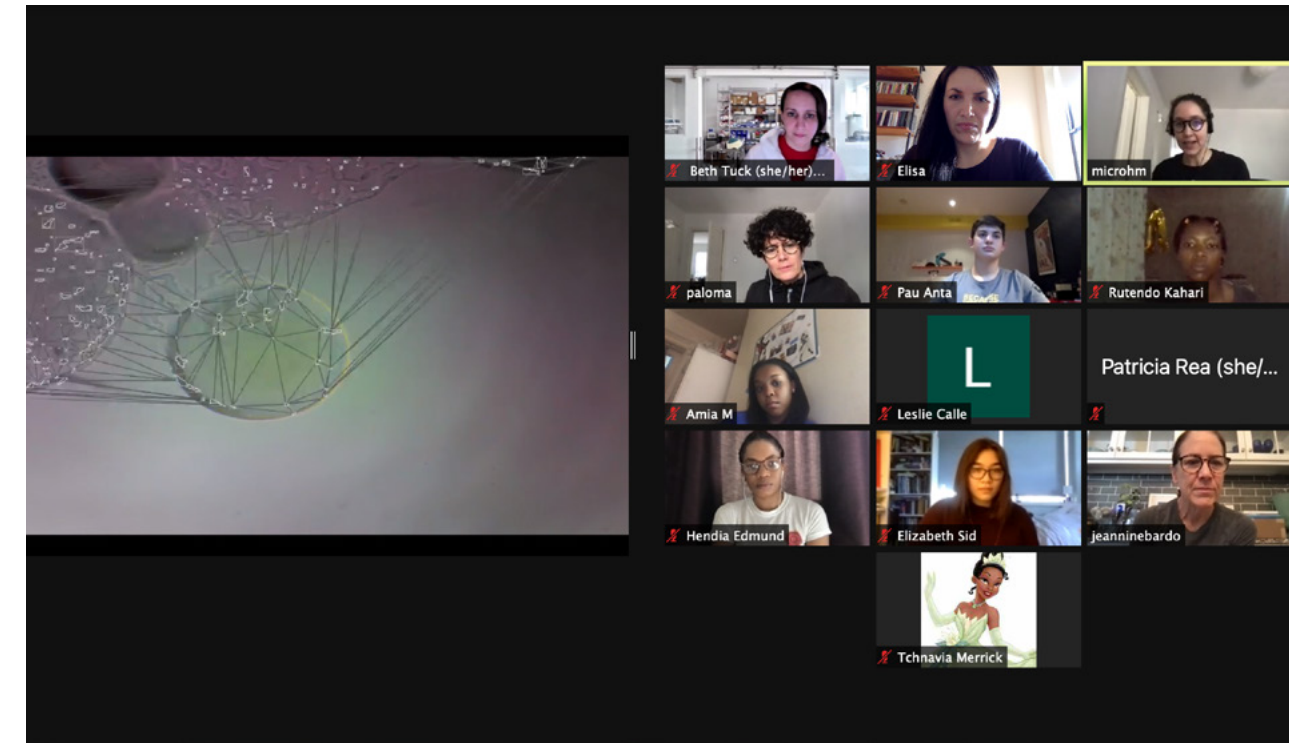


FEATURE: YOUTH CO-DESIGN BIOART EXHIBITION PIECES

One significant partnership for us this year was with the **New York Art Residency & Studios (NARS) Foundation** and the **BioBAT Art Space** for **Common Frequencies**, a bilingual art and science exhibition that explores the relationship between these two disciplines through sound, urban ecology, language, and the construction of symbolic imageries. Genspace youth leaders participated in *Almost Non-Human*, a speculative futures workshop, with Interspecifics, a nomadic multispecies collective that uses technology to collaborate with living things. Their short stories and animations were featured in the exhibition, viewed by over 350 people in person and several thousand online.



MEET OUR PARTNERS



*“The partnership with Genspace was a catalyst for the development of Common Frequencies. We were excited to collaborate with a neighbor organization who **shared our mission of working with diverse communities** to develop creative dialogues related to science. This alliance provided **important connections with scientific professionals** and enabled exchanges between students, scientists and artists, delving into dialogues based in creative processes that became art pieces presented as part of the Common Frequencies exhibition. “*

— **Elisa Gutiérrez**
Programs Manager and Curator
NARS Foundation

Youth Development

*Creating a Space for Youth
to Learn and Lead*

BIOROCKET RESEARCH INTERNSHIP PROGRAM

Genspace launched the **Biorocket Research Internship Program in February 2017 as its first intensive research experience for Title I high school students** as part of the NYC Science Research Mentoring Consortium (SRMC). **The program has now finished its fifth year of operations, with 58 students completing the program in its entirety.** In 2019, we launched Beyond Biorocket, an alumni internship experience at local bio-tech companies and organizations.

2021 meant another year of adapting to rapidly changing circumstances with the **COVID-19 pandemic**, so we opted to run a **hybrid program to accommodate small group rotations through the lab**. The first three weeks of the program were spent learning lab skills and molecular biology, genetics, and biotechnology concepts in a condensed version of our typical spring after-school program. The final three weeks of the summer program focused on the topic of biofilms, a group of microorganisms that grow together on a surface.

At the end of the summer, youth shared two-minute talks about their experiences and facilitated hands-on activities for their friends and families. They also presented their posters at the NYC Science Research Mentoring Consortium (SRMC) Summer Science Symposium. In the fall, interns explored molecular cloning and CRISPR in yeast, and developed podcast clips on science and society issues they felt were important to share with the world.

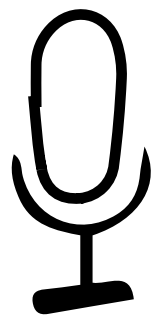


BIOROCKET 2021 RESEARCH TEAMS & TOPICS

- **Team:** Tsidale Ayele, Litzy Granda, Kayla Santana, Leuna Sarah
Topic: How Beneficial are Algal Growth in Water Purification?
- **Team:** Bashiru Bajaha, Jibrán Khan, Chinonye Nnaji for
Topic: Using Biofilms to Remediate Heavy Metals in the Hudson River
- **Team:** Krista Liverpool, Leonardo Michieli, Kelvin Tieku
Topic: Zebrafish Liver Cells As a Biosensor for Octocrylene
- **Team:** Abiade Adu, Hadeer Eldewak, Theresa Luo
Topic: *Delisea Pulchra's* Furanones Disrupt Quorum Sensing in *Vibrio Fischeri*
- **Team:** Farrah Eman, Marisol Martinez, Aprell Samuel
Topic: Growth of *M. Agri* Biofilms on Varying Hydrogels Substrates

BIOROCKET 2021 PODCAST TOPICS

- *Radiation*—Tsidale Ayele, Litzy Granda, Kayla Santana, Leuna Sarah
- *CRISPR/Cas9*—Bashiru Bajaha, Jibrán Khan, Chinonye Nnaji for
- *Climate Change and COP26*—Leonardo Michieli, Kelvin Tieku
- *Obsessive Compulsive Disorder*—Abiade Adu, Hadeer Eldewak
- *Artificial Intelligence & Medicine*—Marisol Martinez, Aprell Samuel



MEET OUR YOUTH LEADERS

"As a high school student, it's great to have a space where I can truly feel a sense of freedom to express and explore my own ideas. Genspace gives me the opportunity to do so. To build on the theories I learned in the classroom and truly explore science, youth like me need access to scientific equipment, mentorship, and hands-on learning. There aren't too many opportunities to do that outside of academia."

— **Evelyn Ortega**
Biorocket 2019
Beyond Biorocket Alumni Lab Intern

TEEN LEADERSHIP COUNCIL

In 2019, we launched the [Teen Leadership Council](#) to engage internship alumni and other youth volunteers in Genspace programming and governance. The TLC meets biweekly to plan education, outreach, activism, career exploration activities and other initiatives.

This year, **they successfully launched a GoFundMe campaign and raised \$581** to purchase healthy, seasonal food that they distributed to four community fridges between March and May. They connected with local activists at [Mixteca](#) to learn more about the community work they'd been doing throughout the pandemic. TLC members also presented their work at the [Intrepid Museum Youth Summit](#) and at the TLC Social in October 2021, **encouraging other youth to take action in their communities.**

In April for [Citizen Science Month](#), the TLC collaborated with BioBus and the Brooklyn Public Library System to pack and distribute 100 Grab-and-Go [STEAM Challenge](#) kits. **They also hosted game nights, movie nights, agar art, and other fun social activities to relieve stress and build community.** In 2022, they will kickstart a partnership with the District 38 (Sunset Park/Red Hook) Youth Committee to plan and facilitate education programs for youth and families in the neighborhood.



MEET OUR YOUTH LEADERS

"I first discovered Genspace through the Biohacker Boot Camp class my sophomore year of high school. Now, as I prepare to graduate, Genspace is a huge part of my life. The lab has provided me with education, opportunities, experience—and most of all, community."

— **Iza Sid**
Teen Leadership Council Chair
2020-2021

Create

Anyone, **regardless of educational background, can become a member of Genspace** and undertake their own projects in our fully-functional molecular biology lab. All projects must meet federal Biosafety Level 1 guidelines. These guidelines help us to ensure that our shared laboratory space remains safe for all.

We offer three membership tiers—**Individual, Premium, and Community**—to accommodate the wide range of interests, needs, and goals of our community. Regardless of membership tier, all lab members receive **24/7 access** to Genspace's facility, shared equipment and materials, along with mentorship and basic lab training from our staff.

Since 2012, 162 people have been members at Genspace, including researchers, artists, designers, engineers, hobbyists, and high school students and teachers.



Membership Program

Supporting Community Scientists, Creatives, and Local Entrepreneurs

Our Individual and Premium Memberships facilitate innovation and entrepreneurship in the life sciences by providing low-cost access to facilities and a knowledgeable, diverse community of users. This year, Vader Nanotechnologies and Envirobe continued to call Genspace home as they grew their businesses, and we welcomed one new premium member, Aiga Biosciences.



Aiga Biosciences

MEET OUR ENTREPRENEURS

“We have truly enjoyed our partnership with Genspace. To work in an environment where learning, discovery and curiosity are priority helps re-energize the team at Aiga Biosciences. Aiga Biosciences is excited to share lab space with individuals and organizations that engage in scientific learning through class settings and hands-on experiment execution. Our company has been able to complete a number of product development and analytical testing activities at Genspace, and we could not be more pleased with the partnership and leadership Genspace provides.”

—Kevin Coughenour
Managing Director

In addition to serving entrepreneurs, **our membership program also provides high school students, community scientists, and creatives with the space, training, and tools they need** to pursue independent research, art and design projects. In 2021, member projects ranged from building bacterial expression systems, to exploring cellulose decomposition, to co-culturing algae-bacterial symbiotic biofilms.



MEET OUR MEMBERS

"I recently started working with the Expressive Matter team as we think through producing spider silk through biology, and I'm excited to make nature-inspired materials that have better properties and are more sustainable than alternatives today. I'm also thinking through what other interesting projects could be while in the lab."

—Alex Rosay
Product Manager, Zymergen

OPEN LAB

We were thrilled to safely reopen the lab in May, with a few new precautions in place, and a reopening party that we won't forget! We also hosted our first Open Lab since 2019, providing an opportunity for food and fellowship, member presentations, mingling, lab tours and more. New member Alex Root presented his idea for algae farming, and returning member Aradhita Parasrampuriah shared her latest work using bacterial dyes.



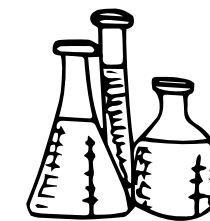
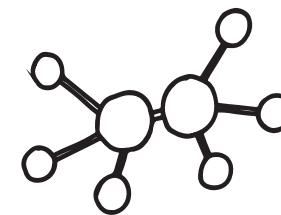
Community Project Teams

Facilitating an Environment for Collaborative Experimentation

COMMUNITY MEMBERSHIPS

Our Community Memberships are aimed at those who want to explore advanced lab techniques in a more supportive and collaborative environment. **Community Project members are high school students, retirees, software engineers, scientists, artists, and local college students**, and work collectively with other members on one or more of our group research projects.

In 2021, our Community Project Teams energetically returned to the lab, experimenting with new techniques and processes. We welcomed eight new Community Project Members, and launched a brand new project team with the Atomic Force Squad. We look forward to growing these teams and more in 2022!



COMMUNITY PROJECT TEAMS

- **Open Plant**
Participates in an international research consortium focused on using liverwort (*M. polymorpha*) to develop open source tools and methods for plant synthetic biology.
- **Expressive Matter: Biomaterials**
Explores sustainable, biomass-sourced materials for product design and other applications.
- **Atomic Force Squad**
Making a hackable open-source atomic force microscope (AFM) using a DVD optical unit and Arduino technology.



MEET OUR COMMUNITY PROJECT LEADS

"My favorite thing about Open Plant is the community and the chance to do plant biology outside of work or academia and my favorite thing about Genspace is the open accessible space to meet bioartists and biologists together."

—Tina Lai
Open Plant

OPEN PLANT



Community Project Member Penelope Lindsay, Ph.D. brought tobacco plants (*Nicotiana benthamiana*), and the [pRUBY](#) beetroot red reporter construct in suspension. Using a syringe, Penelope and the team practiced leaf infiltration, a technique used for transient gene expression.

EXPRESSIVE MATTER



With new leadership from Jas Neal and Annick Saralegui, Expressive Matter revived their community research and design project activities in the fall of 2021, exploring the properties of various biomaterials from agar foam to alginate beadwork. They are excited to get started on an exciting project for 2022—bioengineering spider silk!



FEATURE: GENSPACE COMPETES IN BIODESIGN

Genspace's offshoot the [Biodesign Challenge \(BDC\)](#) launched a month-long Biodesign Sprint in collaboration with the Google Hardware Design Studio. Genspace community members Annick Saralegui, Tammy Qui, Ibrahim Abdulijan, Jeremy Hoffman, and Jehovani Lopez made a product called [Revive.it](#), biodegradable packaging that can be reused as fertilizer, or melted and recast into a new object to play with! Genspace Instructor and former community project lead Jess Smith and her team took home Runner Up for their [BI/O material design](#).



Grow

At Genspace, **we believe science can and does happen everywhere**, and that science is at its best when it is in dialogue with other forms of knowledge. With this in mind, **we host and participate in a wide variety of free programs and activities aimed at engaging learners** wherever they are to bring their expertise into the life sciences.

To date, Co-Founder Ellen Jorgensen's TED talks, along with our participation in public outreach and engagement activities, has allowed us to spark curiosity and share the joy of biology with millions of new learners all over the world.



Outreach and Public Events

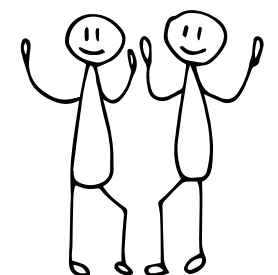
Bringing Our Science to the Public

OUTREACH PARTNERS AND EVENTS

2021 saw a continuation of online programs, and thanks to this format we were able to reach a much wider virtual audience, telling stories about Genspace and encouraging new learners to get involved with community science in their own neighborhoods.

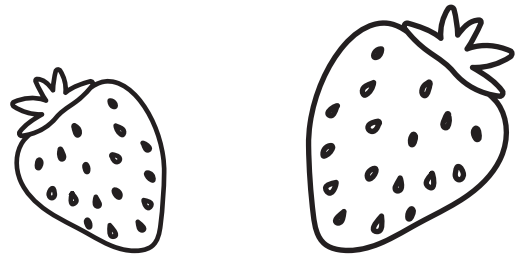
Our 2021 outreach partners and events include:

- BioBAT Art Space
- BioBus
- Biomakespace
- Brooklyn Public Library System
- Brooklyn Waterfront Research Center
- Cambridge Science Festival
- Capitol Hill Maker Faire
- Global Community Bio Summit
- LifeSci NYC
- Queens Botanical Garden
- Nation of Makers
- NATURE Lab
- New York Art Residency & Studios Foundation
- SciStarter
- Sunset Park Wide Open
- Sunset Park Street Festival
- Undergraduate Genetics Education Network
- Unfinished
- Works on Water



SUNSET PARK STREET FESTIVAL

For the first time since December 2019, Genspace participated in a large public event to engage learners of all ages and backgrounds in a quick, hands-on science experience. Together with our 15 volunteers, we did strawberry DNA extractions with 500 people! We were particularly excited about this event to serve our neighborhood in Sunset Park, which is a vibrant, multilingual, multicultural community.



FEATURE: COMMUNITY HEALTH AMBASSADORS

Thanks to the support of [Brooklyn Community Foundation](#), we launched the [Sunset Park Community Health Ambassadors](#) program to address the ongoing educational needs of the COVID-19 pandemic. We kicked off with a series of community engagement and strategy meetings with partners in Sunset Park, focused initially on vaccine access and uptake. As vaccine availability changed, we shifted to address vaccine hesitancy and COVID-19 prevention through masks and regular testing. Language accessibility was a consistent barrier for many community members, and our multilingual volunteers played a critical role in this project.





Volunteers and Interns

Engaging & Cultivating the Talents of our Community

Volunteers and interns are a vital part of our Genspace community, both at the lab and in virtual space. This year we focused on building capacity for our programs through volunteer and intern support, with three summer college interns and 12 Beyond Biorocket alumni interns who contributed to lab maintenance, science mentorship, college readiness, peer mentorship, social media, fundraising, and other critical activities that keep Genspace moving. **In these roles, interns and volunteers have access to a platform to learn new skills and practice in a safe and welcoming environment.**

In addition, **177 volunteers shared their time and talent this year, supporting 65 programs, events, committees, and other activities, and logging almost 600 cumulative hours!** WOW! Volunteers helped package 140 at-home strawberry DNA kits for MESA Charter High School; they TA'd for 35 workshops; and they engaged families with hands-on science in Sunset Park. They helped clean and organize the lab, called "Junk Shark" to purge the storage unit, and reviewed fundraising materials. **We were especially grateful for our collaboration with West Monroe for their National Day of Service, and to our new corporate sponsors Iveric Bio,** who stepped up to help with outreach and events at the lab. We are excited to continue these partnerships in 2022 and beyond!



MEET OUR INTERNS

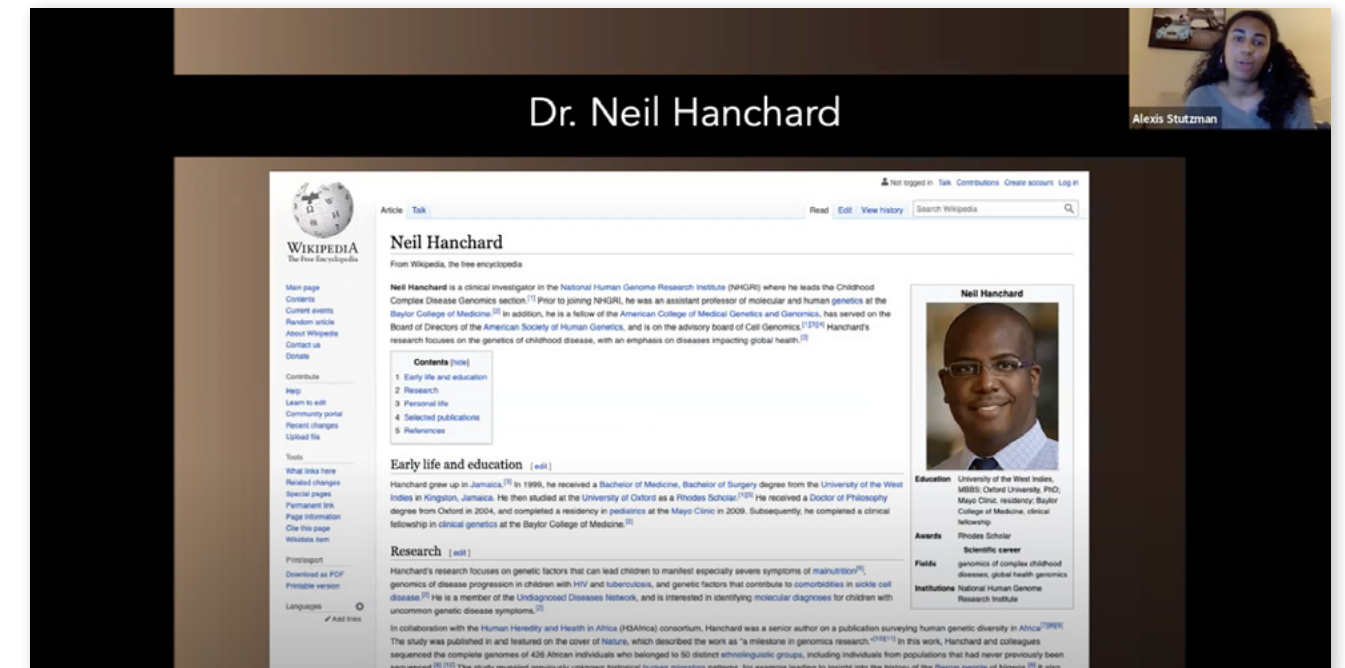
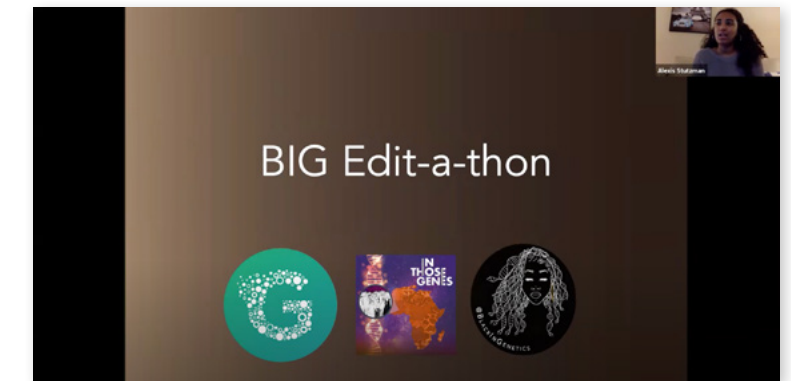
"I really enjoyed my time interning at Genspace as I felt welcomed and that my work was valuable. My experience gave me a lot of insight and an appreciation for what goes behind planning a fundraiser event from conducting research on local businesses to reaching out to businesses and potential speakers. It was rewarding to see the culmination of my work when some businesses agreed to donate to the fundraiser after I sent over 200 hundred emails."

— **Emily Yueh**
SYEP Development Intern

FEATURE: BLACK IN GENETICS WIKI EDIT-A-THON

In February, Genspace NYC partnered with [In Those Genes](#) podcast host Dr. Janina Jeff and [Black in Genetics](#) organizers to co-host [BIG Discussions about CRISPR: A Black History Month Conversation](#). Leading up to the event, we hosted a [wikipedia edit-a-thon](#) to add pages, citations, and other information about prominent Black geneticists. 43 volunteers made 509 edits, including four new articles:

- [Tshaka Cunningham](#)
- [Vence Bonham](#)
- [Enid Montague](#)
- [Neil Hanchard](#)



Financials

The **ongoing challenges of the COVID-19 pandemic** have continued to impact our finances, particularly with respect to our earned income from classes and memberships. In spite of those challenges, **our community stood by us** and stepped up to help. For the second year in a row, we balanced the budget and came out with a small surplus—maintaining our financial health for the future. We experimented with a few creative new fundraising activities like mini-events, and an August calendar fundraiser, in which donors give an amount that matches the day. We are still finding our voice to support our nascent fundraising activities, and **177 new donors joined our community, with gifts from \$5-\$5000**.

We are also delighted to announce a **new corporate sponsorship with Iveric Bio**. This gift will allow us to expand the lab footprint, enhancing our impact on the communities we serve, and the learners, creators, and innovators who call Genspace home. We are also excited to welcome Iveric volunteers to join the Genspace community!

“I’ve spent the past decade helping Fortune 500 companies innovate and grow their products and services—I joined the Genspace Board to bring that expertise to our mission of ensuring diversity in biotech. There’s no technology more important for the next industrial age and I’m proud to be part of an organization ensuring that the future is led by people who represent the full spectrum of society.”

—**Clair Purcell**, Board Member
Chief Venture Builder, Newlab

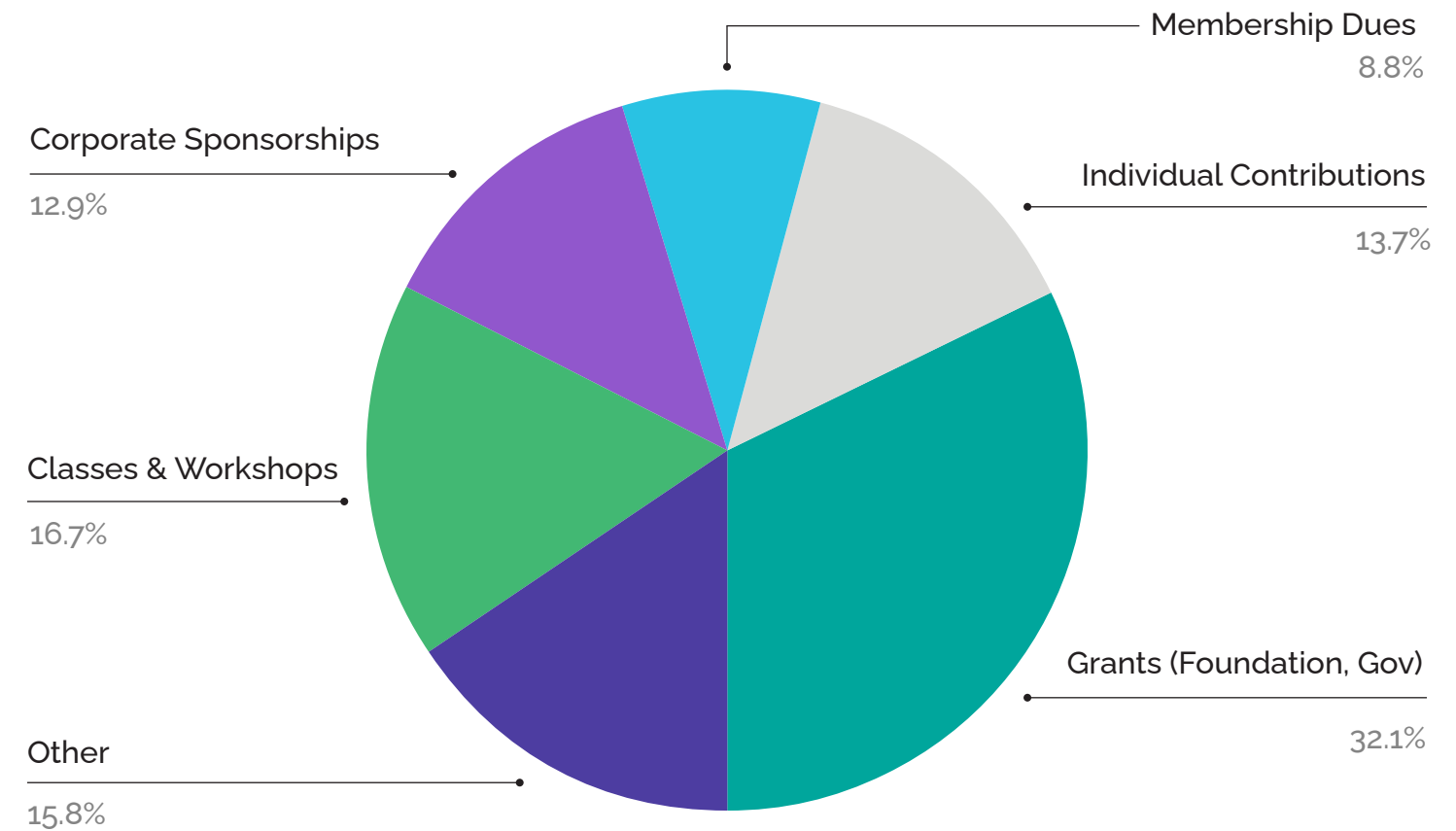
Below are our 2021 unaudited finances:

2021 EXPENSES

| | |
|----------------------|-----|
| Program Expenses | 69% |
| Management & General | 23% |
| Fundraising | 8% |

2021 REVENUE

| Income | |
|--------------------------|------------------|
| Classes & Workshops | \$80,791 |
| Membership Dues | \$42,659 |
| Grants (Foundation, Gov) | \$155,000 |
| Individual Contributions | \$66,306 |
| Corporate Sponsorship | \$62,200 |
| Other | \$76,177 |
| Total Income | \$483,133 |



STATEMENT OF FINANCIAL POSITION

| | 2020 | 2021 |
|------------------------------------|------------------|------------------|
| Assets | | |
| Current Assets | | |
| Cash | \$198,533 | \$229,665 |
| Due from Paypal | \$581 | \$581 |
| Total Current Assets | \$199,114 | \$230,246 |
| Property and Equipment, Net | \$20,012 | \$19,648 |
| Security Deposit | \$12,000 | \$12,000 |
| Total Assets | \$231,126 | \$261,894 |
| Liabilities and Net Assets | | |
| Current Liabilities | \$8,027 | \$13,154 |
| Accrued Expenses | \$6,000 | \$19,341 |
| Total Current Liabilities | \$14,027 | \$32,495 |
| Long Term Liabilities | | |
| PPP Loan Payable | \$44,345 | \$46,295 |
| Total Long Term Liabilities | \$44,345 | \$46,295 |
| Net Assets | | |
| Without Donor Restrictions | \$171,099 | \$229,399 |
| With Donor Restrictions | \$46,000 | 0 |
| Total Net Assets | \$217,099 | \$229,399 |

Meet the Team

STAFF



Vanessa Fleury
Development Manager



Leyla Hernandez
Education Manager

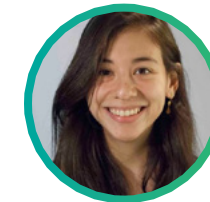


Jhovani Lopez
Lab Manager



Elizabeth Tuck
Executive Director

PREVIOUS STAFF



Jasmin Alim
Education Manager

INSTRUCTORS AND FACILITATORS

- Steve Azeka, Ed.D., *Computation in Education Labs*
- Ali Ballantyne, *Foraged Products & Services*
- Gillian Bayne, Ph.D., *Lehman College*
- Jil Berenblum, *Cartier Retail Innovation Lab*
- Teon Brooks, *Computation in Education Labs*
- Asmaa Butt, *WeWork*
- Brendan Camellato, *NYU Langone Health*
- Ethan Crenson, *Artist and Mycologist*
- Sara Bandres Ciga, Ph.D., *National Institutes of Health, National Institute of Aging*
- Helen Yin Chen, *Office of the Surgeon General, U.S. Department of Health and Human Services*
- Laura Cox, *Opentrons*
- Nicole Duker, Ph.D., *University of Miami*
- Arden Feil, *DNA Learning Center*
- Sasha Fishman, *Sculptor and Researcher*
- Kyle Frischkorn, Ph.D., *Nature Communications*
- Dan Fried, Ph.D., *St. Peter's University*
- Sophia Georgiou, *Morphii*
- Amanda Goldstein, *Arcadis*
- Emily Gordin, *Pratt Institute*
- Kathryn Hamilton, *Sister Sylvester*
- Carolyn Hall, *Works on Water, EXACT Communication*
- Zoey Hart, *Interdisciplinary Artist and Cultural Educator*
- Megan Hines, Ph.D., *Mississippi Museum of Art*
- Karen Ingram, *Karen Ingram & Associates*
- Janina Jeff, Ph.D., *Illumina, Inc.*
- Simone Johnson, *interdisciplinary movement and visual artist*
- Shoily Khondker, Ph.D., *Rutgers University*
- Nikhil Kumar, *Solana Labs*
- Ashley Jane Lewis, *New Media Artist, Educator, and Creative Technologist*
- Ivan Linares, *Rutgers University*
- Marjorie Linares, Ph.D., *Troy Corporation*
- Penelope Lindsay, Ph.D., *Cold Spring Harbor Laboratory*
- Liz McClellan, *Multimedia Installation Artist*
- Jo Meszaros, J.D., Ph.D., *Columbia University*
- Josh Modeste, *Computation in Education Labs*
- Sara Nejad, *Sara Nejad Design*
- Lera Niemackl, *the ODIN*
- Caroline Nowak, *Liberty Science Center*
- Kelly O'Donnell Ph.D., *Macaulay Honors College, CUNY*
- Pia-Kelsey O'Neill, Ph.D., *Columbia University*
- Sudharshan Pinglay, Ph.D., *NYU Langone Health*
- Danissa Rodriguez, Ph.D., *New York University*
- Nikki Romanello, *Slow Factory Labs*
- Elliot Roth, *Spira, Inc.*
- Jacob Russo, *Skidmore, Owings, & Merrill*
- Alison Salzinger, *Environmental Educator*
- Jane Shmushkis, *Mosa Meat*
- Sabriya Stukes, Ph.D., *Stellate Therapeutics*
- Chris Sweeney, *Art Teacher, Philadelphia School District*
- Temis Taylor, Ph.D., *EXACT Communication, NY; Utah State University*
- Megan Wang, Ph.D., *Princeton University*
- moira williams, *disability culture activist*
- Julie Wolf, Ph.D., *IndieBio*
- Kumar Veerapen, Ph.D., *the Broad Institute*
- Mason Youngblood, Ph.D., *Max Planck Institute for the Science of Human History*

COLLEGE & UNIVERSITY INTERNS

- Princess Adu, *Beyond Biorocket Peer Mentor*
- Leslie Calle, *Beyond Biorocket Social Media Peer Mentor*
- Farrah Eman, *Beyond Biorocket Social Media Peer Mentor*
- Ezequiel Espinal, *Beyond Biorocket Lab Intern*
- Milana Goldman, *LifeSci NYC Intern*
- Sarai Mena, *Environmental Studies Intern*
- Evelyn Ortega, *Beyond Biorocket Lab Intern*
- Emily Yueh, *SYEP Development Intern*
- Eman Zaheer, *Beyond Biorocket Peer Mentor*

BIOROCKET INTERNS

- Leuna Sarah, *High School for Community Leadership*
- Litzy Xiomayra Granda, *Sunset Park High School*
- Hadeer Eldewak, *East New York Family Academy*
- Chinonye Nnajiolor, *Brooklyn Lab Charter School*
- Tsidale Ayele, *Winchendon School*
- Theresa Luo, *Staten Island Technical High School*
- Jibrán Khan, *Brooklyn Technical High School*
- Abiade Adu, *Uncommon Collegiate Charter High School*
- Aprell J. Samuel, *Uncommon Collegiate Charter High School*
- Bashiru Bajaha, *University Heights High School*
- Kayla Santana, *Chelsea Career & Technical Education High School*
- Kelvin Tieku, *Manhattan Center for Science and Math*
- Marisol Martinez, *Beacon High School*
- Leonardo Michieli, *Manhattan Early College School for Advertising*
- Krista Liverpool, *Urban Assembly Charter School for Computer Science*

TEEN LEADERSHIP COUNCIL

- Ezequiel Espinal, *Brooklyn College*
- Marisol Martinez, *Beacon High School*
- Agalby Morel, *Uncommon Collegiate Charter High School*
- Evelyn Ortega, *Hunter College*
- Sally Rogers, *Bard Early College High School Manhattan*
- Marifer Sanchez, *Urban Assembly New York Harbor School*
- Kayla Santana, *Chelsea Career & Technical Education High School*
- Leuna Sarah, *High School for Community Leadership*
- Iza Sid, *BASIS Independent Brooklyn*
- Daniela Shoham, *BASIS Independent Brooklyn*
- Juliette Ziegler, *Beacon High School*

VOLUNTEERS

Nazmul Ahmed
Alyanna Aldea
Elizabeth Ambrose
Aishwarya Arjunan
Niko Arranz
Maya Blasingame
Kevin Bishop
Tiffany Bullock
Tamara Caine
Jennifer Caldwell
Sara Cherny
Fiona Chen
Helen Yin Chen
Min Chen
Chazman Childers
Vanessa Chu
David Chuchuca
Mary Azzarto Ciampa
Mahari Davis
Ralph Davis
Hendia Edmund, Ph.D.
Lada Emelianova
Bianca Ellis
Nsikak-Abasi Aniefiok Etim
Fouad Farnisa
Alesia Farve
Vincent Ferguson
Kyle Frischkorn, Ph.D.
Yi Fu
Kat Gomez
Valentina Gomez
Trevon Gordon
Gianna Greco
Claire Griffin
Carolyn Hall
Kathryn Hamilton
Rajene Hardeman
Paula Harper
Sion Hau
Johanna Heid, Ph.D.
Jim Henderson
Jeremy Hoffman
Victoria Hoffman
Thomas Hou
Karen Ingram
Sessen Iohannes
Hala Iqbal, Ph.D.

Dave Jackson, Ph.D.
Kimberly Jackson
Gretchen Jeff
Janina Jeff, Ph.D.
Japera Jeff
Desireé Jefferson
Ron Johnson
Simone Johnson
Chloë Jones
Duron Jones
Tony Joudi
Alex Kaye
Saba Khalid
Shoily Khondker, Ph.D.
Esther Kim
Grace Landrigan
Casey Lardner, Ph.D.
Kimberly LeBlanc
Sto Len
Ivan Linares
Renay Loper
Tomas Lopez
Xavier Lopez
Sarah Macci
Clarinda MacLow
Finnula Mageras
Altrim Mamuti
Jose Martinez
Marisol Martinez
Jennifer Mathias
Dallas May
Eve Mosher
Kathy Mu
Julie Nadel, Ph.D.
Fiona Nohilly
Caroline Nowak
Kelly O'Donnell Ph.D.
Temi Omaghomi
Evelyn Ortega
Ruike Pan
Ivan Peña
Alder Phillips
Marquicia Pierce
Sudarshan Pinglay, Ph.D.
Kara Powder, Ph.D.
Kelly Richardson
Arantxa Roach

Paulami Roychoudhury
Jennifer Saam
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John Sadowski
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Leuna Sarah
Ashley Schloss Ph.D.
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Rachel Sealton
Nathan Seligson
Meisha Sharp
Jane Shmushkis
Miranda Shou
Daniela Shoham
Iza Sid
Carly Siskind
Marguerite Smalls
Markia Smith
Sabriya Stukes Ph.D.
Alex Stutzman
Malika Sud
Sarah Cameron Sunde
Katie Swade
Michelle Takemoto
Marlee Tavlin Ph.D.
Jessica Thies
Darian Thomas
Rodney Thomas Jr.
Jonathan Thompson
Amber Trujillo
Yuri Tsao
Guillaume Urtecho, Ph.D.
Rosemary Valenta
Kendra Vilfort
Megan Wacha
Harris Wang, Ph.D.
Toussaint Webster
Porscha Williams Fuller
Lyndsey C. Wilson
Gen Wojcik
Julie Wolf, Ph.D.
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Jennifer Zhang
Craig Zhang
Juliette Ziegler
Heather Zierhut
Emily Zyko

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Senior Bioinformatics Scientist, Illumina

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Clair Purcell

Chief Venture Builder, Newlab

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Co-Founder, Genspace

Executive Director, Biodesign Challenge

Kathy High

Professor, Rensselaer Polytechnic Institute

Tom Knight Ph.D.

Founder, Ginkgo Bioworks

Mark Merrill

Strategy & Operations, Poncho Solutions

2021 Annual Report




Want to Get Involved?

Here are five ways to get started at Genspace:

1. Take a [class](#)
2. Join [the lab](#)
3. [Volunteer](#) with us
4. Network at our [public events](#)
5. Become a [Friend of Genspace](#)

Stay in Touch

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