



Association of Science and Technology Centers

Engaging the Public in STEM

July 19, 2022

Welcome

Adam P. Fagen, PhD

Director of Communications,
Advocacy, and Engagement

Association of Science and
Technology Centers

afagen@astc.org



Association of Science and Technology Centers

ASTC

- Founded in 1973
- 700 members, including 500 science and technology center and museum members
- Based in North America, with global members in 48 countries

Our Members

- Science and technology centers
- Natural history museums
- Children's museums
- Nature centers
- Aquariums
- Planetariums
- Zoos
- Botanical gardens
- Nonprofits
- Companies
- Consultants
- Organizations that share an interest in science learning and engagement

Our Vision



Increased understanding
of—and engagement
with—science and
technology among
all people

The Work of Our Members

A Venn diagram consisting of four overlapping circles in a horizontal row. From left to right, the circles are orange, teal, green, and red. Each circle contains text, and the overlapping areas between adjacent circles are shaded in darker tones of the respective colors.

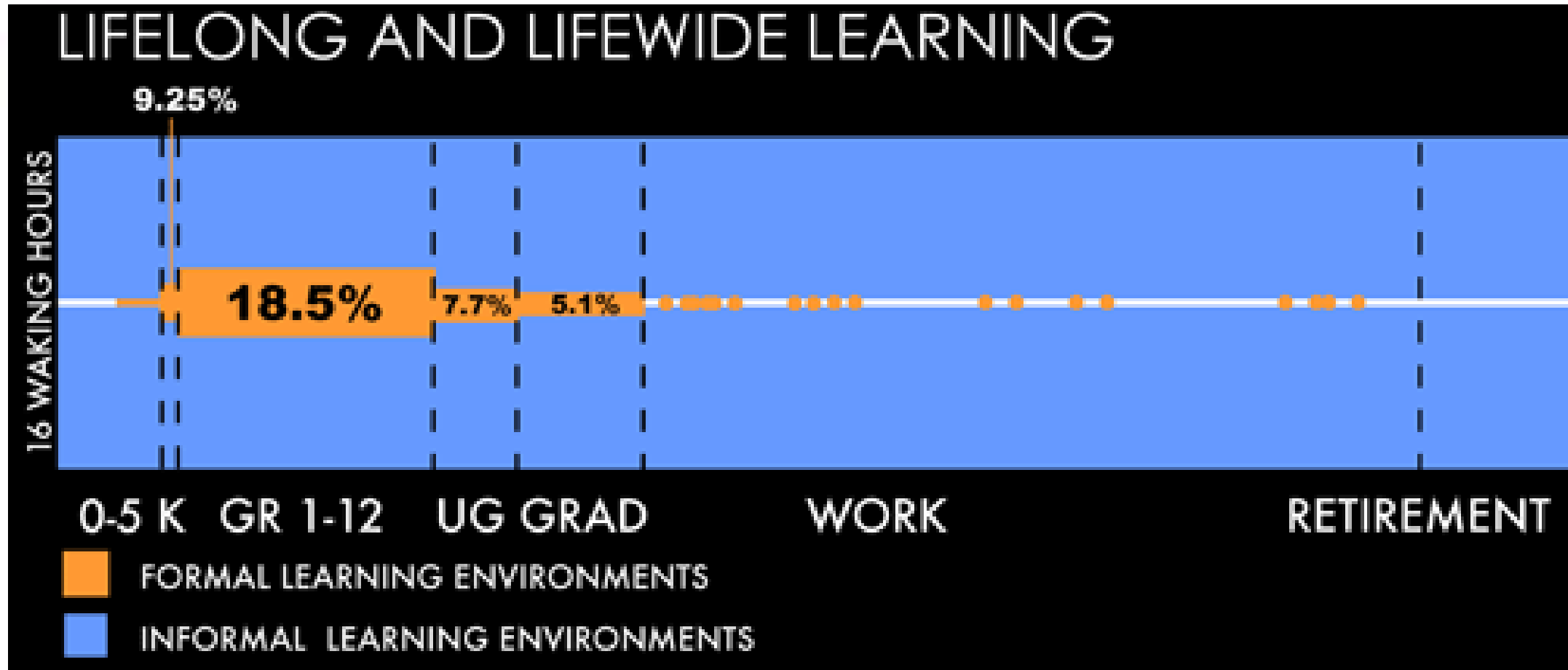
**Support
Lifelong
Science
Learning**

**Connect
Science and
Society**

**Engage
Diverse
Communities**

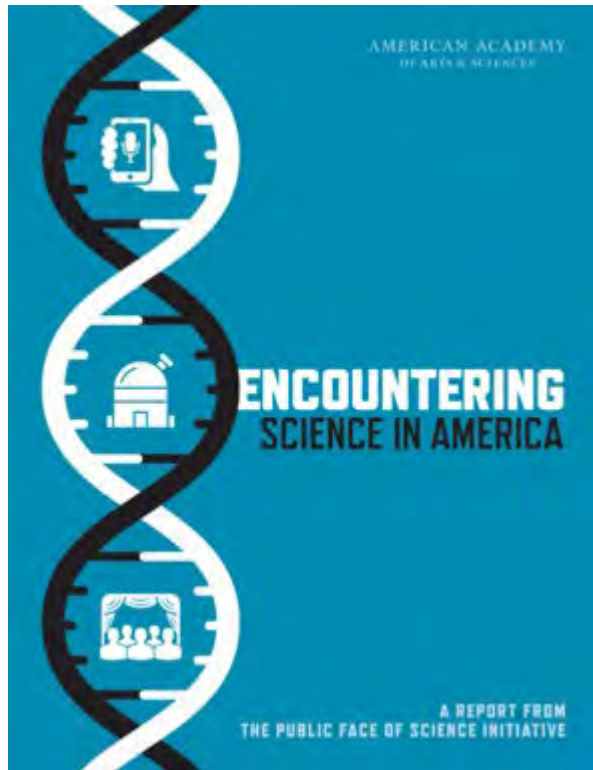
**Partner
To Tackle
Global
and Local
Challenges**

“Lifelong STEM Engagement”



[The LIFE Center](#): Stevens, R. Bransford, J. & Stevens, A. (2005)

Takeaways from *Encountering Science in America*



1

There is a diverse and expanding range of opportunities for people to encounter science, from visiting science centers and attending science events to participating in scientific research or engaging online.

2

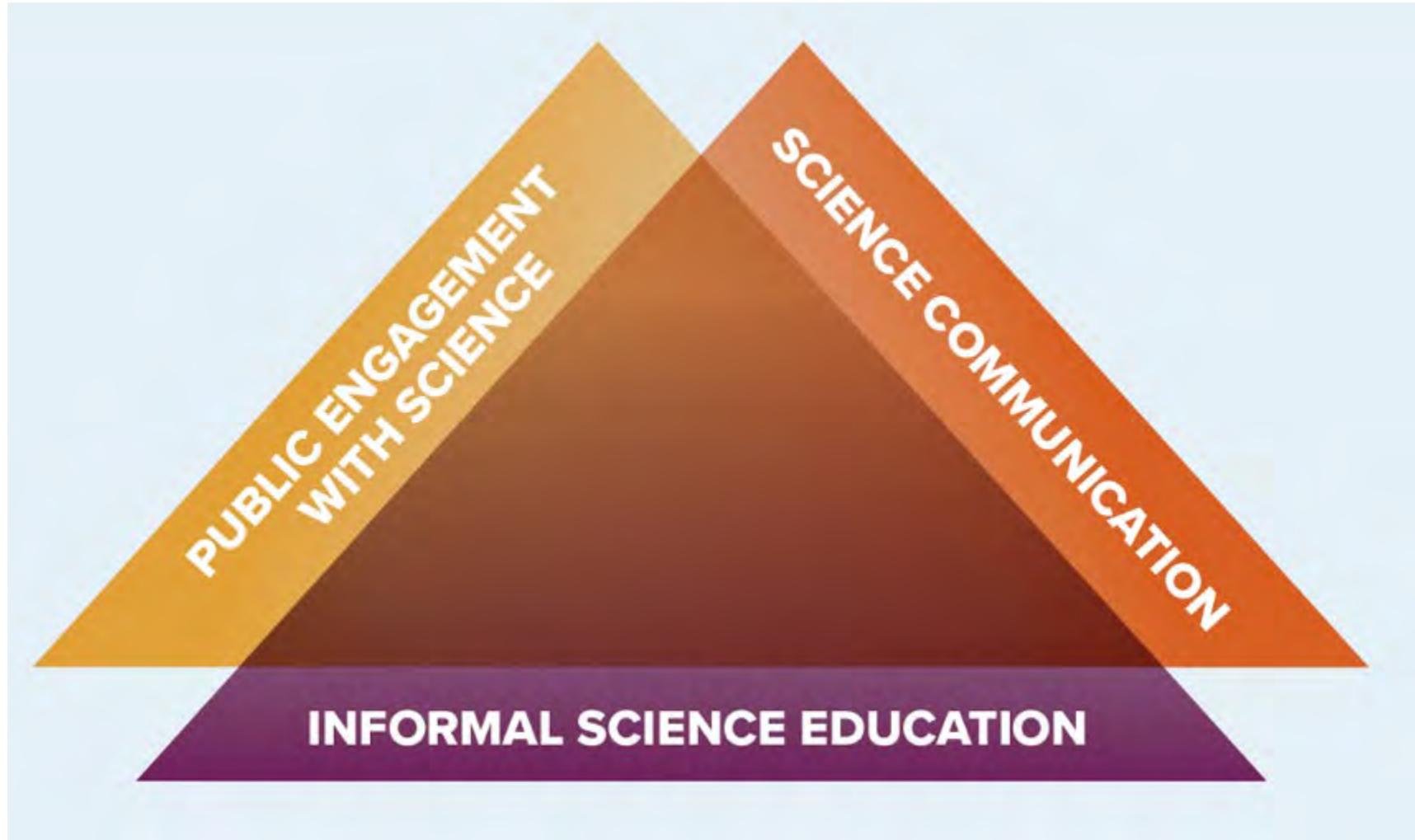
More social science research is needed to understand the impacts of science communication and engagement, including on public interest in, understanding of, and support for science.

3

Understanding participant motivations is a critical component of effective science communication and engagement.

Understanding Cumulative Impact

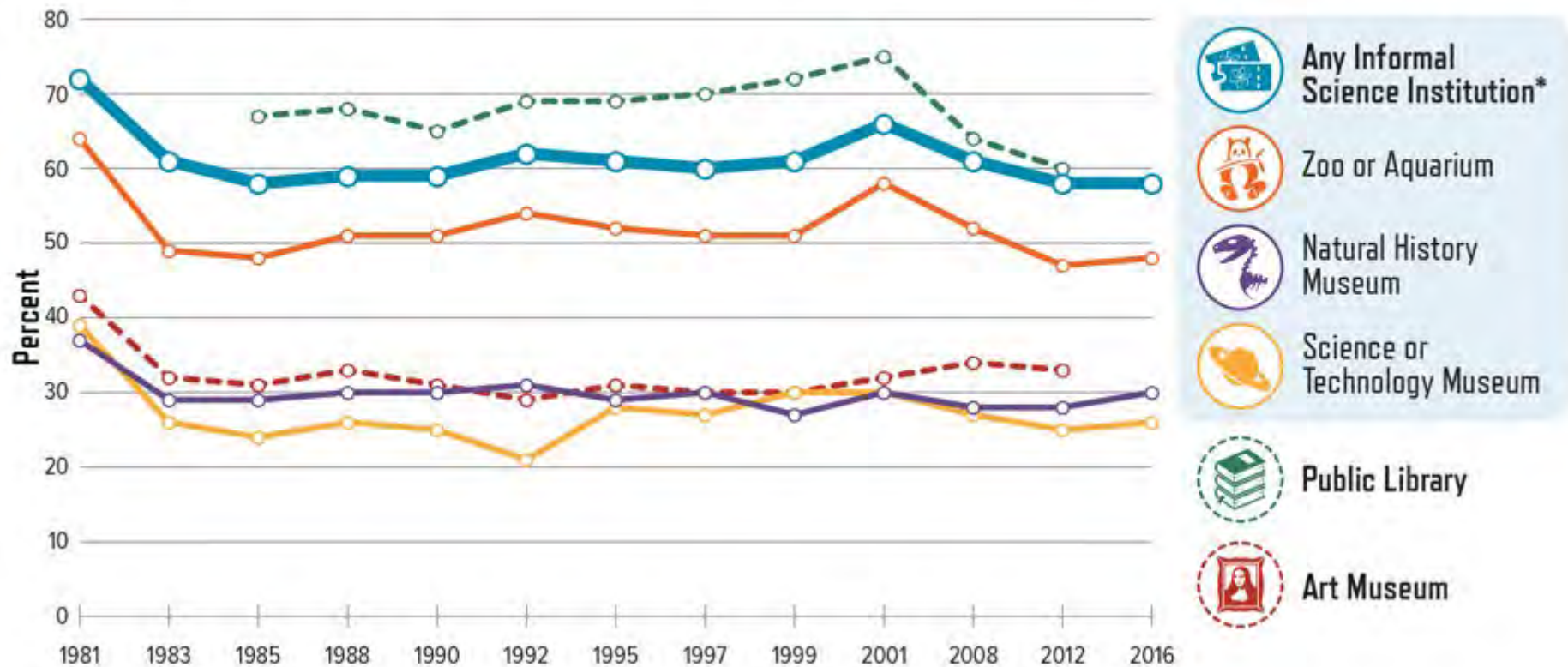




From [Encountering Science in America](#) (American Academy of Arts and Sciences, 2019)

Visiting Science

Percentage of U.S. Adults, Age 18 or Older, Who Reported Visiting These Institutions at Least Once During the Last 12 Months:



From [Encountering Science in America](#) (American Academy of Arts and Sciences, 2019)

Engaging millions of visitors per year

76
million visits
in U.S.

108
million visits
worldwide

Annual visits to selected science engagement organizations



ZOOS AND AQUARIUMS

217 U.S. zoos and aquariums accredited by AZA

195 MILLION annual visits³¹



SCIENCE CENTERS AND MUSEUMS

401 U.S. members of the Association of Science and Technology Centers

~80 MILLION annual visits³²



NATIONAL PARKS

60 U.S. National Parks

331 MILLION annual visits³³



For comparison



68 million
2019



Div I Football & Bball
65 million
2017-18



22 million
2018-19



22 million
2018-19



17 million
2018



21 million
2019



14 million
2019



11 million
2019



Broadway theatres
15 million
2018-19

Engaging the public in STEM

Science centers offer exhibits, programs, and other activities across science

Climate Change / Biodiversity / Energy	85 %
Girls / Women / Gender Equity in Science	80 %
Entrepreneurship / Creativity / Innovation / Design Thinking	79 %
Computer Science / Data Science	77 %
Mathematics	77 %
Biotechnology / Health / Medicine	75 %
Contributions of Underrepresented Groups to Science	74 %
Food / Drinking Water	73 %
Lead or participate in local/regional STEM ecosystems	69 %
Artificial Intelligence / Automation	57 %

Broadening the reach of public engagement in science

Our community is partnering with agencies with an interest in engaging the public on scientific issues.



National Institutes of Health



Held in-person conversations in 2019 and 2020



Previous conversations

- ▶ Expanded the conversation on potential to incorporate public engagement with science in more areas
- ▶ Lifted up some additional funding opportunities for science centers and museums
- ▶ Helped provide connections between museums and Federal agencies and between individual museums
- ▶ Identified opportunities to partner with local facilities, laboratories, etc.
- ▶ Identified areas of science for which public engagement would be helpful



Panel Discussion

Current and future
opportunities in
STEM education and
engagement

Today's Panel

Frank Niepold, Senior Climate Education Program Manager and Coordinator, Climate Program Officer, National Oceanic and Atmospheric Organization



Kris Brown, Deputy Associate Administrator for STEM Engagement, National Aeronautics and Space Administration



Evan Heit, Acting Deputy Assistant Director, Directorate for Education and Human Resources, National Science Foundation



Tony Beck, Program Director, Center for Research Capacity Building, National Institute of General Medical Sciences, National Institutes of Health





Association of Science and Technology Centers

Join us for #ASTC2022

www.astc.org/2022

REGISTER NOW >

ASTC Association of Science and Technology Centers

2022

**SEPTEMBER 12-15
PITTSBURGH, PA**

ASTC ANNUAL CONFERENCE

Hosted by the Carnegie Science Center and Children's Museum of Pittsburgh

The promotional graphic features a circular logo on the left with the ASTC logo at the top, the year '2022' in large white outline font in the center, and the dates 'SEPTEMBER 12-15' and location 'PITTSBURGH, PA' below it. The words 'ASTC ANNUAL CONFERENCE' are written in a curved path around the bottom of the circle. To the right of the logo is the website URL 'www.astc.org/2022' in red, and a red button with the text 'REGISTER NOW >' and a white hand cursor icon pointing at it. The background is a night view of the Pittsburgh skyline with lights reflecting on the water.



Thank you!
