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Dear Friends,

As I write, our country is facing a global pandemic and wrestling with protests over systemic racism. Reflecting on 2019 in the midst of these challenges, I am struck by how much of the work we were doing last year laid a foundation for us to address these challenges this year and for years to come. It makes me proud to work side by side with my amazing colleagues at BSCS Science Learning.

In 2019, we prioritized our commitment to equity and social justice--investing in our own learning and growth so that we can responsibly pursue a more meaningful, inclusive, and just science education. We received national recognition for our research on how genetics could be taught to reduce racial prejudice. And we began using our insights to help prepare biology teachers for this challenging endeavor.

We also received the largest research grant in our organization’s history in 2019. With this grant, we will be furthering our goal of bringing high quality, proven professional learning programs for teachers to underserved rural and urban communities. Meanwhile, we continued our collaboration on the OpenSciEd initiative, enabling us to address the critical need for high quality, standards-aligned, and broadly accessible science instructional materials.

We developed more science education leaders. We supported more science teachers. We impacted more science students.

Because of grantors and donors that share our mission, we remain a resilient nonprofit organization that is positioned for impact. And we will continue advancing our mission during both the exciting and trying times ahead. Thank you for your partnership in this work.

Sincerely,

Daniel C. Edelson, PhD
FOR MORE THAN 60 YEARS,

Today ...

We are pursuing a more-inclusive and meaningful science education that advances the work of social and environmental justice.

We are preparing students for their lives and careers through research-driven instructional programs.
We have been using research-driven innovation to improve science education.

We are reaching more teachers across the country with high quality professional learning.

We are developing and supporting science education leaders.
OUR WORK: EQUITY & SOCIAL JUSTICE

WE ARE PURSUING A MORE-INCLUSIVE AND MEANINGFUL SCIENCE EDUCATION THAT ADVANCES THE WORK OF SOCIAL AND ENVIRONMENTAL JUSTICE.

Strategic Initiative Spotlight: Equity & Social Justice

BSCS believes that science learning should be inclusive and meaningful, and it should advance the work of social and environmental justice. Since launching the Equity & Social Justice Initiative (ESJI) in 2018, we have been defining our role and taking action toward redressing inequity and injustice in STEM, and in the world at large, through science education. This work includes creating high quality instructional materials and professional learning programs, and ensuring students and teachers from marginalized communities have equitable access to them. It includes producing programs that support educators in teaching students how to recognize, understand, and act against injustice. And most importantly, it includes continuously examining how we can implement inclusivity and diversity across all our work.

“The work BSCS puts into the world is a reflection of who we are as an organization. We’ve been having important internal conversations about our organization’s values, biases, and culture. We are learning, growing, and actively working to make sure our teams, materials, and programs include and elevate knowledge, experience, and voices from marginalized communities. And as a result, we are developing science education programs that reimage what science education can do by supporting teachers and students in contributing to a more-just world.” -Dr. Zoë Buck Bracey, BSCS research scientist and ESJI co-chair

Learn more: bscs.org/esji

This work is funded by BSCS and individual donors.
Project Spotlight: Towards a More Humane Genetics

Racism is a serious problem in the United States. What can biology educators do about it? For starters, they can be careful how they teach students about human difference. The Humane Genetics line of research shows that properly designed genetics education can decrease racial prejudice among adolescents. At BSCS, we have found that teachers can reduce racial prejudice by helping students understand that there is more genetic variation within racial groups than there is between them. Using these insights, we’ve started supporting teachers in navigating the topics of race and genetics in the classroom.

“I know it’s threatening. The thing to remember is that kids are already making sense of race and biology, but with no guidance.” -Dr. Brian Donovan, BSCS research scientist and principal investigator of the Humane Genetics line of research (quoted in The New York Times on December 7, 2019)

Learn more: bscs.org/humanegenetics

This work is funded by the National Science Foundation.
Unit Spotlight: A Medical Mystery

Middle school students across the country are wondering, “What’s wrong with M’Kenna?” Throughout BSCS’s new body systems unit, A Medical Mystery, students spend eight weeks investigating why 13-year-old M’Kenna is feeling sick and losing so much weight. They create and revise models and use scientific reasoning and argumentation to explain the difference between M’Kenna’s and a healthy person’s digestive systems. Ultimately, they solve the mystery. We partnered with Oregon Public Broadcasting to develop this digital unit for the Next Generation Science Standards.

“This unit is brilliant--I love how the learning is layered. It is especially helpful for students who sometimes struggle or think of themselves as lesser learners. Take Ana, for example. She panicked when she read the first focus question. Her instinct was to google the answer, because she didn’t know it and didn’t want to be wrong. But by the end of the lesson, when we returned to the original focus question, she realized that she had learned the answer, and so much more, along the way. She doesn’t panic at the focus questions anymore. She knows the questions are a reflection of what she will learn, not what she should already know.”

-Judy Barrere, middle school teacher near Seattle, Washington
“These units are going to make kids love science. My students couldn’t wait to dissect speakers during the Forces at a Distance unit. They were shocked to discover a coil and magnet and no movement inside the speaker. I have one student who has suffered a lot of trauma at home and didn’t enjoy school. She’d often put her head down on her desk. But during classroom debates about what was happening inside the speaker, it was clear that she had been paying attention. She was upset that other students hadn’t figured out why there was a space between the magnet and coil, so she involved herself in the conversation and made sure her ideas were heard. That’s one of the reasons these OpenSciEd units were developed: to reach kids who have a tougher time in school and engage them. This was the academic challenge she needed.”

-Kris Grymonpre, middle school teacher in Boston, Massachusetts

Project Spotlight: OpenSciEd Middle Grades Science Program

They say it takes a village. So four funders, five universities and nonprofits, ten states, and hundreds of educators have partnered on one huge science education initiative called OpenSciEd. Together, we are addressing the need for high quality science instructional materials that are standards aligned and practical for broad implementation. BSCS is leading the development of a three-year middle grades science program in close collaboration with all partners. Units are being released in phases, and the entire three-year program will be complete and freely available by early 2022.

Learn more: bscs.org/openscied

This work is funded by a consortium, led by The Carnegie Corporation of NY.
Teachers desire to provide instruction that is aligned to the new science standards. BSCS’s research-based professional learning experience for teachers is a winning combination with our burgeoning science work in Tennessee. This partnership is a great way to multiply our efforts to increase outcomes in science for all students.” - Dr. Nancy Hopkins-Evans, director of science at Instruction Partners
A decade ago, BSCS introduced our promising STeLLA professional learning approach to 144 teachers and 2,800 students across Colorado’s Front Range. We conducted a rigorous experimental study of this entirely in-person professional learning program. As a result, both teacher and student learning improved significantly. Since then we’ve wondered: Would an entirely online version of our STeLLA CO program be similarly impactful? That’s what we’re exploring and evaluating today during our STeLLA Online program. Our goal is to support more teachers than ever before by offering STeLLA in an online format that is convenient, accessible, and effective. We’re off to a great start.

“STeLLA Online has truly been a game-changer. I have realized that I was a teacher who mainly focused on the correct response instead of understanding how students thought about ideas and how they connected the ideas to the main learning goal. I have a new perspective and I know that I can create a classroom environment of life-long scientists. I can now present science material in a conceptual way, instead of teaching for the state assessment test.” - Eula Kador, elementary school teacher in Baton Rouge, Louisiana

Learn more: bscs.org/STeLLA

This work is funded by the National Science Foundation.
PROJECT SPOTLIGHT: STeLLA HIGH SCHOOL

Biology class is changing in Louisville, Kentucky. A few years ago, BSCS partnered with Jefferson County Public Schools (JCPS) to engage one-third of the district’s high school biology teachers in our STeLLA professional learning program. Brittany Hubert has been “STeLLA-fying” curriculum units ever since to make them more meaningful and impactful for her students. Kelly Risinger has learned to spark more lively classroom discussions and has never had more fun teaching science. And now, Brittany and Kelly are among six teacher leaders who have participated in BSCS’s leadership development program to become STeLLA facilitators. Through an expanded partnership with JCPS, we will continue to support the dedicated teacher leaders as they conduct STeLLA professional learning for all high school biology teachers in the district. In coming years, we expect to hear many more stories of impact and see significant improvement in both teacher and student learning across Louisville.

“My confidence in the classroom and as a teacher leader has grown tremendously since taking part in the leadership development program with BSCS. I remember leading a small-group study session in which one participant shared: ‘My students were having a hard time understanding this question and the science idea, and I didn’t just want to tell them the answer. But I didn’t know if I should give them help or not because I didn’t want to give away the answer.’ This statement was followed with a group discussion on how to support students in making sense of new science ideas without ‘giving away’ the answer. We talked about tools that we all use and what we do when we get into similar situations. The participant had an ‘AHA’ moment and left the meeting feeling much better about how to navigate those tricky situations.”

“Learn more: bscs.org/STeLLA

This work is funded by the National Science Foundation.”
“I attended my first PDPI skeptically after NGSS rolled out, but soon realized this is what I had been looking for my entire career. My colleagues started joining me and eventually we began hosting our own versions of PDPIs back in our districts. We had 250 teachers signing up each summer. Several teachers became teacher leaders, and together we changed the dialogue around NGSS. Our conversations about teaching/learning and standards grew from uninformed to incredibly nuanced. We dove deeply into what it means to engage. And in some cases, we saw real transformation in science teaching and student achievement.”  

- Heather Murphy, teacher leader in Santa Cruz, California
As an independent nonprofit, we rely on grants and donations to tackle the toughest challenges in science education.

**2019**

**Federal grants** allow us to research & innovate

$4M

**Your donations** support teachers and students nationwide

$19.9K

**Corporate & foundation grants** expand our impact and influence

$2.2M
## FINANCIAL ACTIVITY AND ASSETS

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<tr>
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<th>Unrestricted</th>
<th>Restricted</th>
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<tbody>
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FINANCIALS: REVENUE

- Federal Agencies: 60%
- Foundations/Businesses/Nonprofits/Other Contracts: 33%
- Schools/Universities/States: 6%
- Royalties/Sales/Participant Fees: 1%
FEDERAL AGENCIES
National Institutes of Health
National Oceanic and Atmospheric Administration
National Science Foundation
U.S. Department of Education

FOUNDATIONS/BUSINESSES/NONPROFITS/ OTHER CONTRACTS
Achieve, Inc.
American Museum of Natural History
Carnegie Corporation
George Lucas Educational Foundation
Gordan and Betty Moore Foundation
Kendall Hunt Publishing Company
Monterey Bay Aquarium
National Center for Civic Innovation
Novium
Nutrients for Life
Pisces Foundation

SCHOOLS/UNIVERSITIES/STATES
Alpine School District, Lindon, UT
Arizona Science Teachers Association
Arvada West High School, CO
Friends Academy, NY
Gunnison Watershed School District, CO
Jefferson County Board of Education, Louisville, KY
Natrona County Schools, Casper, WY
Nebraska Department of Education
New Mexico Northwest Regional Education Cooperative
Palo Alto Unified School District, CA
School District of Hartford, WI
University of Florida EQuIPD Program

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(15+ Years)
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* Jack and Martha Carter
* Maxine and M. L. Denniston
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* Timothy and Mary Helen Goldsmith
* Theodore Lamb and Michelle Slattery
* Nancy Landes and Joseph Loomer
* Stacey Luce
* James Manhart
* Carlo and Ellen Parravano
* Thomas Sager and Eugenie Scott
* Betty Stennett
* Molly and Jarrod Stuhlsatz
* Pamela Van Scotter and Bruce Hurd
* Anne Westbrook

STEADFAST SUPPORTERS:
(5-14 Years)
+ Bruce and Betty Alberts
* Randall and Kathrine Backe
+ Kurt Bausback and Mary Kiely
* Michael Borowitz and Barbara Crain
* Zoë Buck Bracey
* Jane Butler Kahle
+ Richard and Amy Cardullo
* Stewart Chun and Diane Sakamoto
* Gordon Collins
* Jan and Lynn Dash
* Daniel and Vivian Choy Edelson
* Robert Foulk
+ Nicole Gillespie
+ Larry Gold and Hope Morrissett
* Louis and Kim Gomez
* James Hook and Wen Chyi Shyu
* Connie Hvidsten
* Malcolm and Dorian Kottler

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(1-4 Years)
+ Philip Bell
+ Hilda Borko
+ Rodolfo Dirzo
+ Alexandra Fuentes
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