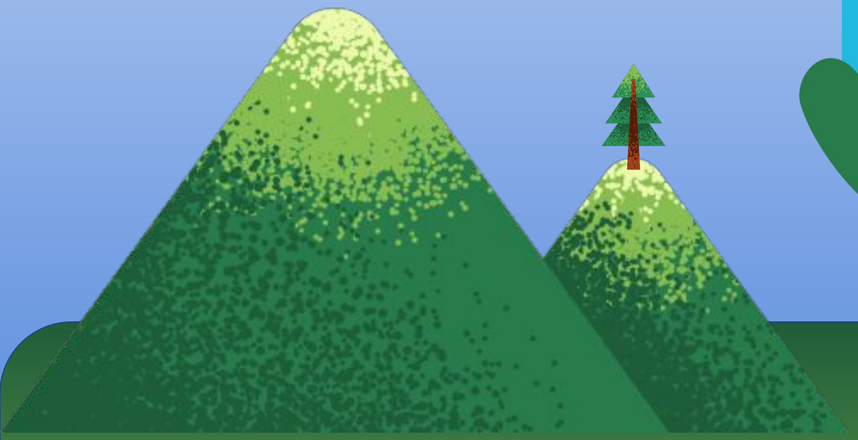
Jumpstart Your Public Engagement Journey

Setting Goals, Finding Relevance, and Building Partnerships



NISE NATIONAL INFORMAL STEM EDUCATION NETWORK

Dr. Darrell Porcello, NISE Network/Children's Creativity Museum/IoNx

EAN Advocacy Training for Neurology & Brain Health April 7th, 2025

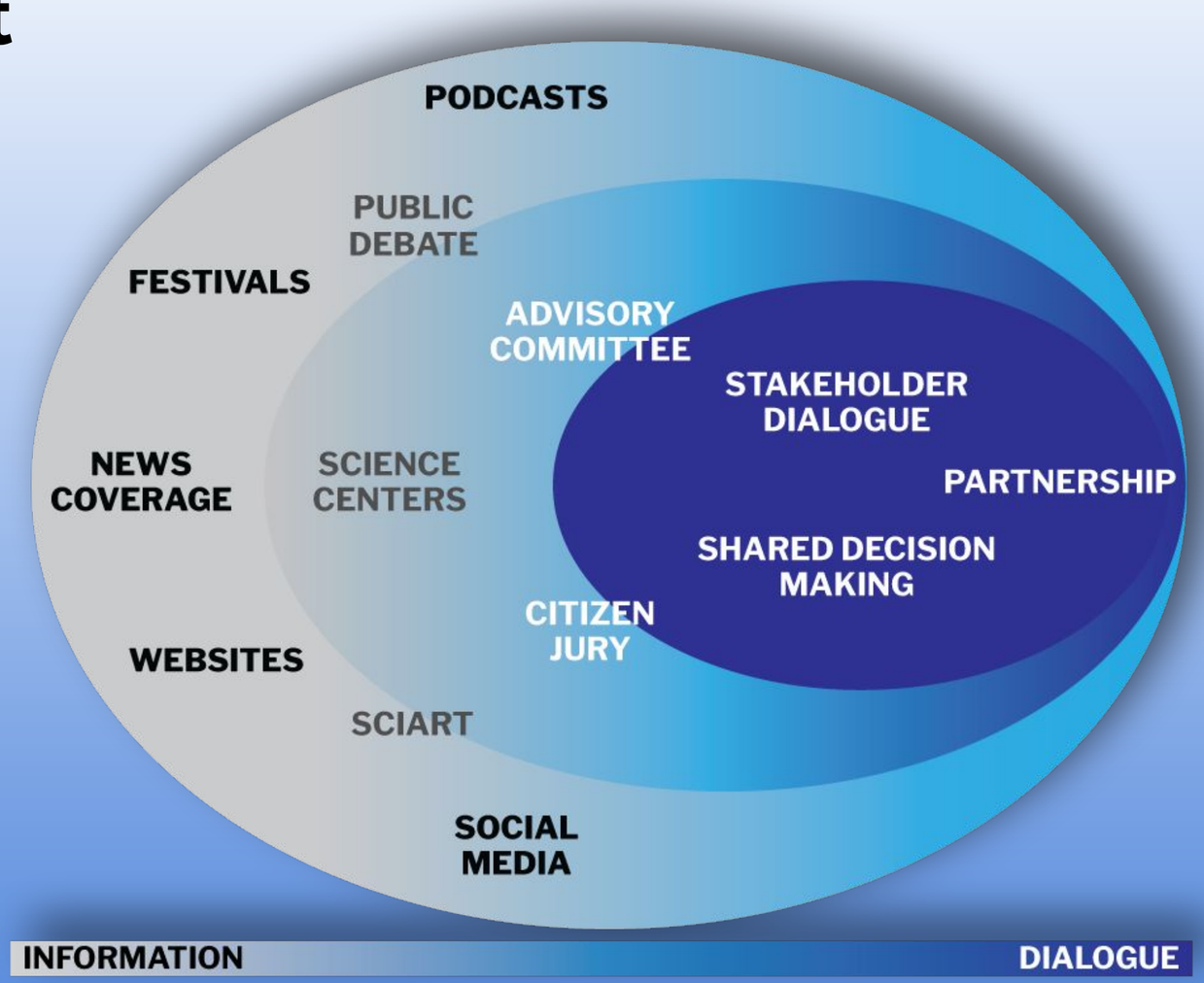
What is public engagement with science?

Public engagement is is the process of creating opportunities for people to meaningfully interact with science through dialogue, collaboration, and shared learning.

What is public engagement with science?

Public engagement is on the spectrum of science communications that stretches from building awareness to co-creation and partnership.

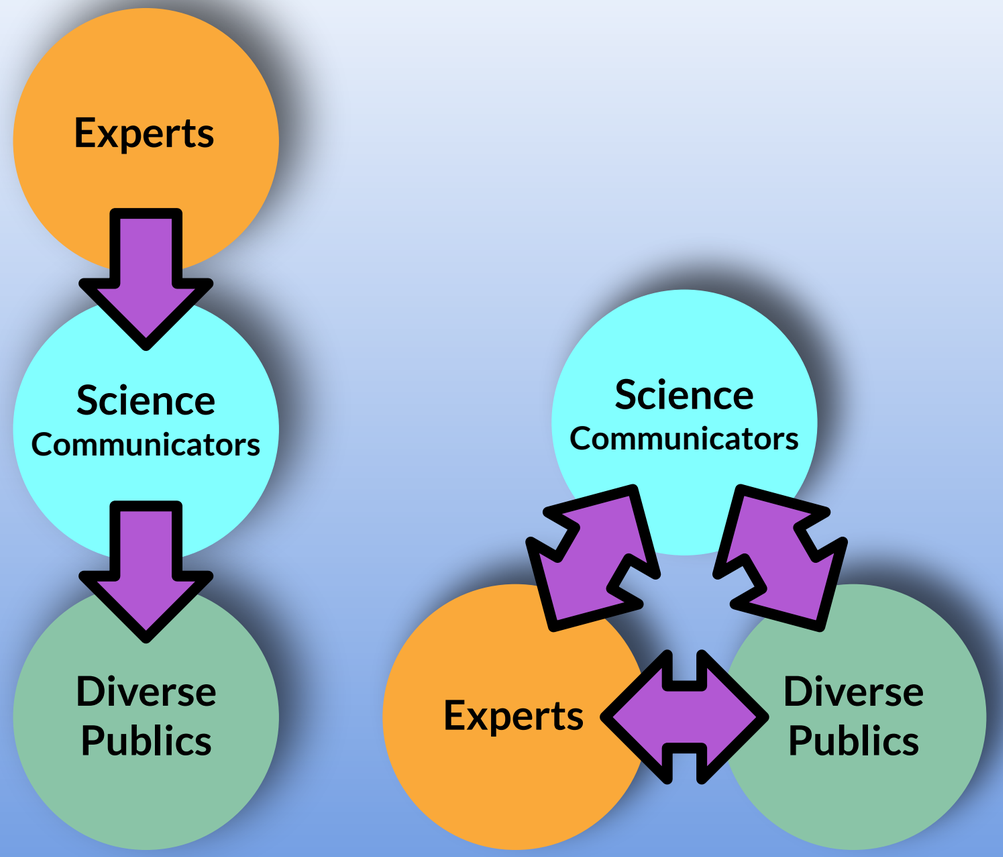
At one end, you're informing or educating; at the other, you're working with communities to shape questions, priorities, and outcomes.



What is public engagement with science?

While both can be useful, public engagement moves us from transmitting knowledge in one-way conversations to listening, connecting, and working together in multi-directional dialogue.

- Elevate community voices
- Surface hopes, concerns, and needs
- Build trust and relevance
- Shape the future of responsible research and development together



Unidirectional vs Multidirectional conversations

Ok great, but where do I start?

Setting Goals

Why do you want to talk with public audiences?

What do you hope to achieve?

Finding Relevance

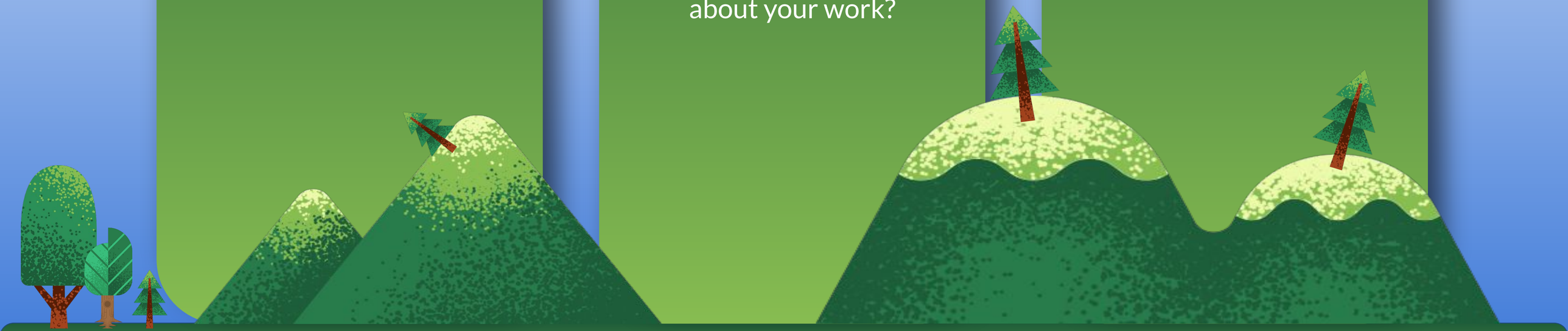
How does your work connect to the everyday lives of people?

What values do people reflect on when learning about your work?

Building Partnerships

Why do you have to do this by yourself?

Are there public engagement experts closer than you think?



Setting goals

Goals should focus on what **you want your specific audience to do (or not do)** as a result of engagement.

Communication works by influencing what people **think and feel**, not just what they hear.

Tactics (like social media or events) only work when aligned with **well-defined goals** and objectives.

Without clear goals, communication efforts can be unfocused or even backfire.

Goal-setting helps you choose the right direction, allocate resources wisely, and **measure success**

***A recent guide to spark conversation and share emerging insights on engaging non-specialist audiences with basic science.**

***Contribution on goal setting from Anthony Dudo (University of Texas at Austin) and John Besley (Michigan State University)**

https://www.scipep.org/resources

Goals

INFLUENCING

Behaviors

Health choices
Environmental choices
Donating
Voting
Career choice
Research approach
Research topic

Acceptance

Willingness to trust
Legitimacy perceptions
Decision acceptance

Objectives

FOSTERING

Beliefs

Scientific facts/processes
Caring/benevolence/warmth
Honesty/integrity
Voice/willingness to listen
Shared identity/shared values
Competence/ability
Risk/benefit/response-efficacy
Self-efficacy
Normative

Feelings (Surprise, anger, etc.)

Frames (Gain vs. loss, health vs. economic, etc.)

Tactics

Communication Behaviors

Time for dialogue/listening
Event structure/setup/site choice

Message Content

Tone/Style/Intensity

Humorous/aggressive/etc.
Descriptive/narrative/etc.

Time of Day

Source

Expert/celebrity/etc

Channel

Face-to-face, social media, etc.

*These lists are not exhaustive, but they are a good start.

Credit: John Besley (Michigan State University)

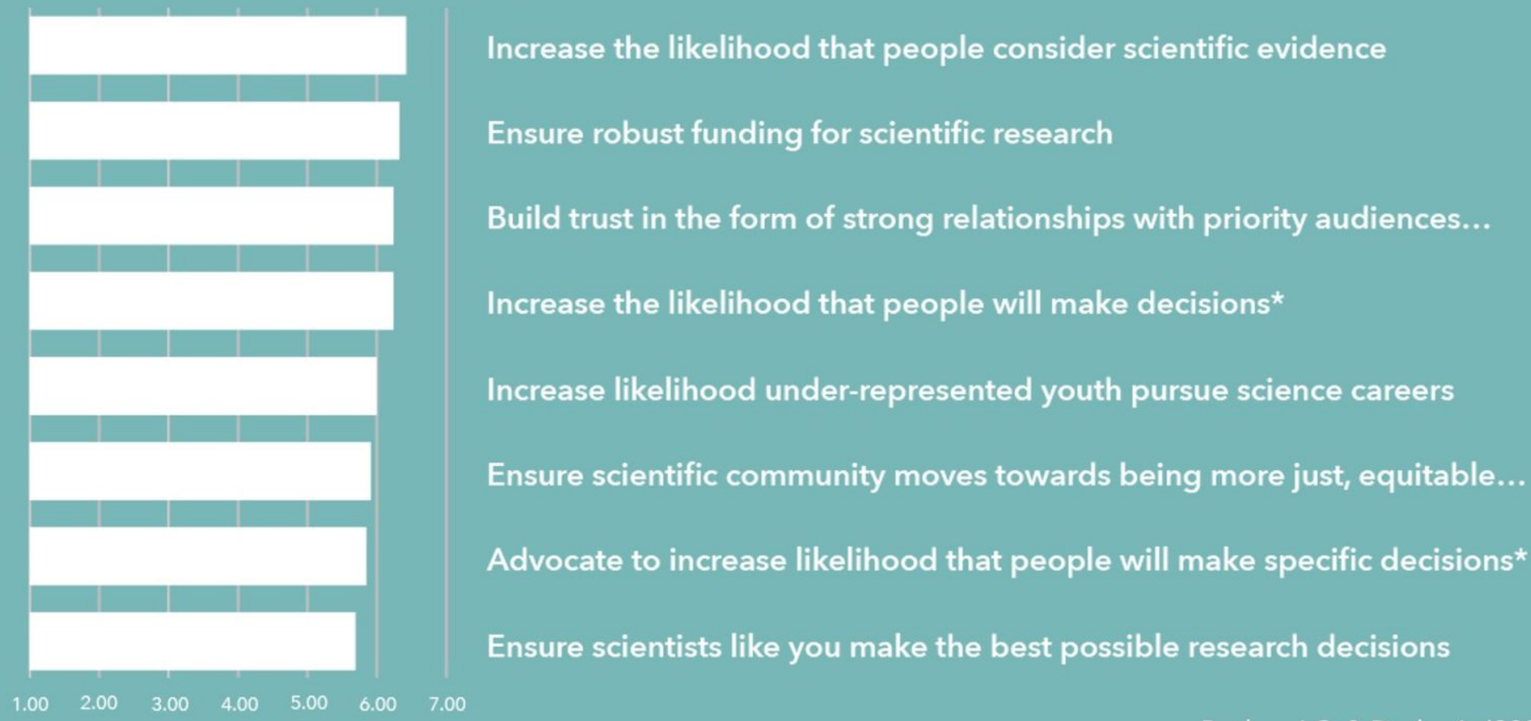
Asked almost 1900 scientists

Basic scientists surveyed tended to prioritize every example science communication goal

Average response to question:

"In general, when choosing to communicate with your priority audience(s), how important or unimportant should the following type of goal be for scientists like you?"

(1 = Very low importance, 7 = Very high importance)

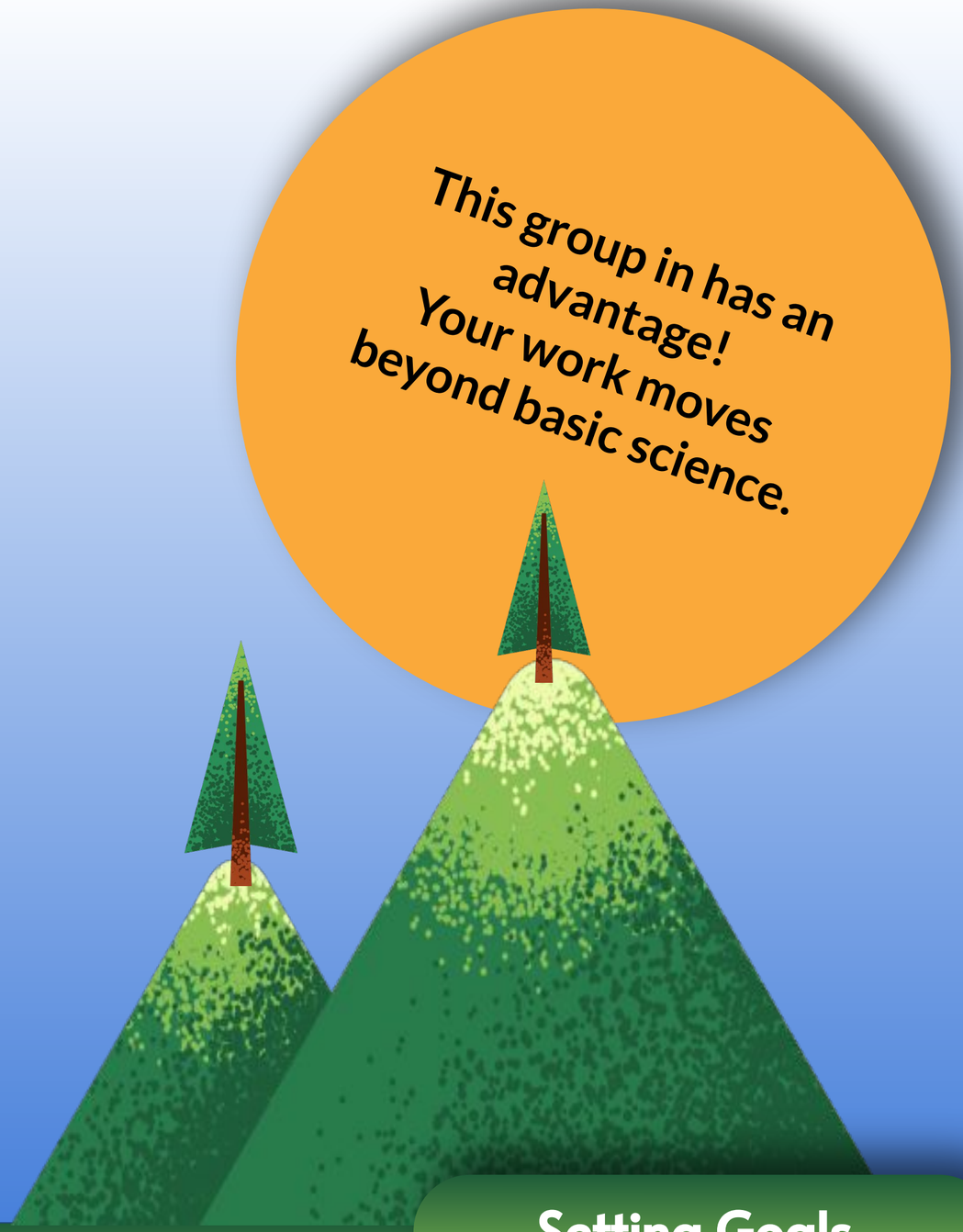


Similar ratings for all responses

Besley, J.C. & Dudo, A. (2023). DOI: 10.17605/OSF.IO/R4AQ5

Decide on your specific goals first!

Good tip from the SciPep report:
"Figuring out behavioral goals for your audience should be the first step in your process for communicating basic science, long before you decide whether to do a podcast or event. This work is likely to require intense reflection. If possible, ask a colleague or expert to push you to break free of your typical thought patterns."



Relevance → Multidirectional Conversations

Values	Community Issues	Relationships	Societal Benefits
Reflection Prompts	Local Context	Everyday Lives	Emotions

CHANGING BRAINS

Neuro Futures Card Game

Participants explore future brain technologies, voting based on their **own thoughts and values**.

Prompted to **step into the shoes of another person** to reconsider their initial choices

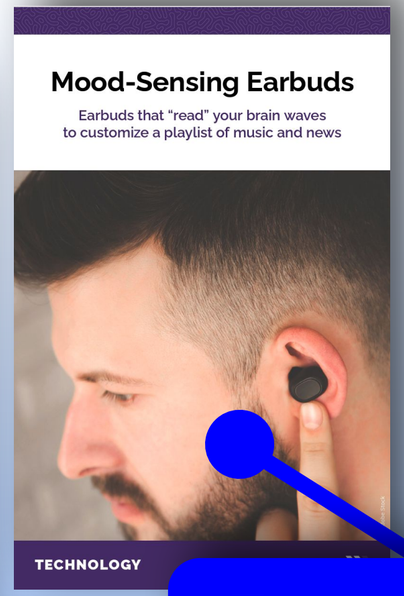
Our goal was for participants to practice **creativity, reflexivity, and empathy** while encouraging conversations.

Part of a larger scope of called Neuroethics Engagement

Das, J., Forlini, C., Porcello, D. M., Rommelfanger, K. S., Salles, A., & Global Neuroethics Summit Delegates. (2022). Neuroscience is ready for neuroethics engagement. *Frontiers in Communication*, *7*, 909964.

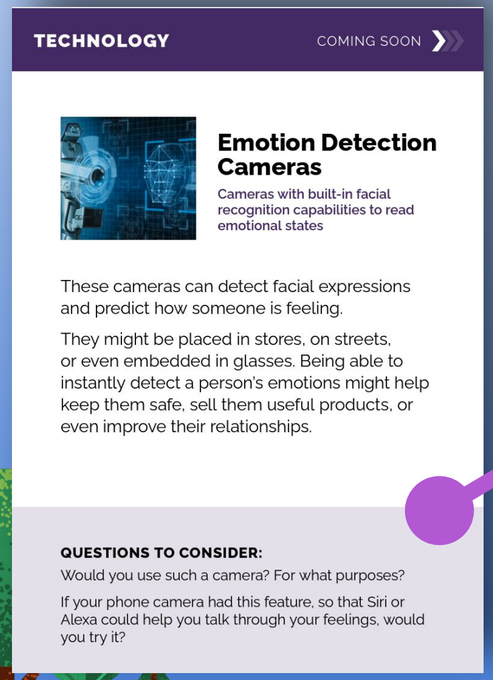
Values

Participants to prioritize technology based on what they want to see in the future.



Everyday Lives

Clear connections to participants' lives.

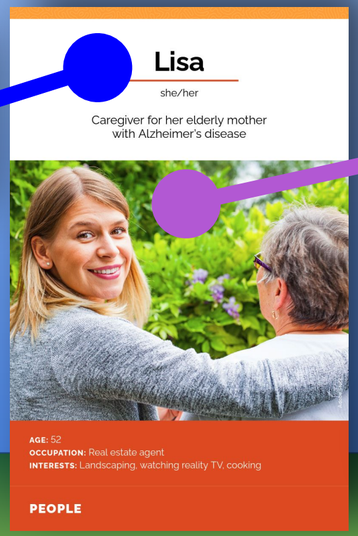


Reflection Prompts

Thoughtful questions to spark personal connections and opinions.

Societal Benefits

See through the eyes of others for more equitable progress.



Relationships

Common roles of family and community members.

Finding Relevance

One word describes it all!

A simple question:

Which word best describes what you feel when you hear the word science?*

Public audiences

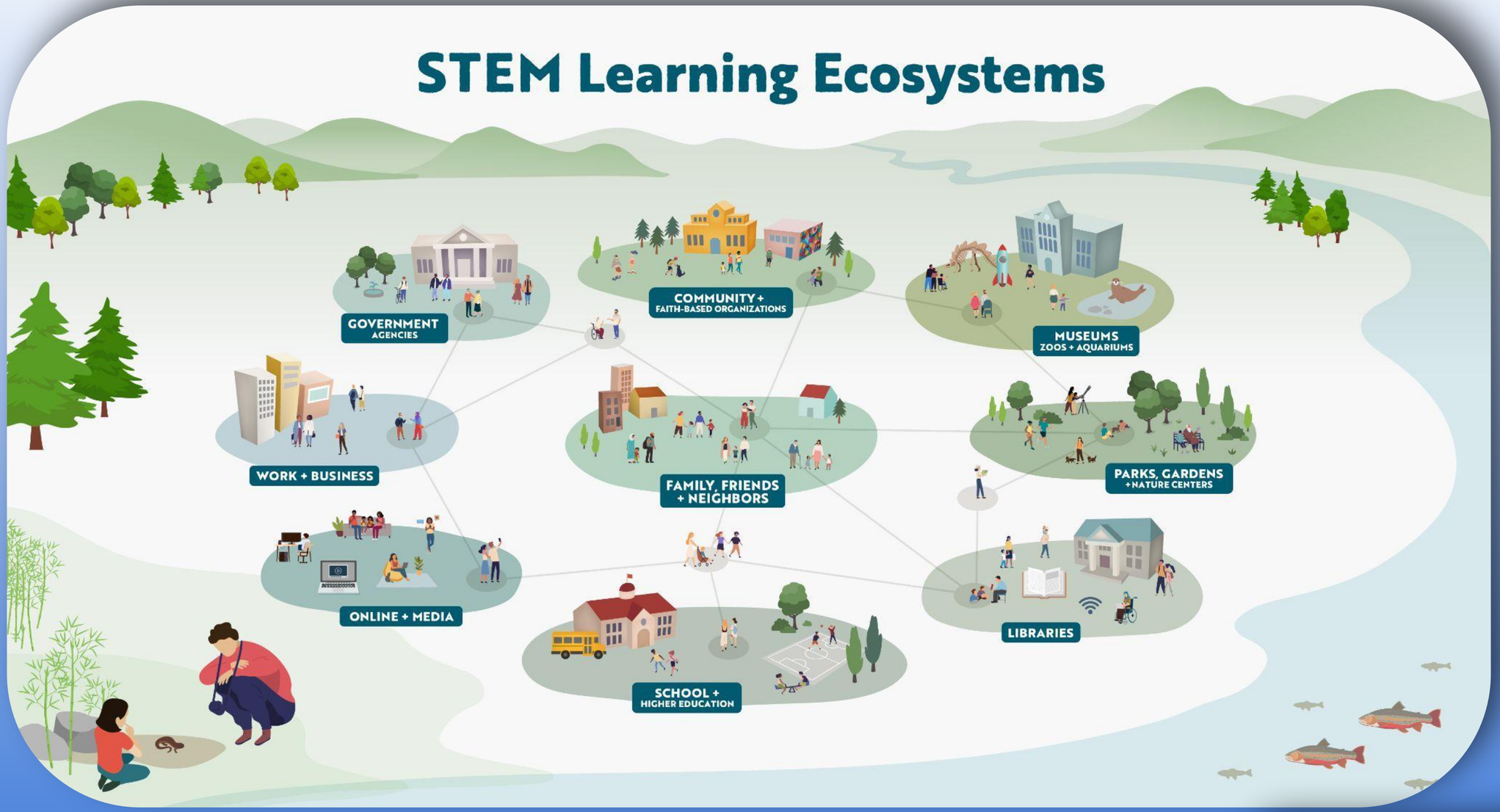
Hope

Scientists

Joy

*For adult audiences only. Volpe, C. M. (2023)

You are Not Alone → Find a Partner



Working with STEM Experts:
A Guide for Educators in Museums and Other Informal Learning Settings

By Catherine McCarthy and Darrell Porcello

NISE NATIONAL INFORMAL STEM EDUCATION NETWORK

www.nisenet.org

https://www.nisenet.org/working-with-experts

Why This Guide Matters

Offers insight into how informal educators work with **STEM experts like you.**

Shows how you can get involved in **public engagement programs** at museums and similar venues.

Highlights opportunities to share your expertise in ways that are **meaningful and accessible.**

Consider Partner Motivation to Work with STEM Experts

Organizational

Fulfill mission and goals

Authenticity

Gain expert knowledge and perspectives

Staff & volunteer professional development

Community

Offer relevant STEM content

Be seen as a valuable part of the community

Be seen as a place for science and/or a convener for science policy topics

Strengthen relationships with local experts and institutions

Common Partner Activities for STEM Experts

- Hands-On Activities
- Talks and Presentations
- Science Cafés
- Forums
- Special Events
- Science Festivals
- Virtual Programs
- Brainstorming
- Mentoring
- Advisory Roles
- Liaison Roles

Start with existing hands-on activities or other programs with training materials!

Museums and other partners with trained educators will have materials that can help you start your journey into public engagement. Resist the urge to design you own experience on your first attempt. Collaborate!

Thank you, and contact me with any questions!

Dr. Darrell Porcello
porcello@gmail.com
https://www.linkedin.com/in/darrellporcello/

NISE NATIONAL INFORMAL STEM EDUCATION NETWORK

https://nisenet.org/
https://nisenet.org/brain

IONx INSTITUTE OF NEUROETHICS THINK AND DO TANK

https://instituteofneuroethics.org/

CHILDREN'S CREATIVITY MUSEUM

https://creativity.org/