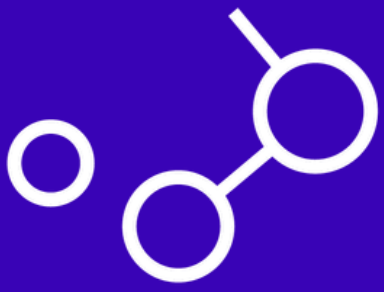
THE ROCKEFELLER UNIVERSITY



RockEDU
SCIENCE OUTREACH



Annual Report 2025

Building wide bridges that connect and carry us all forward.

Letter from RockEDU

Scientia Pro Bono Humani Generis

RockEDU Science Outreach embodies The Rockefeller University's commitment to science for the benefit of humanity. By centering education, mentorship, and sustained engagement, RockEDU extends discovery beyond the laboratory to ensure it serves people and communities.

We approach education and outreach as a public good. RockEDU never charges students, teachers, or community partners to participate in our programs or to access our resources. Instead, we invest institutional time, care, and expertise to expand access to authentic, inclusive science learning. We know that science is strongest when barriers are removed and participation is broadened.

The work reflected here is collective. Over more than a decade, RockEDU's programs and resources have been shaped by students, teachers, scientists, staff, alumni, and former RockEDU team members. Each contribution, whether a question asked, a lesson refined, or a mentorship relationship built, has shaped how we learn, evolve, and engage in partnership with communities.

RockEDU is deeply integrated into the life of the Rockefeller campus. Strong relationships with faculty, leadership, and institutional partners have created durable infrastructure that supports trust, collaboration, and shared ownership of this work. This buy-in allows RockEDU to operate not at the margins, but as a connected and valued part of the institution.

Since 2012, with the generous support of the university, and our philanthropic and community partners, RockEDU has grown into a highly effective and impactful model for research education and science engagement. What began as a small set of programs has evolved into an interconnected ecosystem that supports learners and mentors across stages and disciplines. Along the way, we have learned a simple truth: when we put people first by centering humanity, relationships, and lived experience, we strengthen science itself.

Jeanne Garbarino
Executive Director, RockEDU Science Outreach

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About RockEDU

Who We Are

RockEDU Science Outreach is the collective research education and science engagement enterprise of The Rockefeller University.



Our Mission

RockEDU aims to support students, educators, research trainees, and scientists in building technical and professional skills, confidence, and impactful STEM community connections.

Our Vision

A future where all people can shape and benefit from science.

Our Strategy

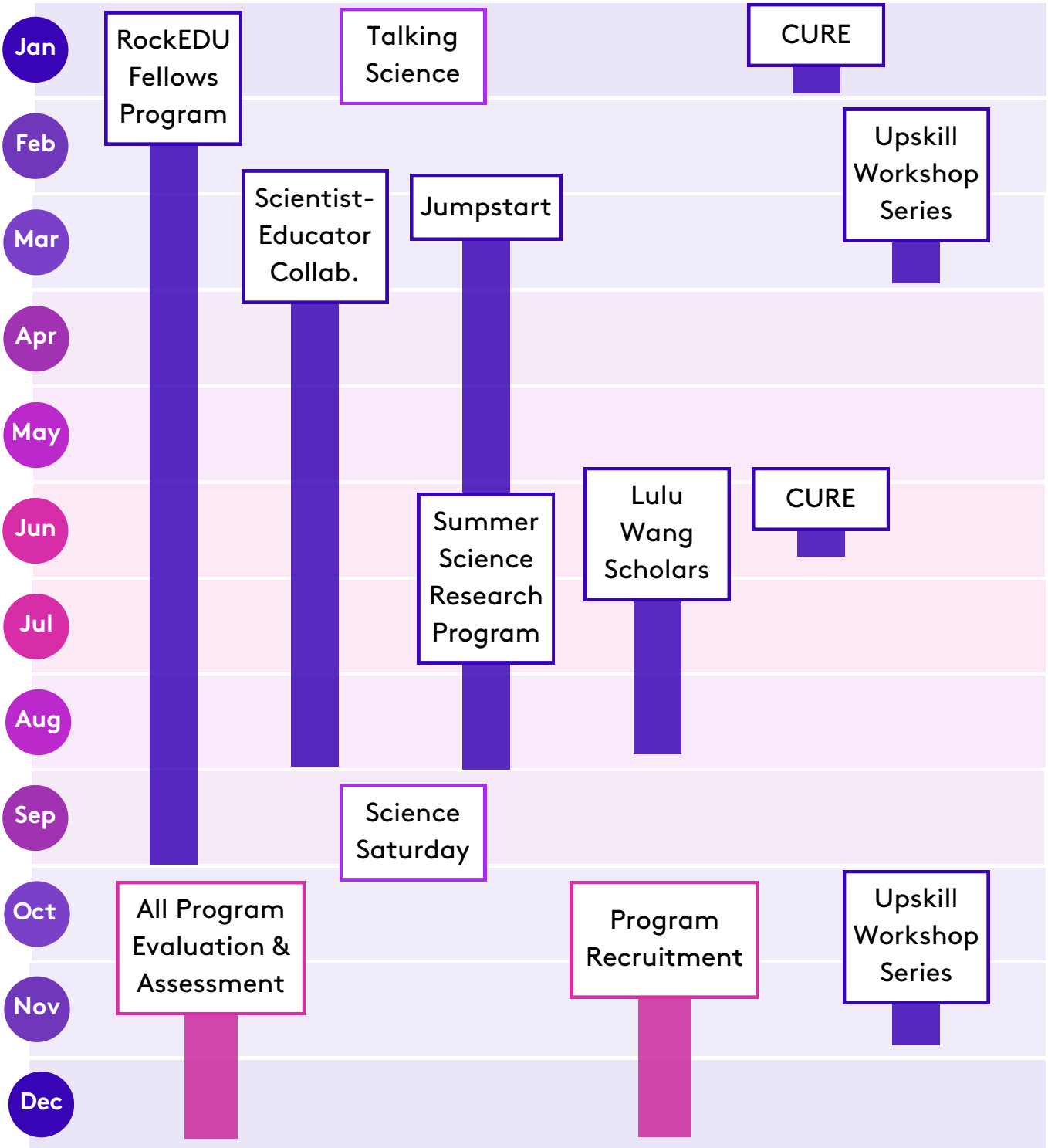
We partner with communities to design programs and resources that expand access to authentic, inclusive science learning.

Our Values

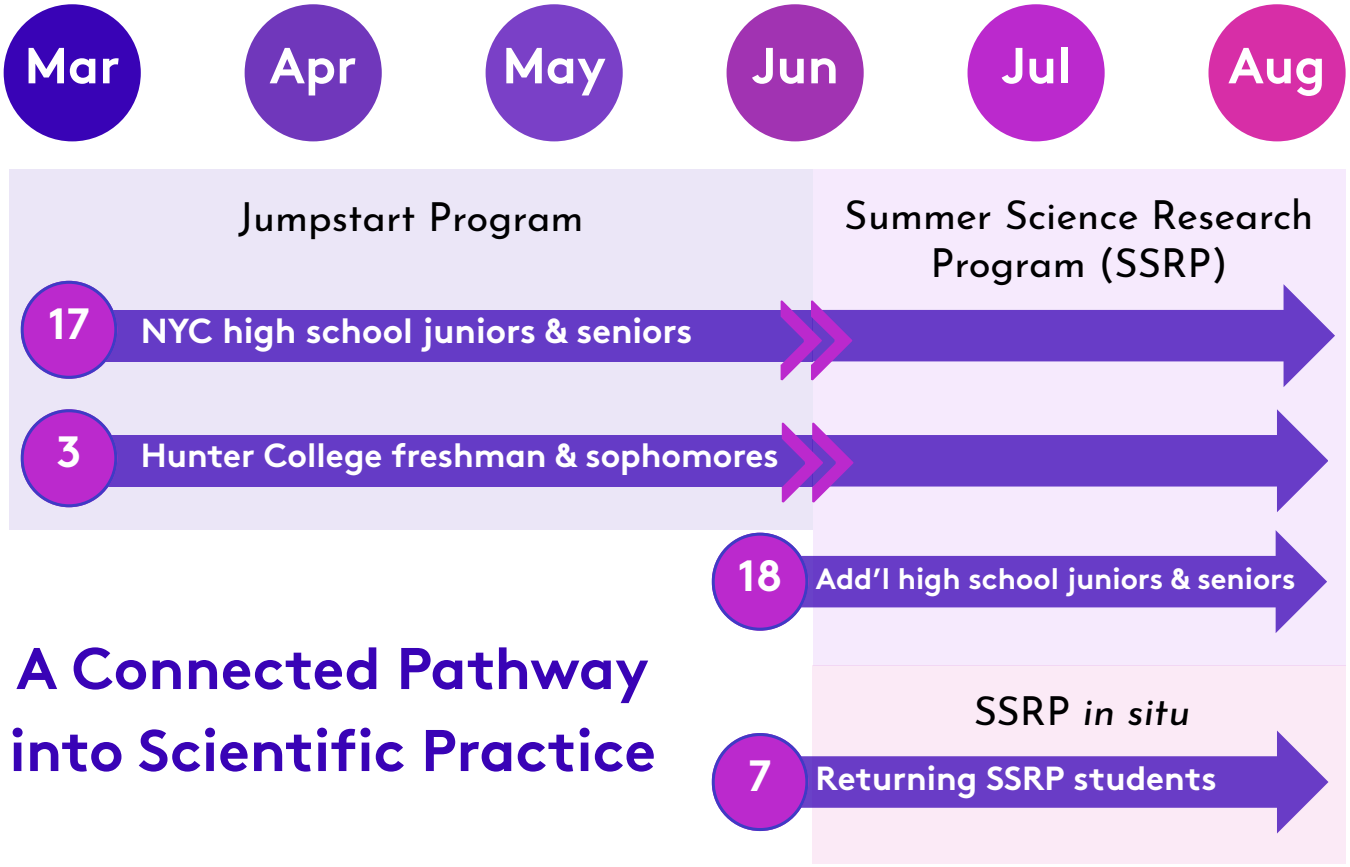
- People first
- Mentorship as infrastructure
- Curiosity over correctness
- Relationships over transactions
- Inclusion as a practice, not a promise

RockEDU's Year at a Glance

RockEDU offers year-round programs for K–12 students, undergraduates, Rockefeller graduate students and postdoctoral trainees, and science educators. This diagram serves as a resource as you read more about these programs in the pages ahead.



Entry-Level Research Exposure



A Connected Pathway into Scientific Practice

Together, **Jumpstart, Summer Science Research Program (SSRP), and SSRP *in situ*** provide layered, mentored research experiences that introduce students to scientific thinking, build foundational research skills, and sustain long-term engagement with research communities. Grounded on our campus and embedded within active laboratories, these programs emphasize mentorship, belonging, and authentic participation in scientific work.

Jumpstart Program

Jumpstart is a research skills–building program that prepares NYC high school juniors and seniors and Hunter College freshmen for the Summer Science Research Program (SSRP).

- HS JUNIORS & SENIORS
- COLLEGE FRESHMAN
- APPLICATION PROCESS
- MARCH – JUNE



"[Jumpstart] taught me a lot of really good basic lab techniques, helping me to become well-prepared for the SSRP. I felt comfortable and could work with other people in a lab setting." -2025 Jumpstart Participant

The map (right) shows the distribution of high schools (15 in total) attended by students participating in Jumpstart. All 5 boroughs are represented.

2025 By the numbers

- 20 students trained:
  - 17 NYC high school juniors and seniors
  - 3 Hunter College freshmen
- 70 hours of research skills training delivered across the spring semester
- 2 Rockefeller graduate fellows led Jumpstart facilitation, gaining teaching experience

High Schools Represented



Summer Science Research Program (SSRP) & SSRP *in situ*

The SSRP is a team-based mentored scientific research program for high school juniors and seniors taking place during the summer. SSRP *in situ* supports persistence in science by placing returning SSRP students into mentored summer research apprenticeships in Rockefeller laboratories.

SSRP

- HS JUNIORS & SENIORS
- COLLEGE FRESHMAN
- APPLICATION PROCESS
- JUNE – AUGUST

- 37 students participated: 19 Jumpstart students and 18 high school students who applied directly to the SSRP from across North America, Europe, and Asia.
- 4 research tracks and 3 electives: All students participated in one research track and one elective.

SSRP *in situ*

- RETURNING SSRP STUDENTS
- APPLICATION PROCESS
- INTERVIEW WITH LAB
- JUNE – AUGUST

- 7 students returned: 4 graduating high school seniors, and 3 undergraduates

"I felt like I found a passion for research during this program. The collaborative nature of the program and opportunities to take charge and build my own research question and poster allowed me to get a preview of what my career in science would look like." **- 2025 SSRP Student**



SSRP / *in situ* Projects

SSRP Research Tracks



The Biodiver-*city* of NY Waterways
What can eDNA tell us?



Cancer Diagnostics: From Bench to Bedside
How can CRISPR enable rapid cancer diagnosis?



Exploration of Stem Cells in the Skin
How do stem cells decide what to become?



The Neuroscience of Eating Disorders
How does stress reshape feeding behavior?

SSRP Electives



America's Next Top Model Organism



Introduction to Cancer Biology



Neurobiology of Mental Health

SSRP *in situ* Research Projects

Darnell Laboratory:
The Role of DNA Damage in Osteoarthritis Joint Pain

Friedman Laboratory:
Lateral Hypothalamus TRH and VGAT Neurons Drive Feeding, Drinking, and Digging in Mice

Utilizing Single Cell Analysis to Map Transcriptome of Aging Mouse Hypothalamus

Funabiki Laboratory:
Regulation of human cGAS DNA length & flexibility requirements

Shyer-Rodrigues Laboratory:
Ovarian Cancer Co-Cultures: Cisplatin-Induced Apoptosis and NMU-Driven Changes in ECM Organization

Steller Laboratory:
AAV9-mediated Delivery of PI31 to Skeletal Stem Cells

Rice Laboratory:
Establishing the RNA Launch for DHBV and WHV



Lulu Wang Scholars Program (LWS) + CURE

View the CURE Manual!

Lulu Wang Scholars (LWS) is a mentored research and curriculum-building experience for undergraduate students that takes place across two consecutive summers. The ultimate output of this work is a Course for Undergraduate Research Experience (CURE), which is offered twice per year to Hunter College students for credit.

LWS PROGRAM	RockEDU CURE
COLLEGE SCIENCE MAJORS	HUNTER COLLEGE BIO MAJORS
APPLICATION PROCESS	DEPARTMENTAL SELECTION
JUNE – AUGUST (TWO SUMMERS)	JANUARY / JUNE

Lulu Wang Scholars (Year 1)
Iterative CURE design and refinement

Lulu Wang Scholars (Year 2)
CURE teaching and evaluation

RockEDU CURE (Winter)
Research skills training in molecular biology

RockEDU CURE (Summer)
Research skills training in molecular biology



RockEDU Fellows Program

The RockEDU Fellows Program is a structured training initiative that provides Rockefeller graduate and postdoctoral students with opportunities to develop their mentorship, leadership, and management skills. Fellows are supported by the RockEDU team as they apply these skills through the facilitation of one of RockEDU's research education programs for high school and undergraduate students.

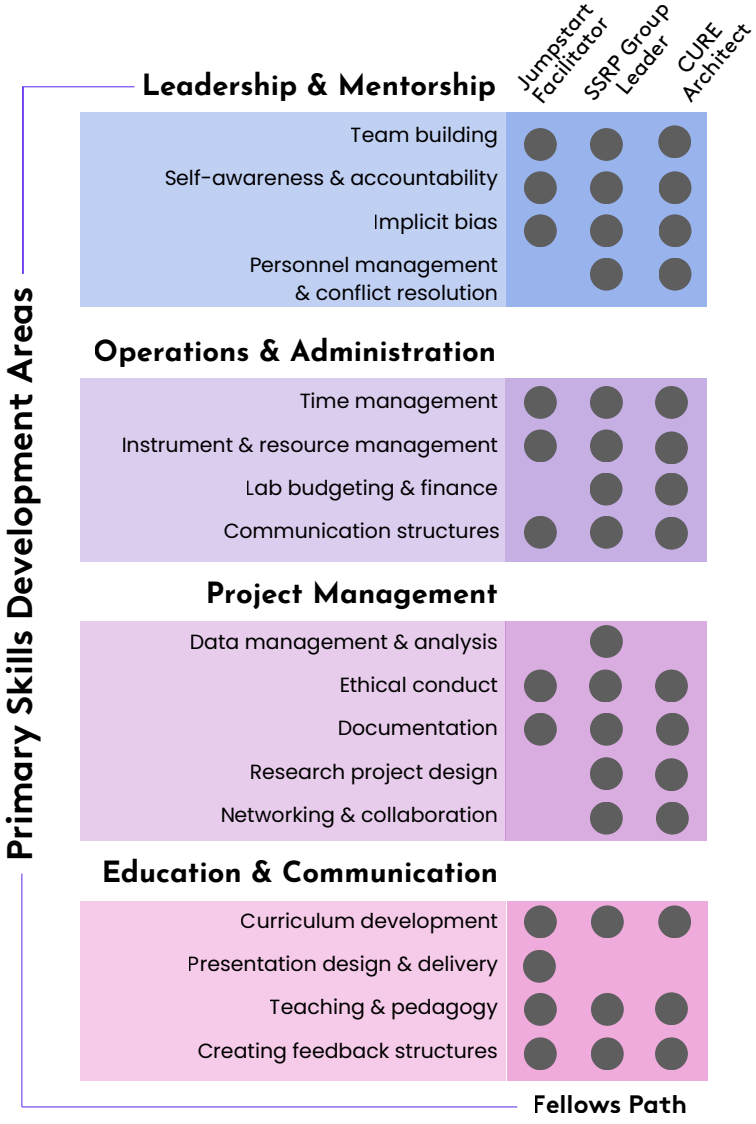
SCIENTIFIC TRAINEES

CAMPUS RECRUITMENT

CONTEXT DEPENDENT

- There are 4 primary Fellow types: Jumpstart Facilitator, SSRP Group Leader, SSRP Elective Instructor, and CURE Architect.
- 14 trainees were selected as Fellows, with an additional 37 onboarded as support scientists.
- RockEDU Fellows and support scientists represented 29 Rockefeller laboratories (~40%).

"Such a fulfilling program. I learned so much. It reinvigorated my love for teaching and passion for my science."
- RockEDU Fellow



Science Saturday

Science Saturday is RockEDU's annual community science festival that welcomes K-8 students with their families and educators to explore the wonder of scientific discovery. Through interactive experiments, demonstrations, and hands-on activities led by Rockefeller scientists and community partners, participants of all ages connect with the vibrant research community of New York City.

Saturday, September 27, 2025 at The Rockefeller University

Participants

- **986 attendees**
- **167 schools** represented from across
  - 4 boroughs - Manhattan, Brooklyn, Queens, Bronx
  - 4 states - New York, New Jersey, Conneticut, Massachusetts

Volunteers

- Over **230 volunteers** facilitated 38 distinct learning stations
- **19 local community partners** were represented at the event, including:

American Museum of Natural History
Cold Spring Harbor Laboratory
Columbia University
Intrepid Museum
Memorial Sloan Kettering Cancer Center
The New York Public Library
The Pfizer School of Science
Weill Cornell Medicine



"The platform you give us to share with young kids what we love about science is truly amazing and it's an honor to be able to take part in this terrific event." - **2025 Science Saturday Volunteer**

"I think it was a life-changing experience that opened their eyes to the wonders of science." - **Parent**

Talking Science

Talking Science is RockEDU's annual lecture and activity day connecting high school students and teachers with cutting-edge biomedical research. Each year, a Rockefeller Head of Laboratory shares their work through an accessible and engaging talk, followed by interactive activities that bring key scientific concepts to life and highlight the human stories behind discovery.

Saturday, January 11, 2025 at The Rockefeller University

Stopping Cancer in its Tracks: Fighting Cancer Metastasis



Featuring Sohail Tavazoie, M.D., Ph.D.
Leon Hess Professor, Senior Attending Physician
The Elizabeth and Vincent Meyer Laboratory of Systems Cancer Biology
The Rockefeller University

Featured Activities Included

- "Ask Me Anything" with Dr. Tavazoie
- Build a Tumor Microenvironment
- Digital 3D Explorations of Protein Structures and Patient Scans
- What is a Mutation and What Does it Mean for Cancer?

Participants

- **239 attendees**
  - **191 students**
  - **48 teachers**
- **31 schools** represented from across 3 states - New York, New Jersey, Connecticut



Building Interactive Opportunities for Mentorship Education (BIOME)

Building Interactive Opportunities for Mentorship Education (BIOME) is a managed mentorship learning community that supports Rockefeller scientists and staff through dedicated resources, programs, and events designed to strengthen mentoring practices, foster professional growth, and build an inclusive and supportive culture across the university.

BIOME Initiatives

Postdoc Pods

Peer network that connects postdocs across Rockefeller labs to support personal and professional growth. Launched in 2022, the program is co-facilitated by The Postdoctoral Association (PDA), the Dean's Office, and RockEDU.

Chalk Talks for Postdocs

Professional development series that helps postdocs develop and practice faculty-style chalk talks through demos, feedback, and peer support. Launched in 2024, it is led in collaboration with the RockEDU Fellows Program.

SSRPeers

Peer mentorship program that connects SSRP students across research tracks to build community and networks. The program includes workshops, tours, and lectures highlighting the scientific enterprise and has run annually since 2023.

RA Advocates

Mentorship program connecting research assistants with graduate students or postdocs for career guidance and graduate school support. Launched in 2024, the program is co-facilitated by RURAA.

"The chalk talk process has been demystified for me. I feel much more equipped and less anxious about the process. I have a clearer vision for what I need to work on and what I can expect." - **2025 Chalk Talk Participant**

" . . . the perfect opportunity for light touch mentoring . Being able to answer any and all questions for our mentees was very rewarding." - **2025 RA Advocate**

RockEDU: Theory of Change

For RockEDU, our Theory of Change is a living practice of reflection and accountability.

What is a theory of change?

A theory of change is a framework that articulates how and why an initiative achieves its intended outcomes. It maps the relationships between our activities, the shifts we aim to create, and the broader impact we seek in the world.

At its core, RockEDU's Theory of Change describes how we connect individual learning, community engagement, and system-level infrastructure to build a more inclusive, transparent, and sustainable research ecosystem.

This process is both reflective and strategic. In mapping and iterating on a theory of change we can continue to clarify our purpose, assess our progress, and continuously refine our approach to ensure our work remains responsive to the evolving landscape of research education.

By identifying the gaps in access and belonging within STEM, we design programs that provide students and scientists with the skills, networks, and mentorship needed to thrive. In turn, these experiences foster confidence, scientific identity, and community connection, which are key drivers that lead to a prepared STEM workforce, an inclusive research culture, and sustained, equitable pathways into science.

For RockEDU, our Theory of Change is a living practice of reflection and accountability. It helps us recognize how every program, partnership, and mentoring relationship contributes to systemic change. By making our pathways explicit and our assumptions transparent, we ensure that success in science depends not on insider status, but on preparation, potential, and passion.

Our Theory of Change diagram can be found on the next page

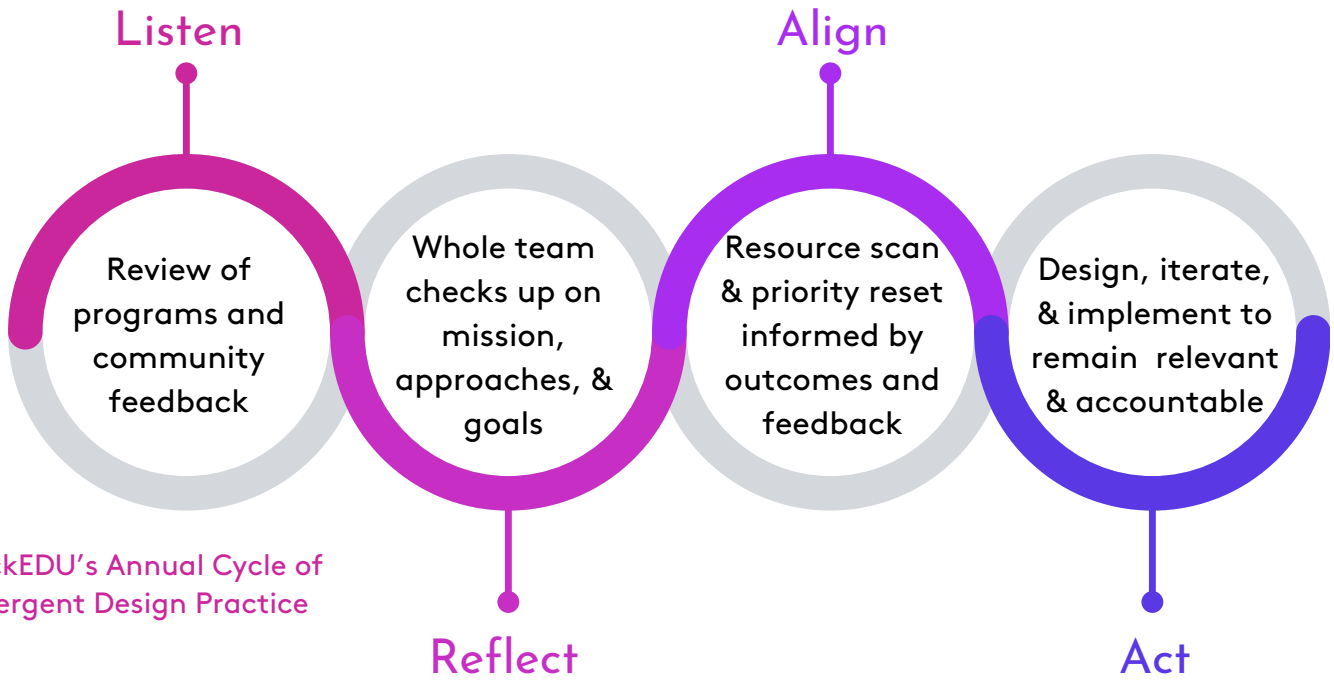
We recognize these gaps…	So we provide…	Our audiences develop…	This work leads to…
Leaky STEM Training Pipeline: few entry level access points to authentic STEM research opportunities, especially for minoritized students. **STEM Workforce Demands:** evolving industry demands and funding ecosystems in STEM, particularly in NYC. **Unspoken Rules, Unequal Access:** a hidden curriculum and scarce access pathways create barriers for many who are entering STEM.	**Science & Career Exploration:** broad exposure to fields and pathways. **Research Skills Training:** strong foundation in technical research skills. **Professional Skills & Hidden Curriculum:** practical tools and insights for navigating science culture. **Self-Awareness & Accountability:** reflection and responsibility for growth. **Community & Mentorship:** networks built through connection and guidance.	**Confidence:** students gain assurance in their abilities as learners and researchers. **Community & Networks:** students build meaningful relationships and support systems. **Belonging:** students feel welcomed and valued within the scientific community. **Scientific Identity:** students begin to see themselves as scientists and contributors to discovery. **Future Preparedness:** students are equipped with skills and mindsets to succeed in future academic, professional, and personal endeavors.	**Prepared STEM Workforce:** students are ready to thrive in evolving research and industry. **Inclusive Research Culture:** scientific spaces value diversity, belonging, and humanity. **Sustained Pathways:** clear, supported routes from school to careers, without leaks. **Transparency in Science:** open pathways and expectations, where success depends on potential, not insider status.

We Take An *Emergent Design* Approach

Through thoughtful systems and relationships, we create the scaffolds that sustain meaningful research education. This includes developing funding strategies, strengthening intralab, campus, and NYC networks, and connecting with local and national partners.

What does Emergent Design mean?

It means that we work with our communities — listening to their needs in real time and co-creating tools, programs, and supports that help close gaps or meet shared challenges. We experiment with many different ideas and approaches, and are not afraid to sunset initiatives that don't work or no longer fit our mission. Our goal is to make participation clear and accessible, align efforts across communities, and ensure RockEDU serves as a socially responsible and responsive part of the research ecosystem.



RockEDU's Annual Cycle of Emergent Design Practice

Pilot Programs:

Can we do more using what we already have?

How can we scale the number of students who can learn and benefit from our developed materials and networks?

Can we create more teaching opportunities for Rockefeller trainees?

With support from The New York City Economic Development Corporation and taught by trainees, our pilot Upskill Program connects CUNY undergraduates new to lab research with RockEDU's existing training resources, helping them build the technical and professional skills to succeed in future internships and NYC's rapidly growing biotech industry.

How do we strengthen our relationship with teachers without having to build out additional programming?

How can we promote our programs to more NYC students?

The experimental Scientist x Educator Collaborative is a reciprocal model for science education that brings teachers into Rockefeller's training spaces and gives scientists classroom experience in NYC schools. Educators can connect their lessons with research, while RockEDU Fellows gain invaluable teaching and pedagogy insights.

How do we sustain CURE alumni relationships and continue supporting students' growth in research?

How do we better connect Rockefeller trainees with strong in-lab mentorship experiences?

We are extending research opportunities for CURE alumni through year-long, paid placements in Rockefeller laboratories, supported by the Kavli Neural Systems Institute and The Sloan Foundation. RockEDU stays closely involved with mentors and mentees, providing ongoing support to ensure a meaningful lab experience.

Collaborations & Community Connections

Data for the People (D4P) is a webinar series that explores scientific literature and data in context, encouraging audiences to ask critical questions about research.

Beyond the Lab is a new podcast series recorded by SSRP students, featuring conversations with Rockefeller Heads of Laboratory. Season 1 launched to strong engagement, offering listeners a student-led look into the people and ideas driving discovery at Rockefeller. We recorded season 2 during the 2025 SSRP.

The NYC Science Research Mentorship Consortium (SRMC) unites programs supporting high school students from historically excluded groups in STEM. As a founding member through Jumpstart, RockEDU helped organize 2025 SRMPCon, a national professional gathering focused on advancing evidence-based, inclusive mentorship, and building a more supportive STEM culture.

As co-founder and host of the Undergraduate Life Sciences Skills Consortium with LifeSci NYC, RockEDU has been able to pilot and refine the CURE model in new settings. In 2025, this partnership also connected us with the NYC Economic Development Corporation to explore funding opportunities that expand student access to RockEDU training programs, such as the Upskill pilot.

Supported by the Office of University Life and Community Engagement, the inaugural Staff Lab Skills Open House Initiative invited non-scientist staff into the RockEDU Lab to explore hands-on science alongside Rockefeller researchers, fostering inclusion and cross-campus connection.

Collaborations & Community Connections

The Social Impact Fellows (SIF) Program, run in partnership with Princeton University's GradFutures, places graduate students from STEM, social science, and humanities disciplines at RockEDU for semester-long, paid fellowships focused on equity and social impact in science.

The Spring 2025 Social Impact Fellow developed a step-by-step playbook for creating an interactive, community-centered archaeology exhibit tailored to NYC students. This resource was later used by a CUNY archaeology team to run a Science Saturday 2025 learning station.

Creation of an Archaeology-Themed Learning Station for Science Saturday 2025



The Impact of SIFs

We have hosted five SIFs over six semesters, who have contributed projects such as:

- Developing interactive learning tools for educators and public science events.
- Creating career exploration databases that humanize STEM pathways and expands exposure to diverse careers for our students.
- Analyzing program demographics to identify gaps in representation.
- Creating an automated, web-based tool to curate conferences with a focus on civic science.
- Exploring citizen science participation in shifting political contexts across the globe.

Together, these efforts bridge research, education, and social justice, strengthening connections between higher education and community-centered science.

Donors and Sponsors

RockEDU gratefully acknowledges the individuals, corporations, and foundations whose generous support makes our programming possible.

Trailblazer

The Andreas C. Dracopolous Family Science and Society Initiative*+

Lulu C. Wang

Innovator

Adrian Ross / The Alfred and Jane Ross Foundation

Alfred P. Sloan Foundation

Bessent-Freeman Family Foundation*

Bristol Myers Squibb+

Carter and Tania Neild

Donors to the Hudspeth Fund for Science Outreach

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The Pinkerton Foundation

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Virginia Pellicci, MD

Robert Roth

Glenna B. Rubin

Eric Sigmund

George Skabardonis

Jonathan D. Victor

*Science Saturday Sponsor
+Talking Science Sponsor

Funding Opportunities

RockEDU's exceptionally well-developed academic-year and summer research initiatives for high school students, training for mentors, annual on-campus events, and online resources reflect the significant commitment of the university and its philanthropic partners to STEM and advanced science education.

The Rockefeller University provides institutional support for the RockEDU program along with exclusive use of 3,000 square feet of prime laboratory space in its Collaborative Research Center (CRC). This dedicated teaching lab in the CRC places students and educators at the center of Rockefeller's research enterprise, amidst its leading scientific investigators.

The robust, immersive scientific research experiences offered to students by RockEDU are made possible thanks to the generous private support of individuals, foundations, and corporations. RockEDU's philanthropic partners are gratefully acknowledged on the previous page.

The university welcomes contributions of all sizes to sustain RockEDU programming throughout the year, including sponsorships.

To make a donation to RockEDU, visit give.rockefeller.edu.

The Rockefeller University is seeking the following endowment gifts to ensure the continued impact of this extraordinary program and its service to the community.

$10 million

Endow the RockEDU Science Program to support its year-round classes and educational opportunities for students and teachers and foster a passion for science in K-12 students.

$3 million

Endow the RockEDU Teaching Lab to maintain the state-of-the-art laboratory and learning facility in the university's Collaborative Research Center.

Endowment gifts at these levels include naming opportunities for donors.

For more information about sponsorships and endowment gifts, contact Ainslie Durnin in the Development Office at adurnin@rockefeller.edu or 212-327-8698.

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