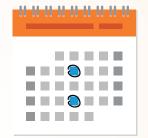


### Our programs are unique:







STEM enrichment program to schools across the U.S.



#### **DURING-SCHOOL**

We want to ensure that every student in the classroom has access to high-quality STEM opportunities.

#### **ROLE-MODEL SCIENTISTS**

All of our staff have strong academic backgrounds or demonstrable research experience in STEM, in addition to being approachable and passionate role-models in the classroom.

#### **MULTI-TOUCH MODEL**

We are in the classroom with our students and teachers every other week throughout the academic year. Our classroom teachers select lessons from our lesson library to create a completely customizable curriculum for every school.

#### MEASURABLE IMPACT

Over the last decade, our program has shown measurable impact by raising standardized test scores, improving students' knowledge and retention of STEM concepts, and improving students' attitudes towards future careers in STEM.

Focusing efforts on increasing STEM literacy amongst elementary and middle school students will encourage passionate, competent individuals to pursue careers in STEM and progress through the STEM workforce pipeline, helping the U.S. to improve its global competitiveness in STEM.

#### THE STEM EDUCATION CRISIS

The U.S. is facing a crisis in the STEM (Science, Technology, Engineering, Mathematics) workforce training pipeline that needs to be addressed. STEM job positions are growing faster

**OF STUDENTS** LACKING IN STEM **PROFICIENCY** 

(+17%) than non-STEM jobs (+9.8%); yet, of the 32% of adults who earn a Bachelor's degree, only 29% will earn a degree in STEM. The Business Higher Education Foundation determined that, by the time students reach high school, 83% report lacking proficiency and/or interest in STEM. Thus, the STEM challenges must be addressed earlier, in elementary and middle school, where gaps in STEM content competency and interest begin.

Science from Scientists was founded in 2002 by Dr. Erika Ebbel Angle, an MIT graduate

**HOW WE CAME TO BE** 

with a doctorate in biochemistry from Boston University School of Medicine. Erika's life **OVER** was strongly shaped by experiential science - winning the California state science fair **50 STAFF MEMBERS** 

9,500

IN 2016

30,000 **STUDENTS** SINCE 2002 **MASSACHUSETTS** OPENED 2002

three times on her way to choosing a career as a scientist and entrepreneur.



**MINNESOTA** OPENED 2016

#### **OUR SOLUTION**

**OVER** 

40 **SCHOOLS** 

Our vision is to inspire students, ignite interest, and improve STEM competency with the goal of filling the workforce pipeline with talented, competent individuals. For our during-school program, we selectively choose and train real scientists with advanced STEM degrees to collaborate with classroom teachers to deliver hands-on, lab-based lessons, which are aligned with state and national frameworks; this collaborative program is cost effective and scalable and has had measurable impact. By bringing our program to students during the school day, we reach every student, not just those who already show interest in STEM, whose parents sign them up, or who are able to participate in out-of-school programs. In addition, because our scientists work elbow-to-elbow with classroom teachers to select and deliver the sequence of lessons for their classrooms, we provide an embedded professional development program to help our partner teachers feel more prepared and confident to teach high-quality, hands-on science lessons to their students.

#### MCAS PERCENTAGE **IMPROVEMENT** IN MASSACHUSETTS SINCE STARTING SFS

90% of teachers surveyed indicated the SfS program has been 'very influential' on students' interest towards science.



#### CONDUCTING THIRD-PARTY EVALUATIONS

The PEAR (Program in Education, Afterschool, and Resiliency) group, a joint initiative of Harvard University & McLean Hospital.

+82°



**INCREASE IN SCIENCE CAREER INTEREST** 



**INCREASE IN PERSEVERANCE & CRITICAL THINKING** 





**RELATIONSHIP BUILDING** 



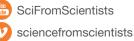
#### **MASSACHUSETTS**

1 Deangelo Drive, Suite C Bedford MA 01730



#### **CALIFORNIA**

2205 Palm Avenue San Mateo, CA 94403



#### **MINNESOTA**

11001 Hampshire Ave S Bloomington, MN 55438



info@sciencefromscientists.org



www.sciencefromscientists.org

# **Programs**



Science from Scientists (SfS) partners with elementary and middle schools that serve students in our target population of grades 4 through 8. SfS sends real, charismatic scientists into schools (during the school day) to see students throughout the entire school year.



#### SCIENTIST-TEACHER PARTNERSHIP (STP)

SfS uses our traditional ISMB model, in addition to training classroom teachers during the summer(s) to prepare and deliver an increasing number of SfS-developed modules over the course of three years. Our goal is for the program to increase teachers' abilities to deliver high-quality science instruction and material in their classrooms.



#### **STEMISSARIES**

SfS partners with local STEM corporations to have employees talk to classrooms about their experience in a STEM field, and the type of work that they do. Employee volunteers will be trained by SfS to present a lesson that best illustrates the work of the corporation they represent.

### **Out-of-School**



#### **VACATION PROGRAMS**

Week-long programs that focus on developing research skills and project-based learning. These are collaborations with corporations or research facilities.



#### SCIENCE THEATER

A live, interactive science-themed stage show that brings the excitement of science experiments to families and young children. Past shows have taken place at The Hall at Patriot Place, Joint Base Andrews in MD, and Disney World in Orlando, FL.



#### **COMMUNITY PRESENTATIONS**

We collaborate with school partners, districts, and community organizations to host hands-on science presentations and activities throughout our region of impact.



# Measurable Impact

Science from Scientists measures improvements in student attitudes and aptitudes through several assessments and surveys



## Tracking Science Standardized Test Scores:

For the 2015-16 school year, SfS observed an average 17% improvement in the number of students scoring Proficient/Advanced on the 5th-grade STE Massachusetts Comprehensive Assessment System (MCAS) exam. For schools performing below the state average, the average improvement was 22%.



## Administering Pre- and Post-Lesson Quizzes:

To assess the effectiveness of each lesson as well as students' retention of subject matter. Last year, pre- and post-quizzes showed an average +16% improvement (more than a letter grade)!



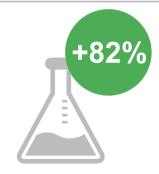
## **Collecting Teacher Surveys:**

90% of teachers surveyed indicated that our program has been 'very influential' on students' interest towards STEM

# Conducting Third-Party Evaluations:

The PEAR (Program in Education, Afterschool, and Resiliency) group, a joint initiative of Harvard University & McLean Hospital.





INCREASE IN SCIENCE CAREER INTEREST



INCREASE IN PERSEVERANCE & CRITICAL THINKING

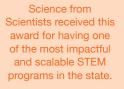


ADULT AND PEER RELATIONSHIP BUILDING



## Awards















## **Current Funders**

Corporations and foundations that believe in our program and its positive impact on elementary and middle school students.

\$75,000



A Corporate Social Responsibility Initiative















LINDE FAMILY **FOUNDATION** 







\$25,000

























HAROLD WHITEORTH PIERCE TRUST





\$10,000









**ADELAIDE BREED BAYRD** 













... In addition to many private donors ...



## **Program Recipients**

Science from Scientists currently delivers programming to the following schools:

#### Massachusetts Schools

#### **BEVERLY**

Hannah Elementary School (2016–present)

#### **BOSTON**

Sacred Heart School (2014–present)

Dr. William W. Henderson Elementary School (2013–present)

James Otis Elementary School East (2012–present)

Lilla G. Frederick Pilot Middle School (2011–present)

Maurice J. Tobin K-8 School (2014–present)

Mario Umana Academy East (2016–present)

McKay K-8 School (2015–present)

Warren-Prescott K-8 School (2012-present)

#### **BOXFORD**

Spofford Pond Elementary School (2015–present)

#### **BOYLSTON**

Tahanto Regional School (2016–present)

#### **BROCKTON**

Huntington Elementary (2016–present)

#### **EASTON**

Easton Middle School (2015–present)

#### **HAVERHILL**

Tilton Elementary School (2015–present)

#### **LEICESTER**

Leicester Memorial Elementary (2015–present)

#### LYNN

Washington Elementary School (2015–present)

#### **MALDEN**

Linden STEAM Academy (Spring 2013–present)

#### **MARBLEHEAD**

Cohen Hillel Academy (2005–present)

#### **MILTON**

Collicot Elementary School (2014–present)

Cunningham Elementary School (2014–present)

Glover Elementary School (2014–present)

Tucker Elementary School (2014–present)

#### **PEABODY**

Thomas Carroll School (2015–present)

#### **PLAINVILLE**

Beatrice H. Wood School (2013-present)

#### **RANDOLPH**

Margaret L. Donovan Elementary (2016–present)

J.F. Kennedy Elementary (2016–present)

Elizabeth G. Lyons Elementary (2016–present)

Martin E. Young Elementary (2016–present)

#### **REVERE**

A.C. Whelan Elementary School (2007–present)

Abraham Lincoln School Revere (2006–2011, 2012–present)

Beachmont Veterans Memorial School (2007–present)

Garfield Elementary School (2015–present)

Garfield Middle School (2016-present)

Paul Revere Innovation School (2014–present)

Staff Sergeant James J. Hill Elementary School (2006–present)

#### WORCESTER

Chandler Magnet School (2015–present)

Burncoat Street Elementary (2015–present)

Norrback Avenue School (2016–present)

#### California Schools

#### **BRISBANE**

Natalie Lipman Middle School (2014–present)

#### **MELNO PARK**

Nativity School (2017–present)

#### **PACIFICA**

Ingrid B. Lacy Middle School (2016–present)

#### REDWOOD CITY

McKinley Institute of Technology (2016–present)

Clifford School (2015-present)

Hoover Elementary (2017–present)

#### SAN FRANCISCO

St. John's Orthadox School (2017–present)

#### SAN MATEO

Bayside STEM Academy (2014–present)

#### Minnesota Schools

#### **BLOOMINGTON**

Poplar Bridge Elementary (2016–present)

#### ST. PAUL

Battle Creek Elementary (2016–present)

Updated February 2017

5,000 students total!

### Letter from the Founder

I founded Science from Scientists in 2002 with the intent of trying to address the "STEM challenge." This challenge originates from two separate issues, that of aptitude and that of attitude. We are constantly reminded by the media (TV, newspapers and magazines) that students in the United States are struggling to stay competitive in STEM subjects. Their aptitudes in math and science are not competitive with that of their International peers. The need for qualified STEM professionals is growing while the number of students graduating prepared to take on these challenges is shrinking. Test scores indicate a large "achievement gap" between our students and those in other nations. With the growing global economy it is all too easy for companies to move their businesses to other nations or to hire individuals from other countries. This is already happening due to lack of preparedness of the students here at home.

Science from Scientists sends real, charismatic scientists into the classroom, during school every-other-week for the entire school year. We are a during school program because we believe that EVERY child should have the opportunity to be exposed to STEM, not just those in after school programs who are already interested, or whose parents sign them up. Every child deserves the opportunity to be exposed to hands-on science. Our staff is vetted for their ability to connect with children and help to change the "science is uncool" stereotype, which is so prevalent in our society. Our goal is also to improve student attitudes towards STEM by providing role-model scientists in the classroom who have other interests and hobbies, helping students to understand that scientists are often well-rounded individuals, not the stereotype frequently portrayed.

We also have a series of "outreach" programs to extend the reach of our program including Science Theater, Vacation Programs, CSI days and Table Top Activities.

As I mentioned earlier, attitude is only one half of the challenge. In these days of shrinking educational budgets and focus on other subjects because of standardized testing, many school districts have completely eliminated science from their curriculum. Partnered with this is the fact that many elementary and middle school teachers are afraid to teach science due to their own lack-of-preparedness, students are not being exposed at a young enough age and thus fall behind by the time they are in middle school. Once behind, it is difficult to catch up or to restore interest in STEM subjects in high school.

Science from Science from Scientists aims to bridge this gap as well. Our program is a hands-on program built around the material the students are expected to learn, not just "gee whiz" cool demonstrations (though our demonstrations are very cool!). We have shown quantifiable success in elevating student aptitude. We track standardized test scores in science to determine our efficacy and have shown a significant increase in state standardized test scores from before our program inception to after.

Since 2002, we have established ourselves as an organization with a track record of success in improving student attitudes and aptitudes in STEM. We recognize the importance of working with classroom teachers and take seriously the need to evaluate and improve our program with each passing year.

As scientists, we are all passionate about what we do and we thank you for your interest in Science from Scientists. We hope you will join us in continuing building a strong foundation for youth in STEM across our great nation.

Enda Elle angle

Erika Ebbel Angle, Ph.D. Founder and Executive Director Science from Scientists



### **AS SEEN ON**





