

Gender Equity in STEM

October 23, 2024

IF/THEN®

CHAMPIONS NETWORK



Welcome!

Share in the chat: What is something you are excited about personally or professionally in the next few months?



Agenda

- Introductions
- Network Welcome & Goals
- Network Structure & Activities
- Gender Equity in STEM
- Upcoming Activities
- Questions



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Senior Program Manager



Tara Cox
**Senior Manager, Programs &
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The vision of the National Girls Collaborative Project is to **support and create STEM experiences that are as diverse as the world we live in.**



NGCP Resources:

- National Webinars
- Monthly Newsletter
- Website featuring research and statistics related to girls and women in STEM
- Partner Projects





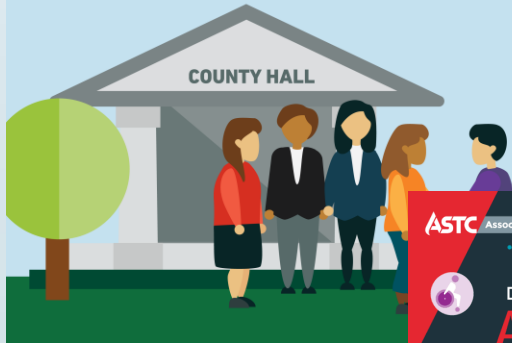
Amanda Fisher
Assistant Director of Programs



ASTC **creates strategic opportunities, develops intellectual capital, and assembles resources** to support our members in realizing their missions and engaging their communities.

CIVIC ENGAGEMENT AND POLICY MAKING

- Funding opportunities
- Annual conference and convenings
- Professional learning & development



The background is a solid teal color. It features several abstract, light-colored lines (in shades of blue and green) that form various shapes, including straight lines, curves, and loops. Small dots in the same colors are placed at the ends and intersections of these lines, suggesting a network or circuitry theme.

IF/THEN® Champions Network

Goals

Join a growing movement of institutions and individuals **committed to advancing gender equity within STEM fields** via the IF/THEN® Collection.

The network goals are to **activate and grow a network** of museums and individual members that will champion gender equity work, support the overall goals of the IF/THEN® initiative, provide mutual support, and act as institutional resources for others.



The **IF/THEN® Collection** is the largest free resource of its kind dedicated to increasing access to authentic and relatable images of real women in STEM.

The Collection is part of the [IF/THEN®](#) Initiative, a national effort sponsored by [Lyda Hill Philanthropies®](#) to inspire young girls to pursue STEM careers while creating a culture shift in how the world perceives women in STEM.



Membership Levels

Individual



For **educators, exhibit developers, and others** who support the IF/THEN® initiative but may not be housed within an organization or who have not yet obtained an organizational commitment.

Individual members do not need to belong to an ASTC member organization or be in the United States to join.

Organizational



For **ASTC member organizations** in the US, including museums, science centers, and allied members.

Organizational members are required to complete the organizational commitment form. This is a high-level commitment that acknowledges the specific requirements that accompany organizational membership.

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Member Activities

Quarterly Webinars

- May, July, and October 2024
- 2025 webinar schedule shared later today
- PD, guest speakers

Suite of Resources

- IF/THEN® Collection, Project Library, Gender Equity Toolkit
- Media Toolkit
- LinkedIn Group

ASTC Annual Conference

- September 6-9, 2025 in San Francisco, CA

Email Communications

- Network updates
- IF/THEN® Collection highlights and updates
- Engagement opportunities

Additional Activities for Organizational Members

Organizational Planning Sessions

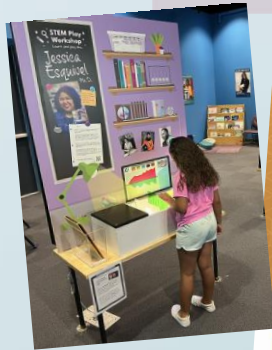
- Examine organizational strengths and goals for advancing gender equity

Welcome Kit

- IF/THEN®-branded materials to display at your organization

Funding Opportunities

- ASTC conference funding in 2025, exhibit content, and IF/THEN® exhibit and program grants





Gender Equity in STEM



CONNECT + CREATE + COLLABORATE



Gender Equity in STEM

IF/THEN® Champions Network, October 23, 2024

Agenda

- Reflection & Activity
- Gender Equity & STEM
- Strategies & Resources
- Messaging Matters Activity



Equity and STEM Slido Poll

Use your phone or open a new tab in your browser!

- Scan this QR Code on your phone or visit www.slido.com and enter code: #3280109 to join our Slido poll.
- Answer 2 short questions via Slido. Your answers are anonymous but will populate in a word cloud.
- Short words, initial ideas, and phrases are fine!



www.Slido.com
Code: #3280109



Why Equity and STEM?

- Women and girls are capable and valuable to STEM.
- Women continue to be underrepresented in STEM studies and careers, especially in engineering, computer science, and physics.
- The STEM workforce needs diverse perspectives and ideas to drive innovation and address interconnected problems.
- Women in the STEM workforce make less on average than men and are less likely to reach leadership positions in the STEM workforce.



We want to transform STEM spaces and address discriminatory practices that normalize inequities.

Barriers to Equity in STEM

- Lack of access to high-quality STEM opportunities.
- Persistent stereotypes about STEM people and careers.
- Curriculum that is not personally or culturally relevant.
- Lack of exposure to relatable role models.
- Lack of support networks and mentorship.
- Gender norms and institutionalized practices, such as the “ideal worker norm”.
- Biases, microaggressions, discrimination, and harassment in education and the workplace.



Rooted in the impacts of intersectional inequalities and systems of oppression, including patriarchy and systemic racism.



Women in STEM

- Women make up nearly half the U.S. workforce, but only 35% of the STEM workforce

Latina, Black, and Indigenous women represent **less than 10%** of the **STEM workforce**.



STEM Workforce

Women STEM professionals are concentrated in different fields than men, with **relatively high shares of women** in social sciences (65%) and life sciences (48%) and **relatively low shares of women** in computer and mathematical sciences (26%) and engineering (16%)

SOCIAL SCIENCES



LIFE SCIENCES



COMPUTER AND MATHEMATICAL SCIENCES



ENGINEERING



STEM Experiences

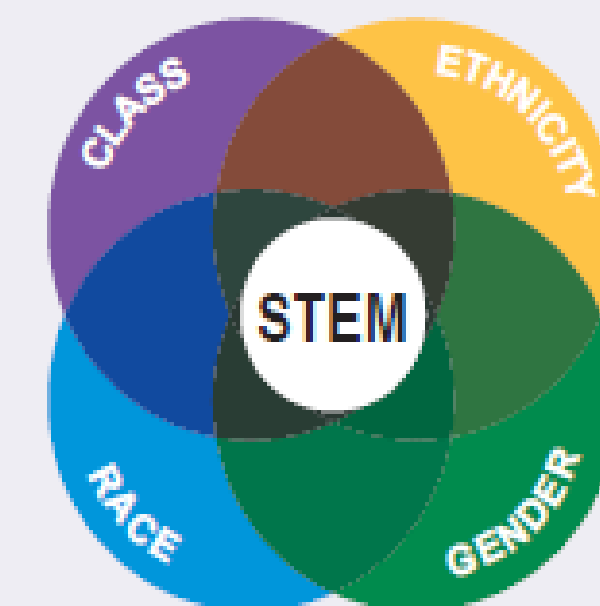
Differences exist in:

- Interest and confidence in STEM
- Perceived sense of belonging in STEM
- Perception of future success in STEM

Girls' and young women's achievement in mathematics and science **is on par with that of boys and young men.**



For girls/young women of color and girls/young women from lower socioeconomic status, **the impacts of the intersectional inequalities of gender, race, ethnicity, and class** can hinder identification with and long-term participation in STEM.



Gender Equitable Strategies

Strategies to Foster a Positive STEM Identity:

- Make STEM Personally and Culturally Relevant
- Counter STEM Stereotypes
- Integrate Diverse Role Models



Make STEM Personally and Culturally Relevant

- Draw on girls' interests, knowledge, background, skills, culture, and lived experiences
- Connect STEM to issues girls care about
- Create a supportive environment for girls to feel welcome, safe to take risks, and build relationships



Chat Reflection:

- Is there an exhibit in your museum that is personally or culturally relevant to you and why?



Resources

- [Career Girl Quizzes](#)
- [EngineerGirl](#)
- [Messages Matter](#)
- [NGCP Webinar: Making STEM Meaningful for Girls](#)



Messaging that appeals to girls:

- Make a difference
- Do meaningful work
 - Be creative
- Earn a high salary

STEM Stereotypes

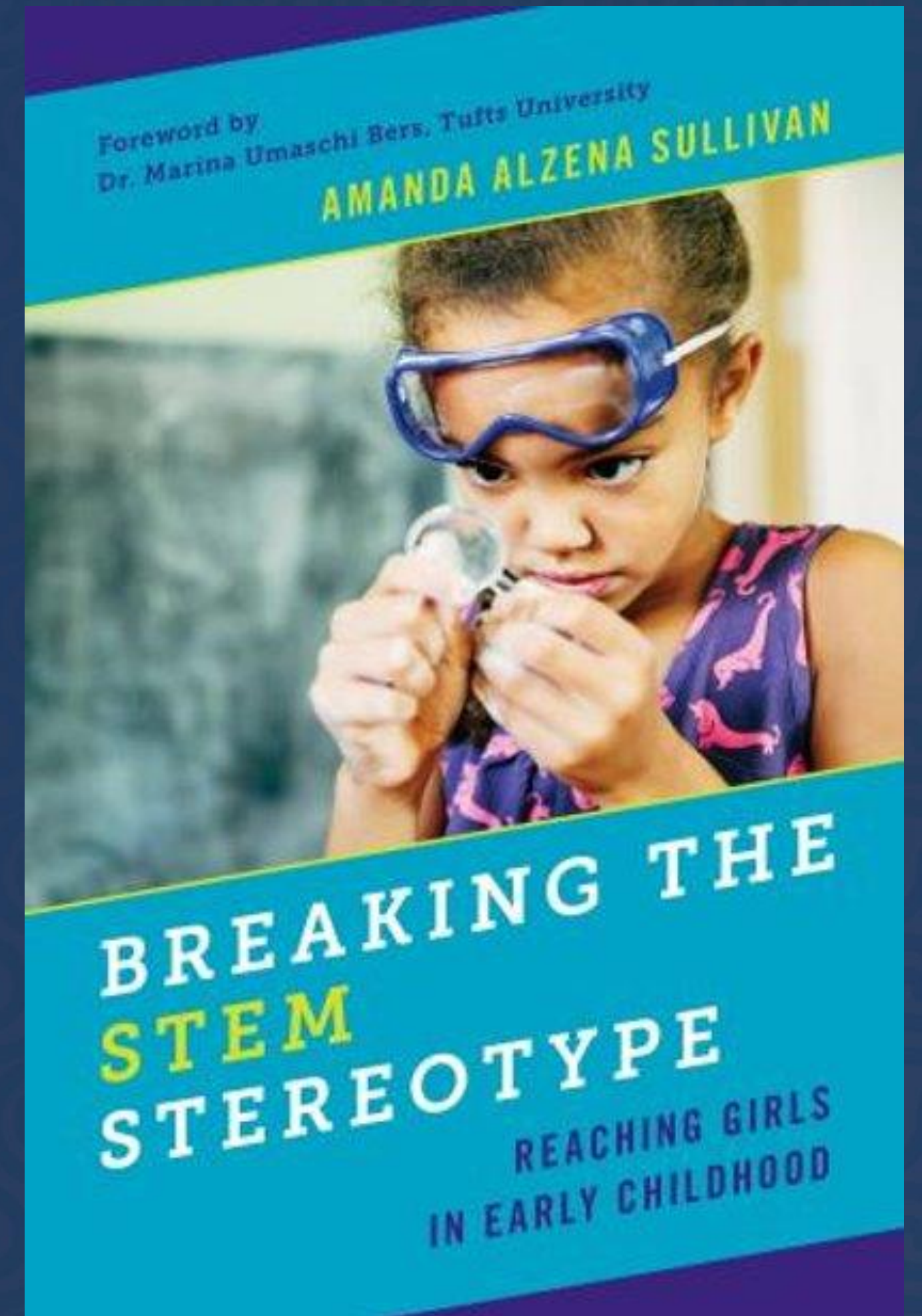
- STEM is for boys/men
- STEM people are naturally brilliant
- STEM is difficult
- STEM does not relate to me, my life, or my community
- STEM people are naturally gifted in math and science
- STEM people work alone
- STEM careers do not make a difference in the world

Are there other stereotypes you or your youth have experienced? Share in the chat.



Stereotypes Form Early

- **Basic stereotypes** begin to develop in children around two to three years of age
- **By kindergarten**, children have developed a range of stereotypes about STEM
- **By adolescence**, stereotypes impact confidence, interest, and likelihood of pursuing STEM



Countering Stereotypes

- Make connections between girls' cultural and social backgrounds and STEM
- Showcase the diversity of STEM people and careers
- Foster discussion of stereotypes related to STEM people, skills, and career pathways
- Show how STEM is collaborative and social
- Reflect on your own beliefs, mindsets, and messaging



Resources

- [Addressing STEM Stereotypes with Youth and Young Adults](#)
- [Addressing STEM Stereotypes and Biases: Facilitating Challenging Conversations with Youth](#)
- [5 Ways to Counter STEM Stereotypes in Children and Youth](#)
- [STEM Superpowers Activity](#)



5 Ways to Counter STEM Stereotypes in Children and Youth

Beginning at an early age, stereotypes have the power to influence children's interest, confidence, and identification with STEM. Learn how to...

The screenshot shows a page titled "STEM SUPERPOWERS" from the "IF/THEN Collection". It is recommended for ages 11-15. The page is divided into several sections: GOALS, MATERIALS, PREP, and ACTIVITY. The ACTIVITY section is further divided into GROUP ADMIRATION (10 min.) and IDENTIFYING STEM SUPERPOWERS (15 min.).

IF/THEN Collection

STEM SUPERPOWERS RECOMMENDED FOR: AGES 11-15

GOALS

Participants will:

- Recognize that a variety of qualities contribute to a person's success in STEM.
- Identify at least two of their own qualities that strengthen their ability to do STEM.

MATERIALS

For each Participant:

- Paper
- Markers or colored pencils
- Optional: clay or playdough

For the Educator:

- Large writing surface (chart paper, white board, chalkboard, etc.) and writing utensil
- Ability to project video with sound

PREP (5 min.)

Place pieces of paper around the room — one for each participant that has their name on it. Cue up the videos to play during the Identifying STEM Superpowers section.

ACTIVITY (45 min.)

GROUP ADMIRATION (10 min.)

Tip This activity is best done with a group that is comfortable with one another and has worked together before.

- 1 Start by setting some norms for the day on "respect." Ask what the word "respect" means to your group and write down their responses on a board or poster paper so they are visible during the activity.
- 2 Following the respectful norms you have just set, ask participants to walk around the room and write a word or short phrase that says what they admire about that person. Tell participants that they should write one thing on each person's paper. Feel free to play music during this time, but ask that the group not engage in any discussion.

Tip You may need to show a list of terms that students can use if they get stuck or need a place to start (e.g., confident, good friend, great listener).

IDENTIFYING STEM SUPERPOWERS (15 min.)

- 3 Watch a series of short video clips about STEM professionals and the various qualities that contribute to their success in their field. Tell participants that these are their STEM superpowers! Because making an impact through STEM is more than just about the grades you get, but bringing all aspects of your personality to your projects.

Chat Reflection:

- Who is your role model and why?



Integrate Diverse Role Models

Why Role Models?

- Counter stereotypes of what STEM is and who does STEM
- Broaden the notion of STEM fields and journeys
- Make STEM personally and culturally relevant
- Show how STEM is collaborative and social



Characteristics of Effective Role Models

- Race, ethnicity, age, ability, career stage, discipline, and STEM journey
- Supportive, engaging, relatable: have conversations with girls
- Enthusiastic about learning, especially STEM
- Share personal and professional aspects of their STEM journey
- Honest about their experience: Successes, risks, and challenges



Resources

- [IF/THEN Collection](#)
- [SciGirls Role Model Videos](#)
- [Poster collections](#)
- Local connections:
 - STEM-related businesses
 - Family members of youth participants
 - Professional organizations
 - Post-secondary students
 - Near-peer role models



VIDEO



**Cancer Researcher /
Illustrator: Jaye
Gardiner**

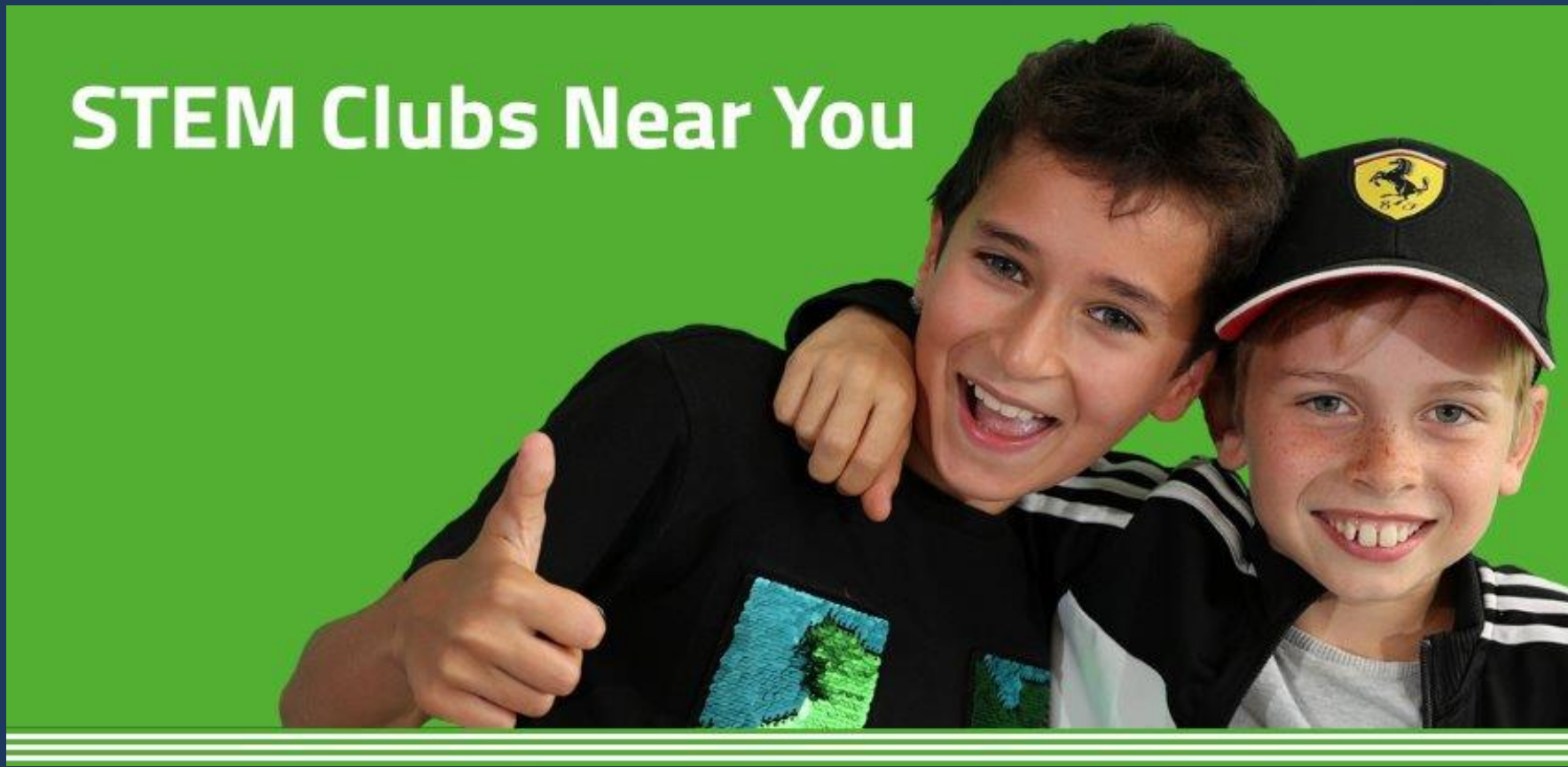
ROLE MODEL PROFILES

Jaye is a cancer researcher and co-founded a comic about science and scientists.

Messages Matter

How (or would) you improve the messaging on any of the images on the following slide?





STAR WARS

S.T.E.M. ACTIVITIES

SCIENCE TECHNOLOGY ENGINEERING MATH

IN OUR POND



Contact Information

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www.ngcproject.org





CONNECT + CREATE + COLLABORATE

Learn more at ngcproject.org



Upcoming Opportunities For Organizational Members

Exhibit Kit 1

This is what a Scientist Looks Like Displays



October

Exhibit Kit 2

STEM Play Workshops



May

Exhibit Kit 3

Content TBD

January

2024

2025

2026

January

March

September

ASTC Conference
Stipends

"Design Your Own" Grants Open

Program and Installation Stipends Open

Exhibit Kit 1: This is What a Scientist Looks Like Displays

- Created with input from you!
- You select the content themes and formats (ex. pop-up banners, metal prints, foam core posters),
- ASTC prints and ships directly to you
- Application process is simple and all Organizational Members are eligible to receive a FREE kit
- Request your kit anytime October - February



Content Theme Options

Theme A: *Diving Deep*



Theme B: *Engineering New Paths*



Theme C: *Living Wild*



Theme D: *Powering the Planet*




Theme E: *Reaching the Stars*



Content Theme Options

Diving Deep as a

MARINE CONSERVATION SCIENTIST




Dr. Lekelia (Kiki) Jenkins
Kiki is a marine sustainability scientist who created a new field of study using technology for ocean conservation. She now studies how dance can be used to engage the community with marine research.

Did you know There are competitions for using dance to communicate about science? Kiki had her passion for dance before she knew it could help her as a scientist; then she won an award for her dance about sea turtle conservation and recovering ecosystems.

📍 Tempe, AZ

DANCE YOUR SCIENCE
Art can surprise, delight, inform, and make us look deeper at the natural world. **How would you dance like a sea turtle?**



ASTC Association of Science and Technology Centers Member of the **IF/THEN** Champions Network

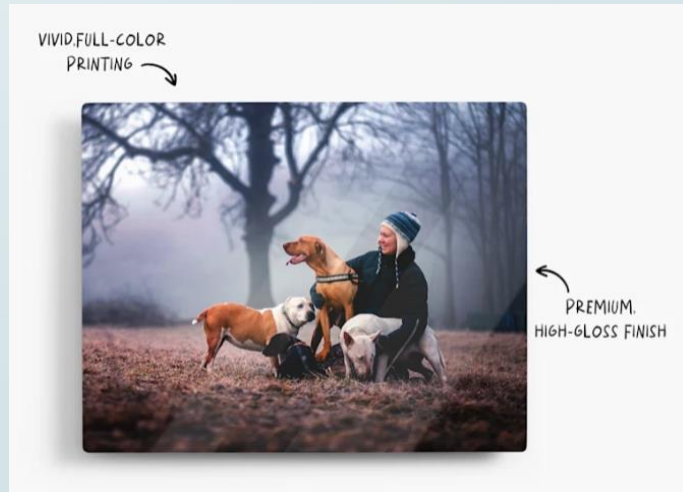
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Material Options



Retractable Banners



Metal Prints



Foam Core

Introductory Panel

THIS IS WHAT A SCIENTIST LOOKS LIKE

See yourself in science



LEARN MORE!

The IF/THEN® Collection inspires young girls to pursue STEM careers while creating a culture shift in how the world perceives women in STEM. We are committed to advancing gender equity and representation at this institution.

Science and scientists are all around you. You can learn from them in the kitchen, the park, the laboratory, and even right here. Can you find one of these scientists' faces nearby and learn something new from them?



The IF/THEN® Initiative, sponsored by Lyda Hill Philanthropies®

- Optional
- Can be customized with your organization's logo
- Ties together other IF/THEN® content
- 90"x96" double-sided tension fabric



CHOOSE ONE OF THESE 6 OPTIONS:

with INTRODUCTORY PANEL

RETRACTABLE BANNERS

Printed on 33" x 81" vinyl.
Preassembled with stand
and case for durability
and mobility.



Intro + 1 content theme



Intro + 1 content theme



intro + 3 content themes

without INTRODUCTORY PANEL



2 content themes



2 content themes



5 content themes

METAL PRINT

Printed on 24"x36" metal
plate. Durable, glossy
aluminum with keyhole
and French cleat for hanging.

FOAM CORE

Printed on a 24"x36" foam
core board. Lightweight.
Least resilient option.

Exhibit Kit 2: STEM Play Workshops Request For Proposals

- ASTC is searching for a contractor to assemble and distribute 30 kits!
- View the RFP at bit.ly/IFTHEN_RFP (or by scanning this QR code →)
- Proposals Due November 1
- Contractor will be selected by end of 2024



Reach out to ifthen@astc.org if your museum is interested in partnering with us!



The background is a solid teal color. It is decorated with various abstract geometric patterns. These include thin lines in shades of blue and green, some of which are curved or form partial circles. Small circular dots in the same color palette are placed at various points along these lines, often at intersections or endpoints. The overall aesthetic is clean, modern, and technical.

Resources and Upcoming Activities

Resources

Access resources at: <https://ngcproject.org/ifthen-champions-network>

- Links to IF/THEN® Initiative and Collection resources
- Instructions for requesting and downloading assets
- Media and branding guide
- Link to join the LinkedIn Group
- Details about upcoming webinars and an archive of past webinar recordings
- Details about network communications and an archive of past email communications



IF/THEN® Collection

Looking for resources to support gender equity in your classrooms and programs?

The [IF/THEN® Collection](#) is a free digital library with photos, videos, posters, and more, featuring diverse women STEM innovators – all available for educational and other non-commercial use. You'll find thousands of assets showcasing inspiring women whose jobs include training Olympic athletes, creating cosmetics, exploring space, working with animals, and designing everything from buildings and museum exhibits to prosthetics and medical equipment.

HOW TO GET STARTED

If you haven't already, please watch the [IF/THEN Collection](#) video. It's a quick overview of the site and our favorite resources. For more information, we recommend these entry points to find plug-and-play resources:

- **Activity Sheets** (www.ifthencollection.org/activity-sheets)
A compilation of all the puzzles, games, and hands-on educator guides and student activity sheets
- **Equity and Inclusion Assets** (www.ifthencollection.org/equity-inclusion)
A curated set of assets for afterschool and summer equity and inclusion
- **Educator Hub** (www.ifthencollection.org/educator-hub)
A one-stop shop with ideas for using the Collection aligned with learning standards

Thank you for being part of the [IF/THEN® Champions Network](#), a new network for individuals and ASTC-member organizations interested in championing the [IF/THEN® Collection](#), the largest free resource dedicated to disseminating authentic and relatable images of real women in STEM!

In this email, we are sharing **new opportunities and resources** available to Champions Network members, including the opportunity to engage with other members at the ASTC Annual Conference in September, details about upcoming webinars, and more!

IF/THEN® CHAMPIONS NETWORK

Upcoming Activities

■ 2025 Network Webinar Schedule

- February 19, 2025
- May 28, 2025
- July 16, 2025
- October 22, 2025
- All webinars will be at 11 AM PT / 12 PM MT / 1:00 PM CT / 2:00 PM ET

■ 2025 Annual ASTC Conference: September 6-9, 2025, in the San Francisco Bay Area – mark your calendar now!

■ Other activities to come





Questions?

You can also email questions to
Emily Early at early@ngcproject.org

