The Giving Common

An Initiative of the Boston Foundation

www.thegivingcommon.org

Science Club for Girls, Inc.

Science Club for Girls

Current

General Information

PO Box 390544

Cambridge, MA 02139

(617) 391-0361

Website

www.scienceclubforgirls.org

Organization Contact

Lonsdale Koester scfg@scienceclubforgirls.org

Year of Incorporation

1994

Statements & Search Criteria

Mission Statement

Science Club for Girls' vision is to catalyze a fully diverse and inclusive STEM community.

Our mission is to foster excitement, confidence and literacy in STEM for girls, particularly those from underrepresented communities, by providing free, experiential programs and by maximizing meaningful interactions with women mentors in science, technology, engineering & mathematics.

Background Statement

Since its origin in 1994 as a parent-founded, volunteer-run initiative at the King Open School in Cambridge, with only two kindergarten/1st grade clubs, Science Club for Girls has grown to over 15 sites in 5 cities in Massachusetts.

We engage girls in subjects they typically shy away from, but which have significant impact in their academic success and their ability to compete in the job market as adults. SCFG has especially targeted girls from ethnic and racial groups that have been traditionally underrepresented in science and technology, and who may be the first in their families to attend college.

Our core programs are our semester-long science clubs for girls in K-7th grades, and a Junior Mentor and affiliated CELLS (career exploration, leadership and life skills) program that engage girls in 8-12th grades. Together with our vacation week program, one-time Show me the Science fairs and summer program, we have served almost 900 youth each year.

One of the key components of our program model is the female mentor-scientists. Almost 40% of these volunteers either hold or are pursuing graduate degrees or are professionals in science, technology, engineering and math (STEM). The remainder are undergraduate STEM majors. These volunteers create an atmosphere where it is assumed that girls can pursue education and careers in STEM, and where college is an expectation, so as to increase the percentage of girls who plan to go to college and who will consider careers in science and technology.

Science Club for Girls seeks to create partnerships and to serve as a node to connect various local and national networks, institutions and individuals with a similar mission, and to provide a model for replication.

As a co-founding organization of the Boston Area Girls STEM Collaborative, SCFG leverages resources from universities and other nonprofit organizations to create additional programming for middle and high school girls.

Impact Statement

ACCOMPLISHMENTS

Needs Statement

Increase our capacity to expand Science Club programs, with a special focus on Boston, Lawrence and neighboring communities, vertically through existing sites, with new partners and/or additional days. Major staff investment include full time program managers in these cities, and a director of strategic partnerships. $200,000

Deepen STEM experiences for middle school girls through additional project- and inquiry-based curricula, as well as program development to align with local and national competitions and/or state engineering and science fairs.

$55,000

Increase financial stability by diversifying and expanding revenue streams through a full-time director of development and an expanded individual donor program

$70,000

Develop an online training program for the expanding corps of mentor-scientists and volunteers, to complement in-person training and support, and allow for “just-in-time” training modules.

$35,000

Conduct independent research to assess effectiveness of our program(s)

$50-80,000

CEO/Executive Director Statement

SCFG uses an evidence-based model of program development to achieve our organizational mission of improving the self-confidence, STEM outcome and educational attainment of girls from groups that are underrepresented. By taking into account research findings and best practices in gender and science, and youth development, we have created a unique but evolving sequence of programs from K-12 that include hands-on investigations; collaborative projects; single-sex learning environments; role models; near-peer mentoring; and leadership development.

Our programs fill several important needs--the need for hands-on STEM programs to supplement school-day offerings especially in lower-income communities; the need for STEM programs with a low barrier of entry, in terms of cost or prior “experience”; the need for continuous STEM programming that can keep girls engaged from K-12; the need for a single-sex space for girls to become confident in these subjects; the need for role models to inspire girls to include STEM careers in their dreams; the need for STEM workers; the need for science-literate citizens etc.

The National Governor’s Association recently affirmed what the MA Governor’s STEM Plan proposed: that afterschool is an essential complement to in-school instruction to increase student proficiency, interest and career awareness in STEM. Our emphasis on the practice of science and engineering and a spiral curriculum that helps girls revisit core concepts and big ideas has been built on the AAAS Benchmarks for Science Literacy, and closely aligns with the emerging Next Generation Science Standards, as currently outlined in the K-12 Science Education Framework.

Recent studies suggest that students are more likely to persist in STEM majors in college if they have expressed that interest as early as eighth grade, and many current scientists and graduate students were motivated by experiences in elementary school. Thus, intervention before middle school is essential to help girls build the confidence, literacy and skills base to continue in science, technology and engineering. These research underscore the continued relevance of SCFG’s mission to serve girls, and particularly those from ethnic and racial groups that continues to be underrepresented in these fields, at the earliest age, before their interest and confidence begin to wane in middle and high school.

Service Categories

Youth Development Programs

Geographic Areas Served

Program sites are located in Boston, Cambridge, Newton, Brookline and Lawrence. Participants come from more than 40 different cities and towns across eastern Massachusetts.

Please review online profile for full list of selected areas served.

Programs

Science Clubs

Description	We serve over ~400 K-5th grade girls in our after school Science Clubs each semester. Children explore engineering, chemistry, physics, biology, and integrated topics etc under the guidance of volunteer scientists and students. Clubs are primarily based at schools and community centers, located in Boston, Cambridge, Lawrence, Newton and Fitchburg/Leominster. The goals of these weekly programs (which meet for 8-10 weeks per session), are to nurture girls' curiosity for the world, familiarize them with the process and tools of science and engineering, equip them with mental models that they can bring back to school day learning. Each Science Club session follows a curriculum based on a particular theme, such as chemical change, oceans, the human body, structural engineering etc. Clubs are facilitated by female college, graduate and/or practitioners in STEM, who bring a unique excitement and passion, and facility with the process of scientific inquiry or engineering design. These role models break down stereotypes of who can be in these fields. These clubs are supported by upper middle and high school girls who learn by coaching from staff and mentors and co-teaching Clubs as Junior Mentors.
Budget	232000
Category	Education, General/Other Afterschool Enrichment
Population Served	Children Only (5 - 14 years), Females, Minorities
Program Short Term Success	After 2 years participation, or 4 sessions of science clubs, at least 80% of girls will show increased interest in science, engineering or technology careers; and be able to articulate how STEM can improve the world.
Program Long term Success	At least 50% young women and young women of color from underrepresented groups who participate in our programs for two years or more will choose to major in STEM in college.
Program Success Monitored By	Parent surveys, program managers' formal observations and reports are typical ways to assess program success. Retention and attendance are proxy measures of engagement. Pre- and post-survey are conducted every 3-4 years.

Examples of Program Success

A 2012 survey of girls in 4-6th grade suggest that girls who have participated in Science Club for Girls for two years or more are more interested in science class, are more aware of and interested in careers in science and engineering, than their peers who have just joined. This supports our logic model prediction that we will see an improvement in girls' attitudes etc. after two years' participation.

In a survey conducted in 2011, 93% of parents said that SCFG had a positive impact on their daughter's confidence in exploring the world through science and engineering, and their comfort level using tools and equipment. 90% said their daughters have become more persistent when solving problems.

She talks about "science experiments" in other contents - cooking, crafts, etc.

...because of this program she is doing well in science at her school.

My daughter [in kindergarten] has begun to accumulate bottles, soil, magazines, egg cartons etc. under her bed, claiming that they are for her future science projects

My (4th grade) daughter and (3rd grade) goddaughter are now using language that's not typically used in the household: "I have a hypothesis"…"We need to do a survey"...

Junior Mentor

Description	Our 8-12th GRADE JUNIOR MENTOR (JM) PROGRAM is critical in engaging ~60 adolescent girls in STEM related activities while providing the younger girls much needed near-peer mentors and role models. JMs receive training and coaching in teaching science and in classroom management, and are responsible for guiding young girls through science and engineering activities. JMs build relationships with the mentors, inspire the younger girls to continue in our program, and contribute to the cross-generational fabric of the SCFG network. JMs and other teen participants also attend workshops on socio-emotional development, reflect on leadership, and attend career and college exploration field trips where they meet additional women in STEM. SCFG was one of two exemplary STEM programs in the nation, and the only girl-serving program, to receive the MetLife Afterschool Innovator Award in 2010, in recognition of our middle-school Science Clubs and Junior Mentor programs.
Budget	50000
Category	Youth Development, General/Other Youth Leadership
Population Served	Adolescents Only (13-19 years), Females, Minorities
Program Short Term Success	After at least 2 years of involvement: 75% have higher confidence in themselves as science students 80% are more favorably disposed towards STEM 60% are likely to select a career in STEM, and 90% have an equal or greater desire to attend college.
Program Long term Success	Girls will attend college and choose STEM majors at a higher rate than their peers. 89% of graduates from our Junior Mentor Program in the past 8 years have been accepted to 4-year colleges. 50% of them are majoring in science, engineering or health science.

Program Success Monitored By

Enrollment and retention serve as proxy measures of engagement with STEM that is supplemented by mentor and staff observations. Girls complete pre- and post-surveys around attitude and confidence in science/engineering and awareness of and interest in careers in STEM and college. Qualitative survey questions also allow us to gauge student interest, solicit program input, and collect additional evidence of program success. To document progress, participants create customized goals in two to three specific areas for their personal development that are reviewed with staff and with mentors. Knowledge gains in specific skills are measured by post-workshop surveys. Partners provide feedback on internships and summer placements. Girls' application, acceptance and retention in college as well as their majors will be documented.

Examples of Program Success

A survey was conducted in 2010. Over 95% of the Junior Mentors who were not previously interested in science reported becoming much more engaged, especially in the topics they were teaching. Those who said their attitudes have not significantly changed said they already had an interest in science when they joined SCFG.

The transformative power of our work is exemplified by this Junior Mentor's statement: "*I didn't think I had the brains to become a scientist [before I joined SCFG]...People gossip that [it's] a boy's job or about how only nerds and geeks can be scientists. Over the last [three] semesters, I learned it doesn't matter what your race, age, or appearance is. You can do anything and become anything you put your mind to... It's about having friends and peers to encourage you through your goal, which is the relationship I had with my team in SCFG. Science Club for Girls made me realize that I have the power and the knowledge to become a scientist and to help other's dreams come true*".

STEMinista

Description	A year-long program for 6-8th grade girls that expose them to technology, engineering and science through short project-based modules in the first year; and the option of a year-end visit to the state science and engineering fair to position them for a self-designed project in the following year. The STEMinistas program incorporates research-based strategies and caters to the needs and interests of girls in middle school (6-8th grades) in urban areas. Research demonstrates that girls' persistence in STEM is dependent on developing an identity as scientists, which is spurred by role models and their experience with STEM as tools to solve problems, and for personal expression. Middle school youth also value choice in setting the goals and direction of projects, and the interplay between choice and structure helps develop their critical thinking and decision making capacities. Girls take on different 3-5 week "consulting" projects, and create a "product" in a variety of STEM areas. Projects require girls to apply hands-on learning, design, teamwork and critical thinking, so they can develop leadership, entrepreneurial and communication skills. These projects are interspersed with competency modules where girls gain basic skills through activities modified from PBS' Design Squad, for example. They also incorporate budgeting and resource management as teams need to access additional building supplies and materials during redesign phases. Sensitive to young girls' need for relevance, more complex projects typically serve a social good and/or introduce an area of STEM that is familiar. As students become more facile, their interests and experiences will guide the modules. Girls identify 2-4 issues that affect their community or their own lives. Then, working in small teams, they hone in on a particular issue and develop and vet various solutions to the problem. Girls may create web or mobile apps; or scale models, sketches and prototypes of their designs, including works-like, looks-like, and working models as appropriate.
Budget	25000
Category	Education, General/Other Extracurricular Activities
Population Served	Children Only (5 - 14 years), Females, Poor,Economically Disadvantaged,Indigent

Program Short Term Success	By the end of the year: 85% of girls who have participated will indicate an increase in confidence in science, engineering and/or design (depending on the module) 85% will express an increase in self-confidence, and comfort with public speaking 65% will specify a STEM-related career as a future interest
Program Long term Success	80% of girls who have participated in this program for at least one year will select higher level science and math courses in high school. 40% will choose engineering or technology as a major in college.
Program Success Monitored By	Surveys will be used to assess improvements and changes in attitude and confidence
Examples of Program Success	Preliminary results after the first session are as follows: 89% of girls said the program exceeded their expectations. Girls described their experiences as "awesome, fun, adventurous, challenging, exciting, learning". They also discussed how their ability to collaborate with peers, the opportunity to brainstorm and then narrow ideas, and the opportunity to share with each other and with parents at the semester as highlights of the program.

Teen Challenge Teams

Description	Girls in 8-12th grades engage in immersive experiences that provide substantive technical skill development. They can participate in a Challenge Team, with options for rocket design & building, game development and computer programming, zebrafish biology and science journalism. Girls also gain team and project skills. RESEARCH INTERNSHIPS are offered to girls in 10-12th graders who have already participated in a challenge team or a junior mentor program. They work with mentors at universities and companies to gain real world experience for how STEM is applied.
Budget	60000
Category	Science & Technology, General/Other Science & Technology, General/Other
Population Served	Adolescents Only (13-19 years), Females, Minorities
Program Short Term Success	After participation, girls' confidence and identity in STEM will increase. 95% will have greater awareness of STEM careers 90% will have greater appreciation for and knowledge of real world applications of STEM.
Program Long term Success	90% of girls who participate in these programs will attend college. 75% will choose to major in STEM.
Program Success Monitored By	Surveys, girls' projects and presentations, mentor assessments are used to monitor short term gains.
Examples of Program Success	We invite you to watch the video to hear our participants discuss the impact of our programs.

Program Comments

CEO Comments

While our K-5 programs are well-established, the teen programs have continued to evolve, and has grown in the last few years in particular, in response to girls' demands for additional STEM programming beyond being Junior Mentors. We base our program and curriculum development on research-based strategies, and work closely with partners and experts who have content expertise.

Management

CEO/Executive Director

Executive Director	Ms. Lonsdale G Koester
Term Start	Dec 2014
Email	lkoester@scienceclubforgirls.org

Experience

Ms. Koester brings to SCFG a deep and varied background in organizational development, strategic planning, financial management and fundraising. She most recently served for four years as Chief Financial Officer of the Commonwealth of Massachusetts Executive Office of Energy & Environmental Affairs. Prior to that, Ms. Koester held several roles in Governor Deval Patrick's administration, as well as the United Way of America and Reading Is Fundamental (RIF), the nation's oldest and largest children's literacy nonprofit.

Ms. Koester holds a Masters in Public Policy from Harvard's Kennedy School of Government and B.A. from the University of the South (Sewanee). She is a member of the board of directors of the Boston Philharmonic Orchestra and co-chair of the annual stewardship campaign of Boston's landmark Trinity Church on Copley Square.

Former CEOs

Name	Term
Connie S Chow	May 2006 - Dec 2014

Senior Staff

Kate Pickle

Title	Deputy Director
Experience/Biography	Ms. Kate Pickle (B.S. Ocean Sciences) has more than 12 years of experience in program implementation, grant management, community engagement, partnership building and stewardship related to informal STEM education for girls. She was most recently the Manager of Strategic Alliances at the EdLab Group, primarily focusing on the National Girls Collaborative Project. Prior to that, she was the STEM program manager at the national office of Girls Scouts USA. She has also served as the Urban Program Manager of Girls Scouts of Rhode Island. She is a member of the Maine Maritime Academy Ocean Studies Advisory Board, and has served on the board of Reel Grrls.

Lydia Peabody

Title	K-5 Program Director
Experience/Biography	Ms. Lydia Peabody (Ed.M. Experiential Education; B.S. Physics) started her science education career as a Peace Corps Volunteer in Namibia (southern Africa). She has extensive experience in program development and evaluation through outdoor education and leadership training for youth in Minnesota and in New Zealand. Immediately before joining SCFG, she directed the leadership development programming at Boston's Camp Harbor View. She is a recent transplant to the Boston area.

Staff Information

Full Time Staff	4
Part Time Staff	9
Volunteers	170
Contractors	4
Retention Rate	100%

Staff Demographics - Ethnicity

African American/Black	4
Asian American/Pacific Islander	3
Caucasian	9
Hispanic/Latino	1
Native American/American Indian	0
Other	0

Staff Demographics - Gender

Male	0
Female	17
Unspecified	0

Formal Evaluations

CEO Formal Evaluation	Yes
CEO/Executive Formal Evaluation Frequency	Annually
Senior Management Formal Evaluation	Yes
Senior Management Formal Evaluation Frequency	Annually
NonManagement Formal Evaluation	Yes

Non Management Formal Evaluation Frequency	Semi-Annually

Plans & Policies

Organization has a Fundraising Plan?	Under Development
Organization has a Strategic Plan?	Under Development
Does your organization have a Business Continuity of Operations Plan?	No
Management Succession Plan?	Under Development
Organization Policy and Procedures	Under Development
Nondiscrimination Policy	Under Development
Whistleblower Policy	Yes
Document Destruction Policy	Yes
Directors and Officers Insurance Policy	Yes
Is your organization licensed by the Government?	No
Registration	Exempt
Permit?	Exempt

Awards

Awards

Award/Recognition	Organization	Year
Nonprofit of the Year	Cambridge Chamber of Commerce	2009
MetLife AfterSchool Innovator	AfterSchool Alliance	2010
Advancement Award	The Boston Club	2011
Be The Change	MA Conference for Women	2011
Social Innovator in STEM	Root Cause	2012
Innovation	Smaller Business Assn of New England	2011

Affiliations

Affiliation	Year
Afterschool Alliance	2010
Chamber of Commerce	2006
Massachusetts Nonprofit Network	2013

Board & Governance

Board Chair

Board Chair	Mr. Uche Amaechi
Company Affiliation	Harvard Graduate School of Education
Term	July 2015 to June 2016
Email	amaechi@me.com

Board Members

Name	Affiliation	Status
Uche Amaechi	Harvard Graduate School of Education	Voting
Dr. Pradeep Aradhya	CEO, Novus Laurus	Voting
Shirby Best	City of Boston	Voting
Karen Cambray	CFO, Cartera Commerce	Voting
Lonsdale Koester	Executive Director, Science Club for Girls	Voting
Mary McGowan	Co-Founder, Science Club for Girls	Voting
Beth O'Sullivan	Co-Founder, Science Club for Girls	Voting
Dr. Karen Page PhD.	Clinical Scientist, Pfizer	Voting
Natasha Walwyn Esq.	General Dynamics	Voting

Board Demographics - Ethnicity

African American/Black	2
Asian American/Pacific Islander	1
Caucasian	4
Hispanic/Latino	0
Native American/American Indian	0
Other	0 0

Board Demographics - Gender

Male	2
Female	7
Unspecified	0

Board Information

Board Term Lengths	2
Number of Full Board Meetings Annually	12
Board Meeting Attendance %	90%

Written Board Selection Criteria?	Yes
Written Conflict of Interest Policy?	Yes
Percentage Making Monetary Contributions	100%
Percentage Making In-Kind Contributions	100%
Constituency Includes Client Representation	No

Standing Committees

Board Governance

Development / Fund Development / Fund Raising / Grant Writing / Major Gifts

Executive

Finance

Financials

Fiscal Year

Fiscal Year Start	July 01, 2015
Fiscal Year End	June 30, 2016
Projected Revenue	$610,000.00
Projected Expenses	$610,000.00
Endowment?	No
Credit Line?	Yes
Reserve Fund?	Yes
Months Reserve Fund Covers	2

Detailed Financials

Revenue and Expenses

Fiscal Year	2015	2014	2013
Total Revenue	$469,854	$615,459	$470,626
Total Expenses	$561,870	$570,633	$493,525

Revenue Sources

Fiscal Year	2015	2014	2013
Foundation and Corporation Contributions	--	--	--
Government Contributions	$0	$0	$0
Federal	--	--	--
State	--	--	--
Local	--	--	--
Unspecified	--	--	--
Individual Contributions	$351,558	$507,143	$395,866
Indirect Public Support	--	--	--
Earned Revenue	$6,094	$3,000	$2,570
Investment Income, Net of Losses	$78	$80	$108
Membership Dues	--	--	--
Special Events	$112,124	$105,236	$71,029
Revenue In-Kind	--	--	--
Other	--	--	$1,053

Expense Allocation

Fiscal Year	2015	2014	2013
Program Expense	$373,187	$440,304	$351,203
Administration Expense	$184,060	$101,109	$106,469
Fundraising Expense	$4,623	$29,220	$35,853
Payments to Affiliates	--	--	--
Total Revenue/Total Expenses	0.84	1.08	0.95
Program Expense/Total Expenses	66%	77%	71%
Fundraising Expense/Contributed Revenue	1%	5%	8%

Assets and Liabilities

Fiscal Year	2015	2014	2013
Total Assets	$208,427	$306,570	$256,235
Current Assets	$208,010	$305,653	$254,818
Long-Term Liabilities	$0	$0	$0
Current Liabilities	$12,179	$18,306	$12,797
Total Net Assets	$196,248	$288,264	$243,438

Short Term Solvency

Fiscal Year	2015	2014	2013
Current Ratio: Current Assets/Current Liabilities	17.08	16.70	19.91

Long Term Solvency

Fiscal Year	2015	2014	2013
Long-Term Liabilities/Total Assets	0%	0%	0%

Top Funding Sources

Fiscal Year	2015	2014	2013
Top Funding Source & Dollar Amount	--	--	--
Second Highest Funding Source & Dollar Amount	--	--	--
Third Highest Funding Source & Dollar Amount	--	--	--

Capital Campaign

Currently in a Capital Campaign? No

Capital Campaign Anticipated in Next 5 Years? No

Comments

CEO Comments

As our organization grows, Science Club for Girls attempts to balance a robust increase in programming and capacity building through previously accumulated and current revenue, while preserving our reserve funds and a goal of increasing such reserves. Given a history of healthy cash flow, increase in diversity and pool of funders, and a growing number of board and non-board contributors, we feel confident that we will be able to meet our financial and programmatic goals over time.

Foundation Staff Comments

Financial summary data in the charts and graphs above are per the organization's IRS Form 990s. Contributions from foundations and corporations are listed under individuals when the breakout was not available.