



Grant Collaboration with the Saint Louis Science Center

Science Education and Outreach

**Our mission is to ignite and
sustain lifelong science and
technology learning.**

The Saint Louis Science Center is interested in partnering with the university-research community to support public understanding of science in the Mid-West region of the country. The Science Center's mission is an invitation to forge new relationships through collaborative efforts that will increase public understanding of your research, advance science and technology literacy, encourage young people to consider careers in science and engineering, and provide engaging and unique science learning experiences for visitors to the Science Center.

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Focus Areas

The Saint Louis Science Center combines experimentation, creativity, and play to help people discover a passion for science and technology. With more than 700 interactive experiences, our GROW Pavilion and outdoor gallery, our famous McDonnell Planetarium and five-story OMNIMAX® Theater, we invite everyone to create a more connected world through the power of their curiosity. The Science Center seeks to engage the broadest audiences possible through programs designed for families, school groups, educators, teens, community organizations, and adults.

With the mission “to ignite and sustain lifelong science and technology learning,” the Science Center connects people of all ages to science through live demonstrations, interactive exhibits, educational programming and firsthand experiments. Each day, explorers travel through space in the McDonnell Planetarium, discover Earth and dinosaurs in Environment and Ecology Past, extract DNA in the Life Science Lab, and complete a miniature Gateway Arch in Structures. These experiences incite natural curiosity, change attitudes toward science, inspire lifelong science learning, and encourage interest in STEM careers.

The STEM focus areas at the Science Center include:

Agriculture and Food

Aviation, Aerospace, and Astronomy

Energy and Water

Environment and Ecology

Life Sciences and Health

Makerspace (Engineering and Design)

Paleontology

Robotics and Technology

Space Science and Exoplanet Exploration



The Saint Louis Science Center has much to offer the research community:

- Access to a large and diverse audience that is eager to learn – Over one million people visited the Science Center in 2018, 63% of whom reside within the St. Louis Metropolitan area. Visitor demographics include multiple ethnicities, age ranges from infants to octogenarians, family and school groups, adult groups, and a racial/ethnic distribution that reflects that of the region.
- Outreach that extends beyond St. Louis – Our programs are shared with more than 280 small-, mid-, and large-size museums in the Science Center’s Science Beyond the Boundaries network, collectively reaching more than 85 million individuals throughout the world each year. In 2016, the Saint Louis Science Center was named a Smithsonian Institution Affiliate, the first in the St. Louis area. This title provides access to Smithsonian artifacts, traveling exhibits, and educational collaborations locally and nationally. The Science Center is a member of the Association of Science-Technology Centers and the American Alliance of Museums.
- An infrastructure that can accommodate many avenues of public outreach – Types of outreach range from lecture series, teacher professional development, and programming that require both small and large spaces to the use of exhibit areas that are configured for hands-on demonstrations and face-to-face interactions.
- The Science Center also offers ample parking, food services, audio/visual equipment, weekend hours, and a website for advertising.
- An experienced staff – Our Science Center staff are experts in empathetic science communication. They know how to capture the attention of people young and old, design meaningful experiences, and make events public-focused.
- A conduit for scientists – The Science Center offers opportunities for you to share and explain information about science and technology to non-expert public audiences with assistance from SLSC’s experienced staff – audiences are more receptive and retain more knowledge when they are actively engaged with a presenter.



One of the Saint Louis Science Center’s most important assets is that it offers credibility. In an Association of Science – Technology Centers (ATSC) study, 84% of respondents described information presented by science centers as “very trustworthy.”



Collaboration on Federal Grants

Government agencies that award grants often look for strong education and outreach components in proposals. The Saint Louis Science Center can help you achieve the level of public engagement and broader impacts that grantors are looking for. Our programs connect to local STEM educators, children and youth, families, underrepresented communities, seniors, and niche interest groups. We maintain the infrastructure to manage public programs efficiently.

Partner with us to make the most of your outreach efforts:

- Address funding agency requirements for broader impacts
- Reduce the time needed for development of an organizational infrastructure
- Gain access to an existing venue with free admission and over one million visitors annually
- Capitalize on the Science Center's ability to generate public interest and media attention
- Benefit from information dissemination on an extended scale through the Science Center's participation in the international Science Beyond the Boundaries network
- Gain experience in pedagogy and science communication
- Utilize the Science Center's experience on how to best convey science concepts to general audiences

Public outreach and engagement opportunities at the Saint Louis Science Center vary from small-group research, to large public events, to the creation of permanent exhibits. Our educators are trained in engaging the public with science and are happy to consult with faculty and graduate students on making research accessible to a broad audience.

Please call us as early in the proposal process as you possibly can!

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Programming and Audiences



Children's Programs and Galleries (Children & Youth Ages 3-18)

Children's programs include day programs, science camps, and gallery demonstrations. Day programs invite groups to explore a science concept with guided programming for a few hours or more. These may be repeated or from a series of related programs. Science camps take place during summer, winter and spring breaks, providing day- or week-long programming focused on a STEM topic. Galleries provide drop-in interactions. Each of these program formats can incorporate a wide variety of content to align with the research being proposed. Scholarship support and directed marketing can expand participation of underrepresented groups.

Programs/Galleries	Audience Size	Length of Engagement
Day Programs	30	1-2 hours
Field Trips	50-300	2-3 hours
Science Camps	30	20-30 hours
Amazing Science Demonstrations	20-150	30 minutes, repeats daily
Discovery Room	20	1 hour, 5 groups/day

Collaboration in Action: Summer Science Blast!

Summer Science Blast! engages hundreds of students each year in week-long investigations of STEM topics that range from aviation to robotics to forensic science. In 2016 and 2017, we were able to add computer programming to the mix through a partnership with Dr. Caitlin Kelleher from Washington University. With funding from the NSF, Dr. Kelleher and her team brought content and activities surrounding her study of the use of Looking Glass programming to a series of week-long sessions that focused on how the programming helps broaden perspectives on computing. The Saint Louis Science Center recruited the audience, registered participants, and provided an educator to monitor study participants and develop and implement supplementary activities. Visitors learned about programming and computer technology while offering valuable feedback to researchers.

YES Teen Program

Audience Size: 30-195 individuals

Length of Engagement: 10-240 hours

Target Audience(s): Teenagers, Underrepresented and Under-resourced Youth

Youth Exploring Science (YES) is a four-year youth-development program that for 20+ years has engaged at-risk and underrepresented teens from the St. Louis community in STEM learning and college and career readiness. There is an annual cohort of about 190 teens who meet Saturdays during the academic year, and four days per week in the summer. Teens join one of seven classrooms of 15 – 30 students, each focusing on a different STEM discipline – Aerospace, Agriscience, Cyber Security, Engineering, Entrepreneurship, Integrated Medicine & Well-Being, and Media Production. Principal Investigators may choose to sponsor a complete curriculum or integrate a shorter curriculum within an existing component. YES is staffed by experienced educators who can assist in writing curricula and conducting the research.

Collaboration in Action: Grant Funding from Federal and Corporate Partners

Using a grant from the Office of Naval Research, the Science Center increased the number of teens in its Youth Exploring Science program, added more Community Partners, and strengthened the STEM content of the program while adding content relevant to the US Navy. A recent grant from The Boeing Company funded the purchase of a full-size flight simulator which is used in the Aerospace component to teach the teens about aviation. Certified flight instructors are helping the teens learn to fly and gain points towards flight certifications.

Communications Training and Public Engagement Events

[Community Science Showcase, SciFests, First Fridays, Nano Days, Dino Days, Ag Days, Citizen Scientist]

Audience Size: 3,000–6,000 individuals per day

Length of Engagement: <1 hour – 3 days

Target Audience(s): General Public, Children and Families, Adults

Collaboration in Action: Portal to the Public

The Saint Louis Science Center is our region's premier location offering Portal to the Public professional development training for science-related professionals. Portal to the Public is a series of workshops designed to give scientists the tools they need to develop engaging and fun educational activities related directly to their research. Participants come out of the workshops with a working prototype activity and new techniques to open and facilitate learning conversations in informal learning environments.

Portal workshops accommodate up to 15 individuals, including the PI, his or her team, and any additional students or colleagues the PI wishes to invite. Our current group of Portal participants signed on to the program as part of the "broadening impact" component of their NSF grant. Dr. Matthew Lew of Washington University and his team are studying nanoscale technologies and learning how to share their research with the general public through Portal to the Public workshops.

Portal to the Public contact information: Paul Freiling, Director of Emerging Technology

314-286-4628, paul.freiling@slsc.org



Adult Programs

Audience Size: 100-250 individuals

Length of Engagement: 1-2 hours

Target Audience(s): General Public, Teachers, Hobby/Interest Groups, Senior Groups

Adult programs invite audiences to attend an event focused on a specific topic of interest. Events may take the form of lectures, symposia, professional development seminars, workshops, or public defenses and dialogues. Content and depth of the events can be tailored to suit grant objectives. The Saint Louis Science Center can use existing network connections to advertise the event to audiences of interest. OMNIMAX® Theater films can be incorporated into related topics when schedules align.

Collaboration in Action: The Science Center has hosted lectures on science-related current events such as the solar eclipse and the Apollo Moon Landing. The Center also annually holds the adults-only Science Uncorked and Science on Tap events. Our First Fridays themed events are heavily attended by adults.



Exhibits

Audience Size: 500,000-600,000 individuals annually

Length of Engagement: <1 hour

Target Audience(s): Children & Families, General Public

Exhibits are the basic element of the museum experience. Grant-funded investigators with research projects that align with existing or planned content areas at the Science Center can collaborate to incorporate an exhibit or series of exhibits into disseminating the research being performed. Current and developing content areas include:

- Agriculture and Food
- Architecture/Infrastructure
- Aviation
- Ecology and Environmental Sciences
- Health
- Life Sciences
- Paleontology
- Renewable/Sustainable Energy
- Robotics and Technology
- Science for Early Learners
- Space Sciences

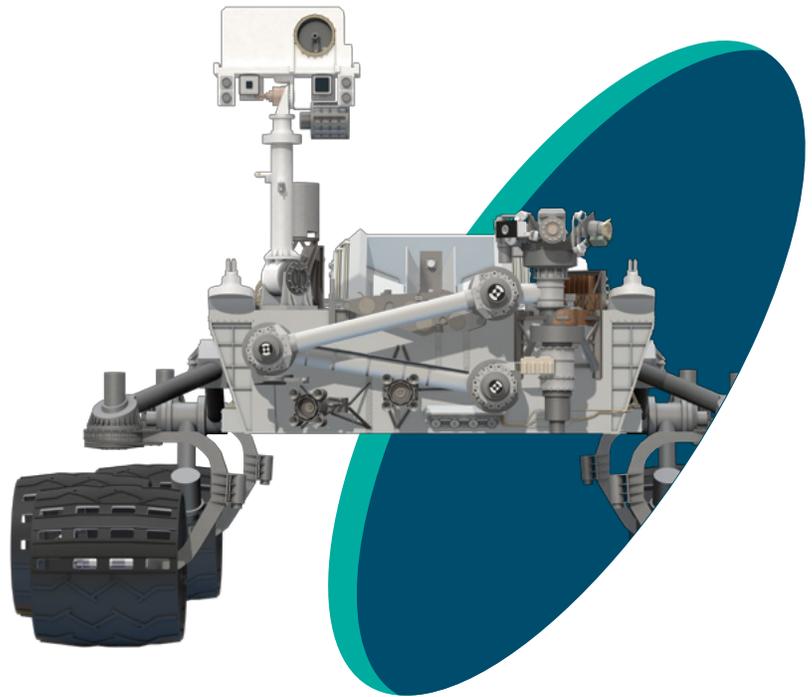


Costs for projects may vary widely, particularly depending on the technology or complexity of the desired exhibit. A single grant project can produce multiple exhibits to extend the visitor learning experience.

Collaboration in Action:

Mission: Mars

In 2015 the Science Center was awarded a five-year grant from NASA to create and install a new exhibit about Mars. This Bridging Earth and Mars [BEAM] project was a collaboration between the Science Center and Washington University in St. Louis, Saint Louis University, the St. Louis regional FIRST Robotics organization, and the Challenger Learning Center-St. Louis and resulted in the Mission: Mars exhibit, which is now a permanent feature of the Science Center.



If you would like to discuss a collaboration with the Science Center, please contact our Grants Manager, Susan Hernandez, at 314.289.1431 or susan.hernandez@slsc.org.



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