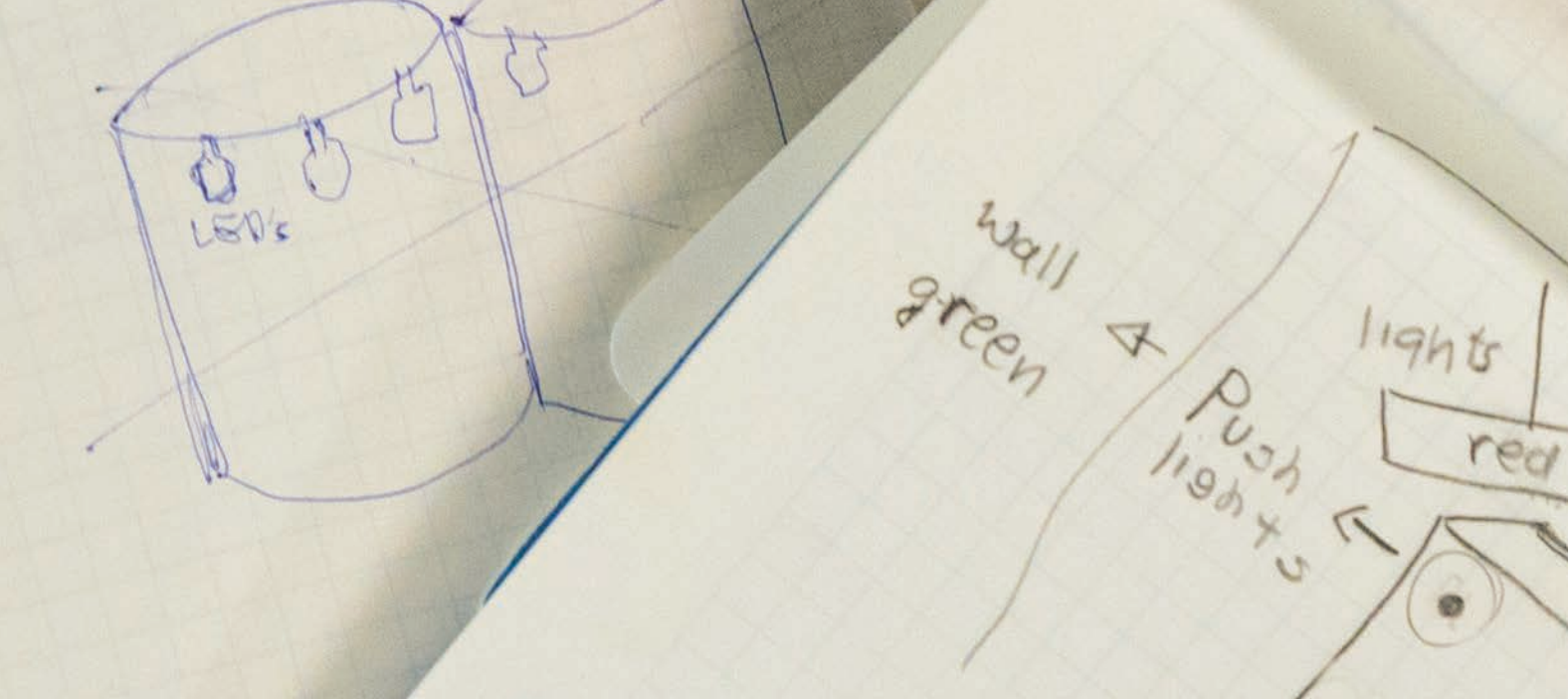


NEW YORK HALL OF SCIENCE 2019 ANNUAL REPORT



DESIGN MAKE PLAY • New York Hall of Science • www.nysci.org



DESIGN TO DISCOVER



MAKE TO CREATE



PLAY TO ENGAGE



PRESIDENT'S LETTER

NYSCI is a unique institution. We are New York City's premier science center — a place where questions are important, where children are encouraged to explore, imagine and build things, and where it's safe to experiment and fail and try again. We're also a research center, carrying out investigations that enrich our exhibitions and programs, and contribute to the field of STEM learning.

Through our research, we grow the collective understanding of how people learn, and build effective and equitable ways to engage learners in STEM experiences driven by their questions and curiosities. Our distinctive approach to learning — which we call *Design, Make, Play* — enables learners to marry their interests with tools and opportunities for experimentation. We want today's young people to become tomorrow's problem-solvers.

From improving human health, to building more resilient communities, to shaping the future workforce, the most urgent challenges society faces require evidence-based solutions. The work that NYSCI does to inspire young people to be scientific thinkers could not be more important. This year's annual report features four examples of ways NYSCI is developing an evidence base for STEM learning: in the museum, with youth, in our community, and around the world.

Thank you for your support.



Margaret Honey, *President & CEO*



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MUSEUM

In *Design Lab* — NYSCI's 10,000-square-foot design and engineering space — we are working to systematically investigate factors that influence girls' engagement and participation in science, technology, engineering and math. In a National Science Foundation-supported research study¹, we set out to understand whether and how narrative elements incorporated into engineering design activities can positively influence how girls engage with engineering. This research builds evidence-based guidance for the development of exhibits, activities and programs that support learning for girls in STEM — and contributes to our goal of helping other institutions create equitable and effective STEM learning experiences that engage *all* children.

“By seeing how she plays,
I can see what she’s
interested in. She showed
me around the museum
and I asked her to tell me
about things — she felt
good about that; she knew
all about it, and that’s
a good feeling.”

— Caregiver, on the benefits of
maker programs at NYSCI





YOUTH

NYSCI is working to create and support an innovative and inclusive engineering profession. In Formation of Engineers, a research project supported by the National Science Foundation², a cohort of high school and college-aged youth from diverse backgrounds participate in an after-school engineering program. In this program, they contribute to the design and facilitation of engineering-focused events and activities for museum visitors. Empowering youth to help draw connections between engineering and their own lives is one way that NYSCI positions engineering as relevant and inclusive.

“Everyone is capable of being an engineer, regardless of their field. Engineers include scientists, students, artists and even UX designers, to name just a few. If anything, engineering is an equalizer, as it demonstrates the need for collaboration within and across fields.”

— College student participating in Formation of Engineers research program





COMMUNITY

NYSCI is designing ways to bring computational thinking into the classroom. With support from the Robin Hood Foundation's Learning + Technology Fund³, NYSCI formed a two-year partnership with P.S. 13, a nearby elementary school. Through this partnership, NYSCI educators are coaching teachers to integrate the principles of computational thinking into lessons across subject areas. We will also create a guide to share learnings from this project. In the project's first year, there was a significant increase in the math test scores of students who received the computational thinking lessons, as compared to scores in previous years.

“I see many of my students using computational thinking already. They see that when they think about a problem by applying computational thinking, they understand it more and are able to confidently get to a correct solution.”

— Fifth grade teacher, P.S. 13





RESEARCH

NYSCI uses research to develop experiences and activities that inspire students with active STEM learning. Playground Physics, one of NYSI's award-winning digital Noticing Tools^(TM), was developed with support from the Sara Lee Schupf Center for Play, Science and Technology Learning⁴. Students learn physics by recording videos of their own play to investigate the concepts of motion, force and energy. In a randomized control trial study conducted by the American Institutes of Research, students using Playground Physics performed significantly better than peers who did not. In 2019, NYSI was awarded a subsequent grant of \$2.8 million to develop more teacher supports and bring Playground Physics into 50 schools across New York state.

“A lot of people think if a student isn’t reading a book or writing about it, they’re not learning, and that’s not necessarily true. With Playground Physics, they are playing but they are also asking questions. Part of learning is to question why and how.”

— Middle school science teacher
in New York City





Special events and activities throughout the year provide a platform for NYSCI to serve as a leader on critical issues around STEM education and learning within the cultural landscape of New York.

NYSCI's annual *Evening of Science and Inspiration* celebrates our exhibits, research and programs while raising crucial funds to support this work. More than 650 of New York's top business and community leaders gathered at Cipriani Wall Street to honor Tim Tynan, CEO of Bank of America Merchant Services, Joan Fallon, D.C., founder and CEO of Curemark, and Mimi Valdés, chief creative officer of i am OTHER.



The President's Council showcases diverse perspectives from top experts at the cutting edge of STEM and education. NYSCI's annual *Spring for STEM* offered a deep dive into the revolution of bioengineering and genetics being made possible with CRISPR gene editing technology. A panel of experts guided participants through the policy and ethical implications of CRISPR on personal and global health.



In other President's Council events, members gained insights from business leaders Ivan Seidenberg and Ted Dintersmith, met virtually with a group of women entrepreneurs in Gaza, and participated in a private tour and workshop in the heart of Times Square in collaboration with NYCxDESIGN.



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Thank you to all who support NYSCI.

Fiscal Year 2019 (July 1, 2018 to June 30, 2019) grants and gifts including multi-year awards:

\$500,000 +

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NYSCI's President's Council is a diverse and dynamic group of individuals who are passionate about STEM. Members care deeply about NYSCI's mission and provide crucial support through annual membership. This sustains the core work of the institution and enables NYSCI to deliver transformative educational programs, develop ground-breaking exhibitions and experiences, and provide youth programming and mentoring that inspires the next generation to be STEM leaders.

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Statement of Activities *Year Ended June 30, 2019 (with summarized totals for the year ended June 30, 2018)*

	Without Donor Restrictions					
	Undesignated	Board Designated	Total	With Donor Restrictions	2019 Total	2018 Total
OPERATING INCOME						
Contributions and grants	\$6,117,030	\$1,294,853	\$7,411,883	\$4,265,105	\$11,676,988	\$7,887,057
In-kind contributions	1,141,298	—	1,141,298	—	1,141,298	1,021,596
Appropriations from the City of New York	1,450,970	—	1,450,970	—	1,450,970	1,451,621
Admissions, workshops, memberships and exhibit fees	3,961,437	—	3,961,437	—	3,961,437	3,947,203
Use of facilities and other income	735,906	—	735,906	—	735,906	883,914
Investment return	332,778	—	332,778	44,205	376,983	275,319
Auxiliary activities	346,885	—	346,885	—	346,885	333,341
Subtotal	14,086,304	1,294,853	15,381,157	4,309,310	19,690,467	15,800,051
Use of designated funds	285,529	(285,529)	—	—	—	—
Net assets released from restrictions	5,317,029	—	5,317,029	(5,317,029)	—	—
Total Operating Income	19,688,862	1,009,324	20,698,186	(1,007,719)	19,690,467	15,800,051
OPERATING EXPENSES						
Program Services						
Museum experiences	6,522,529	—	6,522,529	—	6,522,529	6,360,565
Education	2,631,410	—	2,631,410	—	2,631,410	3,002,079
Research and development	4,002,934	—	4,002,934	—	4,002,934	3,812,326
Youth development	2,401,105	—	2,401,105	—	2,401,105	2,267,178
Total Program Services	15,557,978	—	15,557,978	—	15,557,978	15,442,148
Supporting Services						
Management and general	2,623,830	—	2,623,830	—	2,623,830	2,072,048
Fundraising	1,486,320	—	1,486,320	—	1,486,320	1,824,171
Marketing and communications	261,061	—	261,061	—	261,061	290,398
Total Supporting Services	4,371,211	—	4,371,211	—	4,371,211	4,186,617
Total Operating Expenses	19,929,189	—	19,929,189	—	19,929,189	19,628,765
Excess (Deficiency) of Operating Income Over Operating Expenses	(240,327)	1,009,324	768,997	(1,007,719)	(238,722)	(3,828,714)
NON-OPERATING ACTIVITIES						
Investment return	—	134,275	134,275	37,181	171,456	149,747
Contributions for property and equipment — appropriations from the City of New York	—	—	—	920,557	920,557	827,400
Net assets released from restrictions for capital expenditures	763,971	—	763,971	(763,971)	—	—
Use of designated funds for capital	75,120	(75,120)	—	—	—	—
Depreciation expense	(5,089,190)	—	(5,089,190)	—	(5,089,190)	(5,035,789)
Change in Net Assets	(4,490,426)	1,068,479	(3,421,947)	(813,952)	(4,235,899)	(7,887,356)
NET ASSETS						
Beginning of year	47,862,120	2,283,354	50,145,474	7,894,810	58,040,284	65,927,640
End of year	\$43,371,694	\$3,351,833	\$46,723,527	\$7,080,858	\$53,804,385	\$58,040,284

Statement of Financial Position *June 30, 2019 (with comparative amounts at June 30, 2018)*

	2019	2018
ASSETS		
Cash and cash equivalents	\$971,155	\$736,061
Grants, contributions and pledges receivable, net	4,430,578	3,513,531
Prepaid expenses and other assets	561,516	675,095
Investments	6,451,569	7,566,759
Property and equipment, net	43,023,897	47,136,324
Total Assets	\$55,438,715	\$59,627,770
LIABILITIES AND NET ASSETS		
<i>Liabilities</i>		
Accounts payable and accrued expenses	\$1,365,970	\$1,387,013
Deferred revenue	268,360	200,473
Total Liabilities	1,634,330	1,587,486
<i>Net Assets</i>		
Without donor restrictions	46,723,527	50,145,474
With donor restrictions	7,080,858	7,894,810
Total Net Assets	53,804,385	58,040,284
Total Liabilities and Net Assets	\$55,438,715	\$59,627,770





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Notes

- 1. This material is based upon work supported by the National Science Foundation under Grant No. 1712803.
- 2. This material is based upon work supported by the National Science Foundation under Grant No. 1763917.
- 3. Robin Hood, Overdeck Family Foundation, and Siegel Family Endowment established the Learning + Technology Fund to shift teaching and learning so all students are prepared to succeed in a rapidly changing world.
- 4. Playground Physics was developed in the Sara Lee Schupf Family Center for Play, Science, and Technology Learning with support from the Sara Lee Schupf Family Foundation, the National Science Foundation, The John D. and Catherine T. MacArthur Foundation, BNY Mellon, and Motorola Solutions Foundation. The current scale-up is supported under a grant from the U.S. Department of Education, Education Innovation and Research (EIR) Program.

