“I have no special talents, I am just passionately curious.”

Albert Einstein
• Incorporated in 1973 with 20 founding science center and museum members

• Membership now totals 660 institutions (centers, museums, universities, research laboratories, corporations) in all 50 U.S. states and 50 countries

• ASTC estimates that there were 95 million visits to member science centers and museums around the world in 2013
Current ASTC Members
Science Centers and Museums = 494
Governing Members = 92
Non-Governing = 402
Sustaining Members (includes Contractor/Consultants) = 167
ASTC member institutions are dedicated to:

1. Encouraging excellence and innovation in *informal science learning*;

2. Addressing *critical societal issues*, locally and globally, where understanding of and engagement with science are essential.
Science Centers and Museums:

• inspire a desire to experience and learn in a “free choice” environment.
• offer creative complements to the formal education environment.
• encourage interest, exploration and even career choices in science.
Science Centers and Museums:

- translate complex science into comprehensible, relevant form.
- build trust between the scientific establishment and the general public.
Science Centers and Museums:

• raise public awareness about the science behind societal issues.

• help promote objective, scientifically-based approaches to decisions and policies by individuals and communities.
• STEM literacy is critical to future success in a rapidly changing global marketplace.

• A strong technical workforce means getting students interested early in life.

• STEM literacy is essential for the decisions required by all global citizens to ensure a sustainable planet.

• A scientifically and technologically literate citizenry requires a lifelong STEM learning.
In December 2013, the OECD Program for International Student Assessment (PISA) results revealed that U.S. students ranked **27th in science** and **20th in math** out of 65 international economies.
The ranking of OECD countries significantly differs when the focus shifts from science test score to measure of **scientific curiosity**.

Many countries ranking the **highest** in science **testing** rank among the **lowest** regarding **interest** in science.

To explain this pattern, **learning cultures** seem to play a major role.
TWO INFORMATIVE STUDIES

• **Eighth-grade** students who indicated interest in science careers were **three times** more likely to obtain a college degree in sciences than those who scored high on standardized tests but had no such aspirations by eighth-grade.

• **61%** of scientists surveyed first became interested in science by **age 11**. Informal science experiences at an early age were as positive as experiences in school.
• Average Americans spend less than 5% of their lives in school classrooms;

• An ever growing body of evidence demonstrates that most science is learned outside of school – informal science learning.

Falk & Dierking (2010)
Non-school learning environments provide valuable venues for informal STEM learning experiences - generating interest, engagement, capacity, confidence, academic performance, and pursuit of academic and career paths.
GOALS

1. Encourage more students to enjoy and excel in STEM subjects;

2. Encourage lifelong learning and greater public engagement in science;

3. Foster entrepreneurship by enabling access to the tools needed to design, build and test just about anything.
- exhibits
- science classes
- teacher training
- school curriculum support
- lifelong learning
- community dialogues
- maker workshops
- after-school programs
- youth employment
- citizen science
- research activities
- meet The scientist
• 90% offer classes and demonstrations
• 89% offer school outreach programs
• 82% offer workshops or institutes for teachers
• 75% offer curriculum materials
• 71% offer programs for home-schoolers
• 41% offer programs that target senior citizens
• 40% offer youth employment programs.
The Next Generation Science Standards (NGSS) emphasize learning by understanding and application. This points to an increased need for hands-on inquiry and discovery.

Science centers and museums can play a vital role to ensure these goals are met.

Educators and teachers will require training and resources to effectively use the framework and create a curriculum for their learners and students.
Non-school environments for informal science provide valuable, cost effective venues for teacher training and support.

• Future teachers obtain skills to address STEM ed challenges in the regular classroom.

• Teachers collaborate with peers, obtain mentoring and professional development support.

• Teachers report that the flexibility and creativity that they learn through this training directly transfers to their teaching during the regular school day.
Science Centers = Centers for Science

COMMUNITY ORGANIZATIONS  CORPORATIONS
UNIVERSITIES
LIBRARIES  THINK TANKS

RESEARCH LABORATORIES  ZOOS  AQUARIUMS
PLANETARIUMS  MEDIA ORGANIZATIONS  SCHOOLS
“Museum experiences, both exhibitions and programs, are remarkably memorable. The vast majority of visitors to museums create durable memories of some aspect of their experience.

The persistence of museum memories is one indicator that museum experiences promote learning.”

Falk & Dierking, 2013
Make it Fun!
ASSOCIATION OF SCIENCE-TECHNOLOGY CENTERS
A global organization providing **collective voice** and **professional support** for science centers, museums, and related institutions, whose innovative approaches to science learning inspire people of all ages about the wonders and the meaning of science in their lives.
ASTC STRATEGIC FRAMEWORK
“THE PILLARS”

Professional Development: ASTC will help to ensure that science center and museum professionals at all levels acquire essential skills for success, particularly as required in times of change and uncertainty.

Science and Society: ASTC will help science centers and museums to address key issues of significance to society locally and globally for which science understanding and public engagement are essential.

Impact and Communications: ASTC will help articulate, measure and communicate the impacts of science centers and museums in the broader community.

Alliances and Partnerships: ASTC will build key alliances and partnerships with organizations and individuals in order to support, extend and add perspective to the work of our members.
PROFESSIONAL SUPPORT

• Assist science center and museum professionals to acquire and share the necessary information and essential skills for success, particularly in times of change and uncertainty;

• Encourage greater emphasis on techniques for engaging the public in societal issues where science understanding is essential.
Professional Support

Skills Development

- Conference
- Publications
- Communities of Practice
- Equity and Diversity
- Professional Development and Leadership Academy

Operations and Programming Support

- Surveys and Research
- Exhibitfiles
- Traveling Exhibition Services
- Grants, Partnerships, and Contributions
COLLECTIVE VOICE

• Help ASTC members achieve greater *visibility and support* in forums of the highest significance to the science center and museum field.

• Build and strengthen *partnerships* with organizations that support the shared vision of ASTC members and can directly impact our ability to fulfill our mission.
Collective Voice

Advocacy
- Local
- Global

Alliances and Partnerships
- Comprehensive
- Program-Specific
SCIENCE CENTER AND MUSEUM INSTITUTIONS

PROFESSIONAL SUPPORT

COLLECTIVE VOICE

SCIENCE CENTER AND MUSEUM FIELD

ASSOCIATION OF SCIENCE-TECHNOLOGY CENTERS
Thank You!