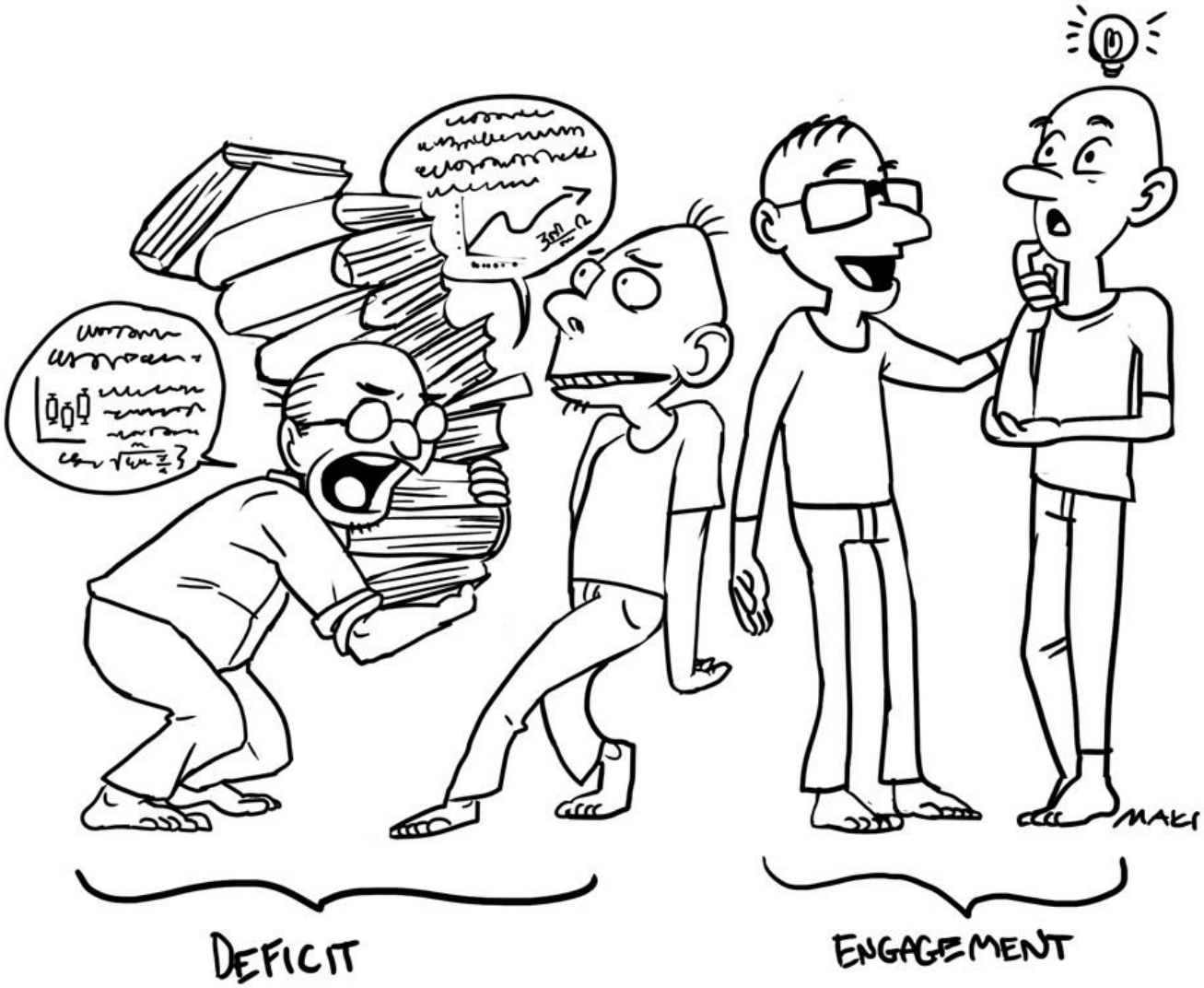
Effective STEM Communication

PRESENT YOUR PHD

8 NOVEMBER, 2018

Overview

- Present Your PhD: building outreach and strong communicators
- Why should you want to be a better science communicator?
- **Explain your work to 12-year-old worksheet**
- Mechanisms for science communication (**handout**)
- Creating an online presence
- Common misunderstandings about SciComm
- **Build a science communication plan worksheet**
- Discussion, questions


DEFICIT
ENGAGEMENT
MAKI

WHAT YOU THINK YOU SOUND LIKE.

WHAT YOU ACTUALLY SOUND LIKE.

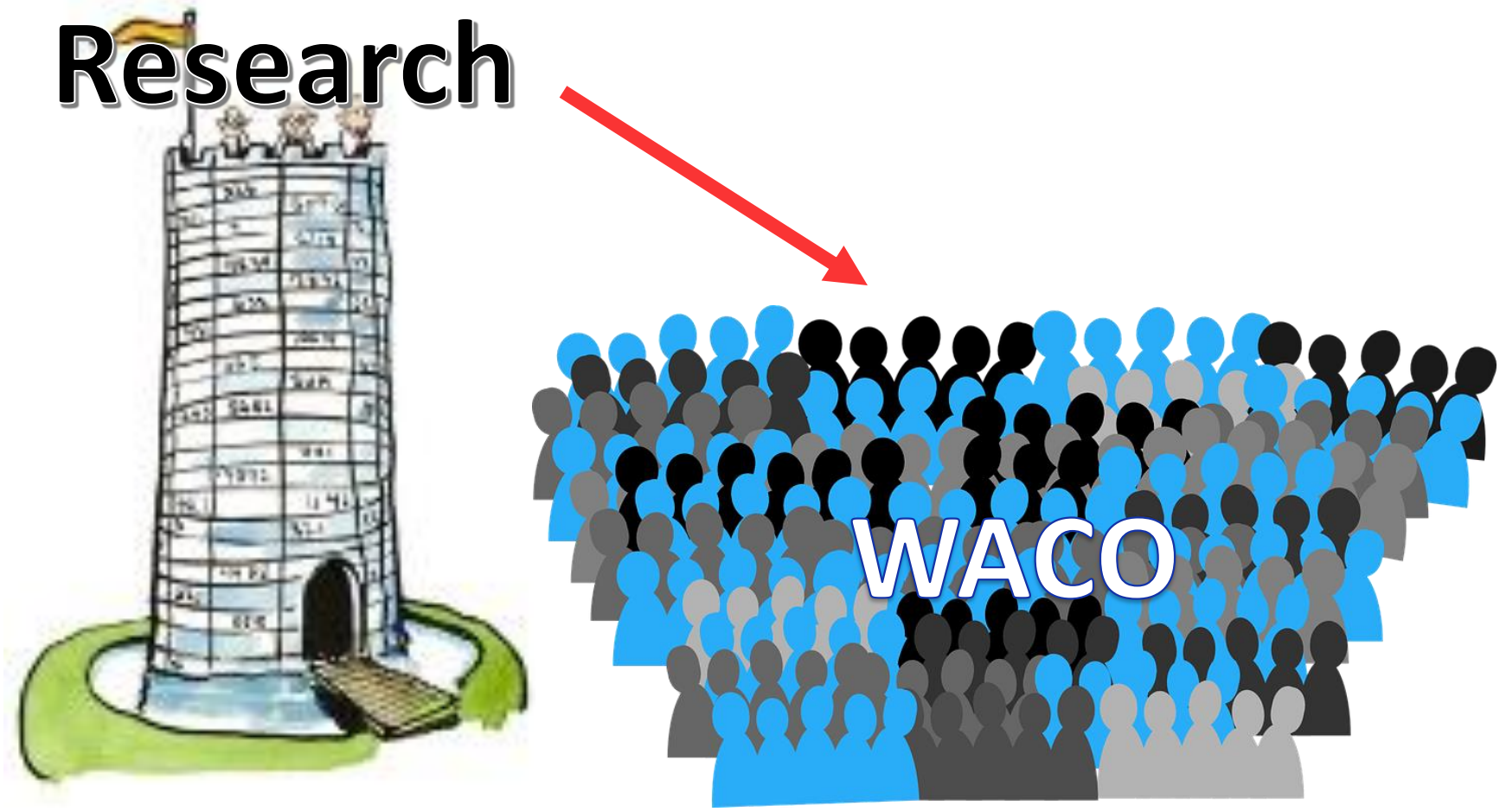
Sharing your Science in a Physical Space

From conferences to outreach and why it all matters

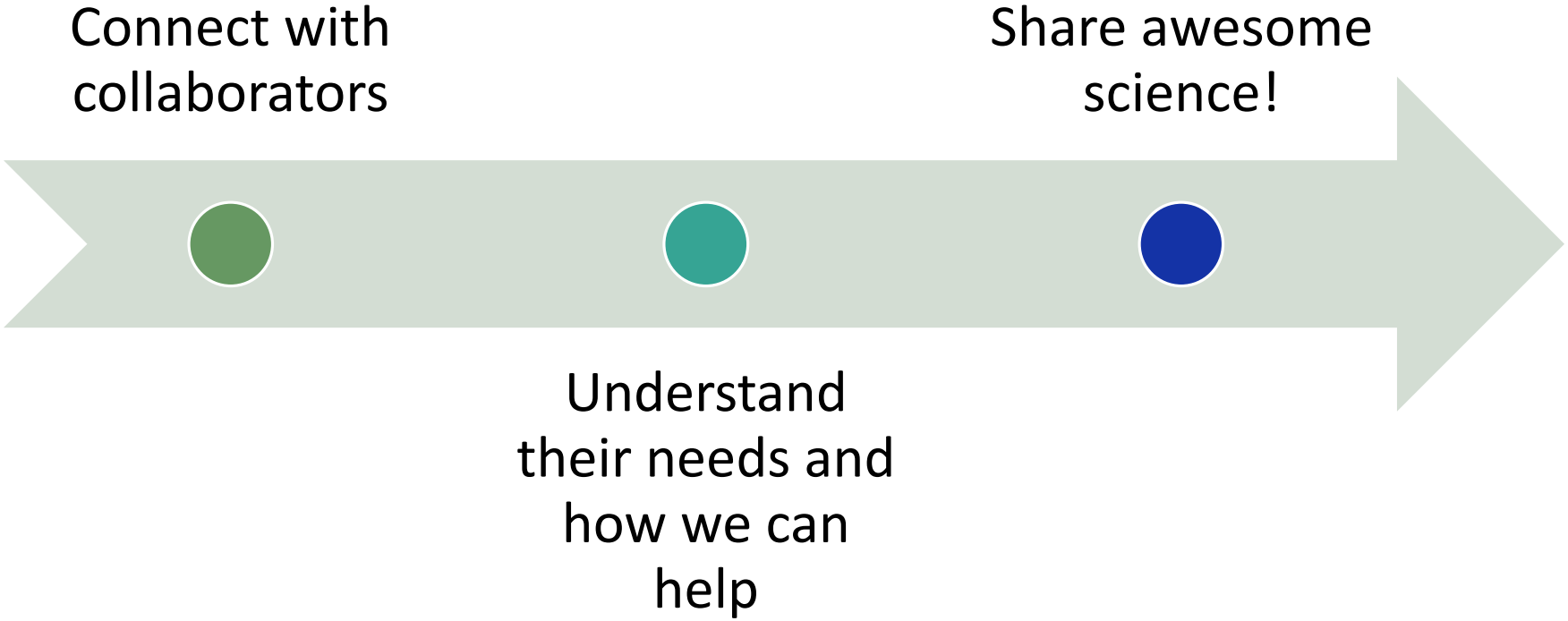
Who ~~What~~ is Present Your PhD?

- Graduate students
- Represent 6+ departments
- Passionate about sharing science
- Share a desire to make an impact in the community

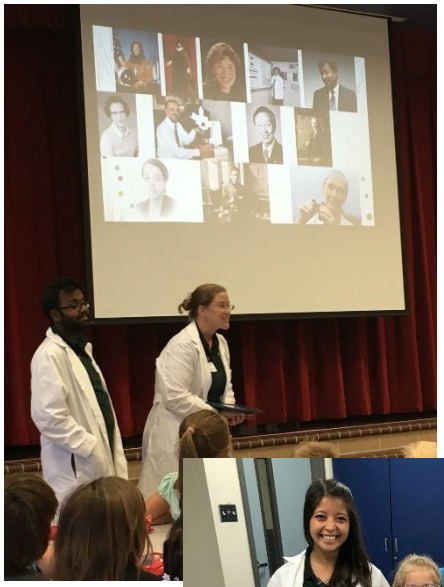
The Problem : Our Mission

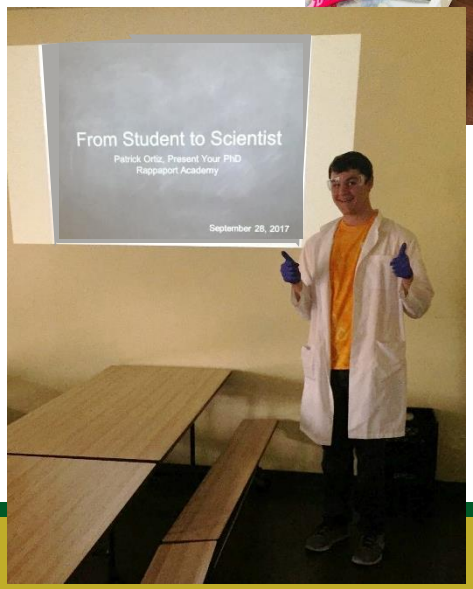


How do we do it?

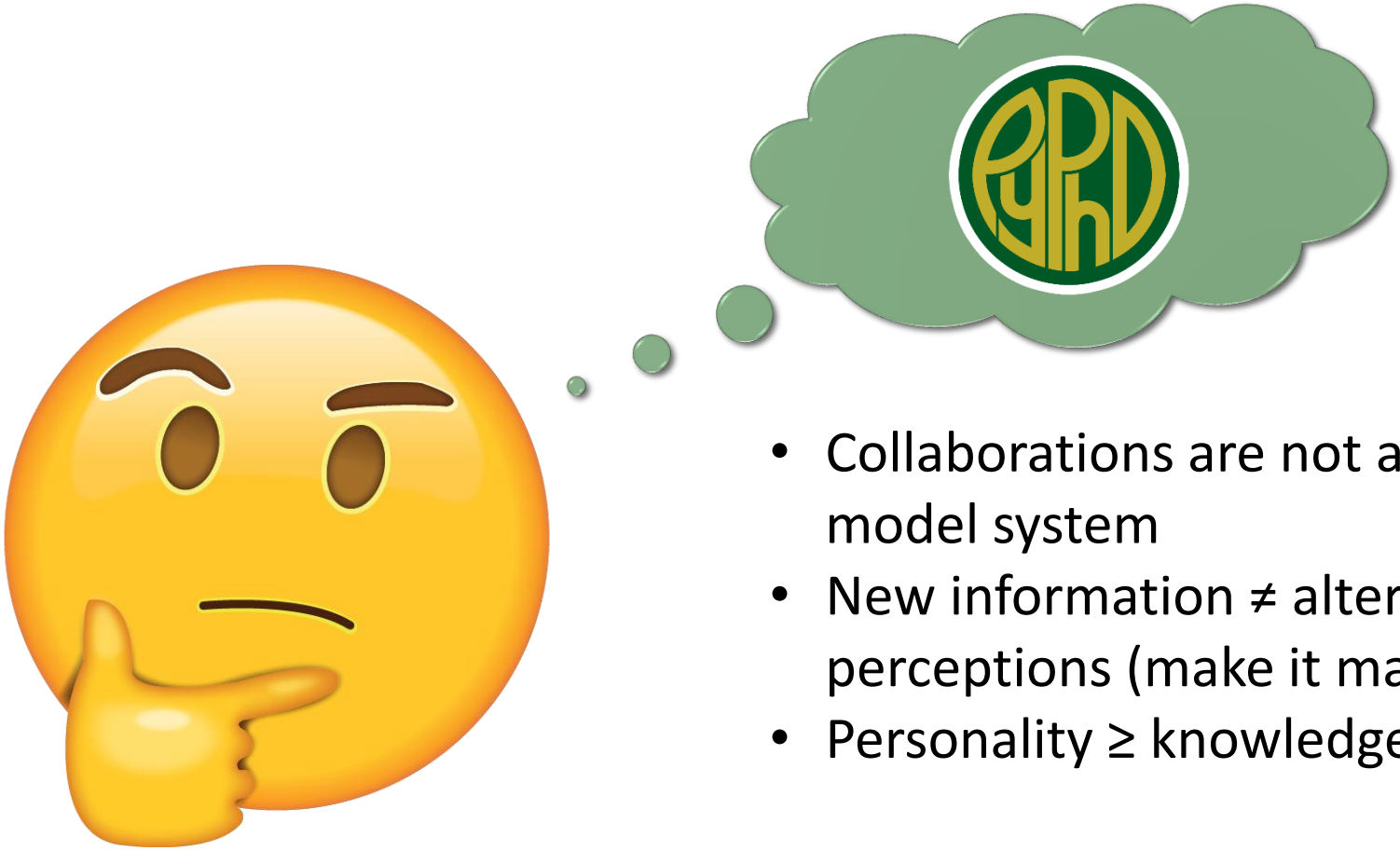


What is the outcome?



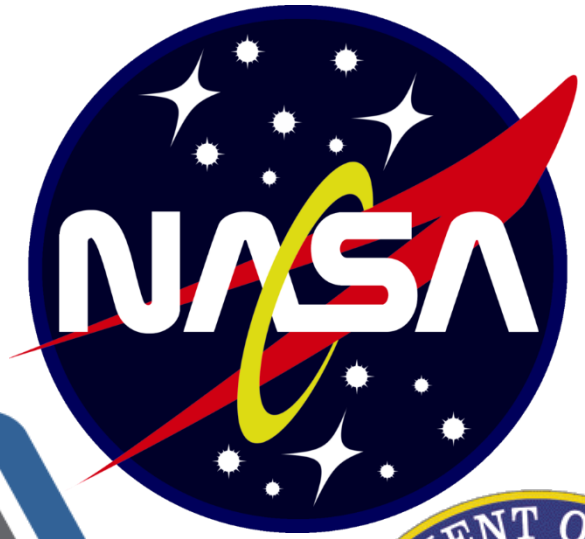


So, what have we learned?



- Collaborations are not a one-model system
- New information ≠ altered perceptions (make it matter!)
- Personality ≥ knowledge

Why should you want to be a better communicator?



National Institutes of Health

FUNDING

More reasons for SciComm

- Control the message!
  - Social media, bloggers, and journalists that you may not know are discussing your work with varying levels of accuracy (Peters 2013, PNAS)
- Ensure there *is* a message
  - Nobody *has* to talk about your work. Imagine it falling on deaf ears– you could ensure that doesn't happen
- Talking about science ensures there is a future for science (Groffman, et. al., 2010, ESA)
  - Laws, regulations, public perception, impact on society, reducing skepticism
- Bridges gaps
  - Social, educational, economic, cultural
  - Between scientists
  - Within families

AND IT'S FUN

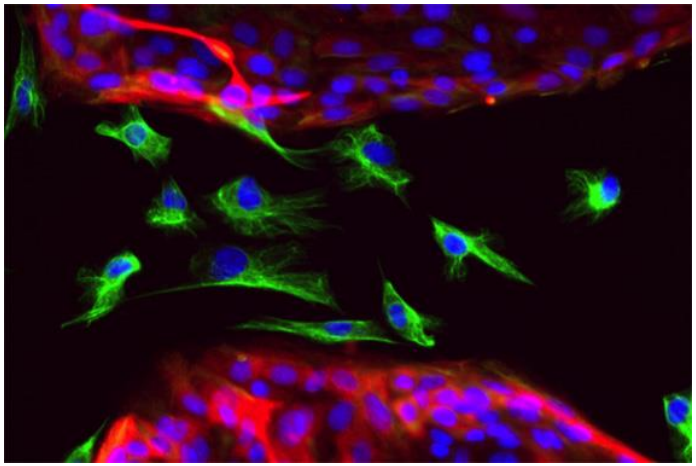
From ACS Axial, Scientific American, Harvard University SITN

Communicating Science to Young Learners

1 way to do it in 2 minutes or less

Increasing chemosensitivity: microRNA-203 and Ophiobolin A selectively target triple negative breast cancer stem-like cells

Define the key concept you want to convey



Cancer stem cells

- Why do we care?
- Analogy for understanding
- Why are they cool?
- How do I study it?

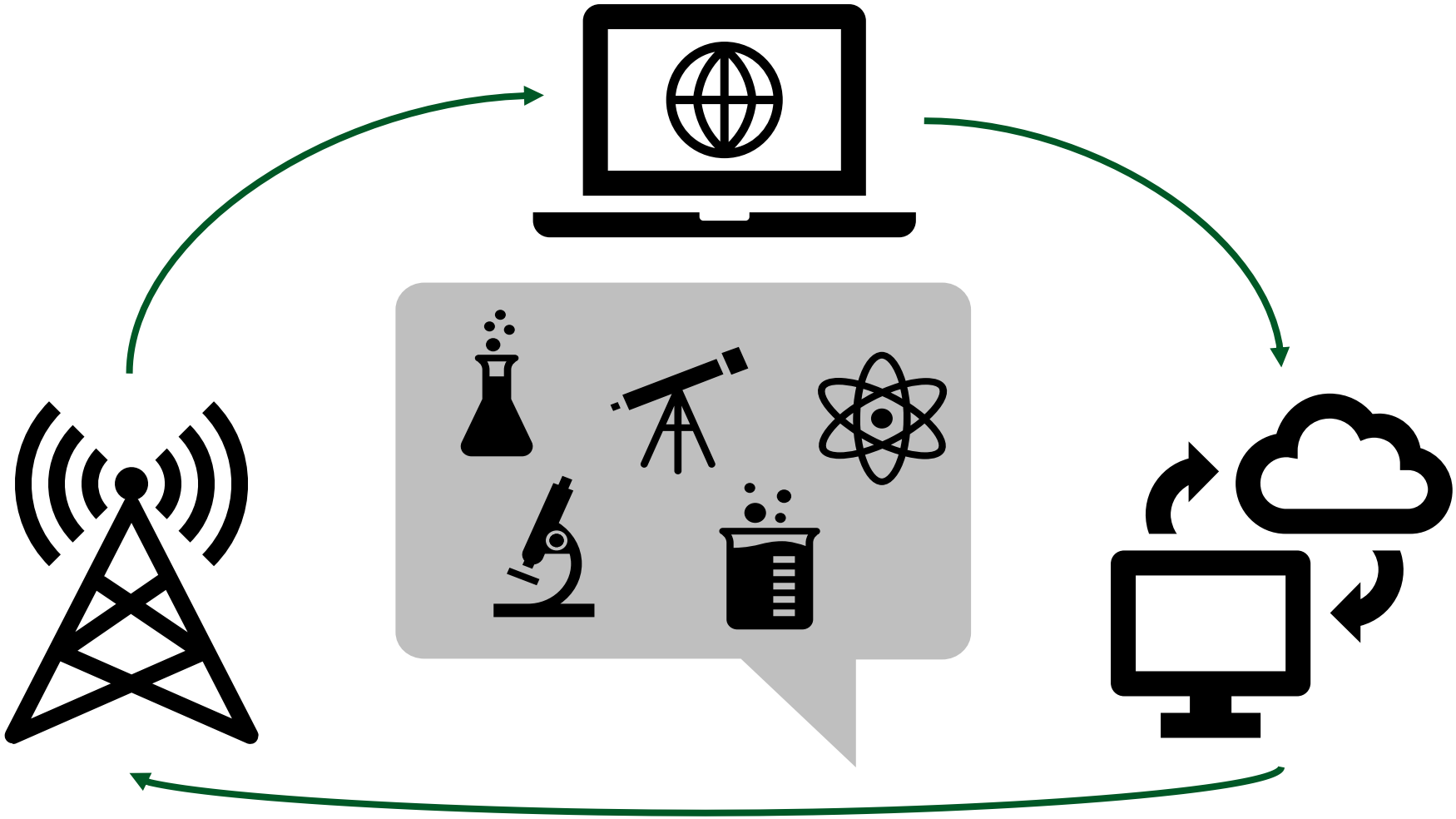
Share your research with 6th graders:

1. What is ONE thing about your research that you would want the young people of the world to know?

2. How will you simplify this for a 12-year-old audience? *Remember, focus on the big picture.* How will you excite them?

3. What are some fun (and realistic) activities you could incorporate?

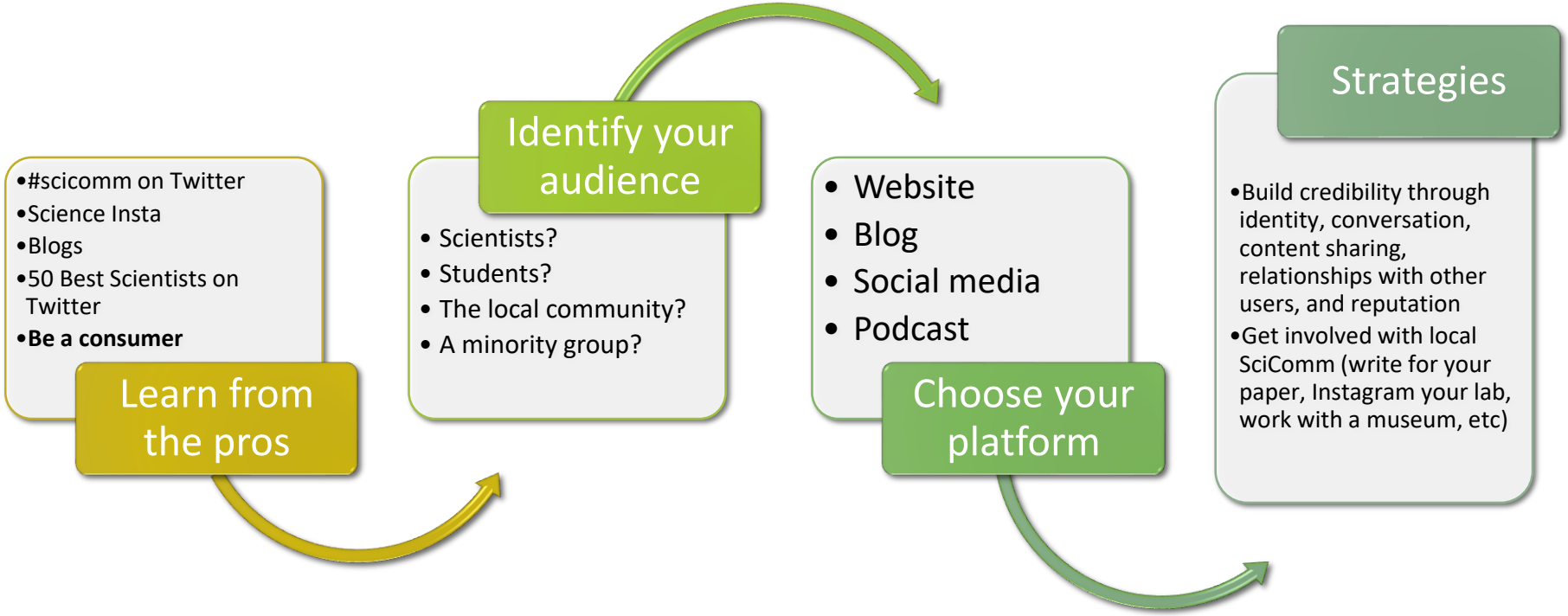
Now it's time to put this into action! Below, plan out 2-3 minutes where you teach something specifically from your research with a target audience of 6th graders. After 5 minutes of planning, pair up and present to each other!



Sharing Science in a Non-Physical Space

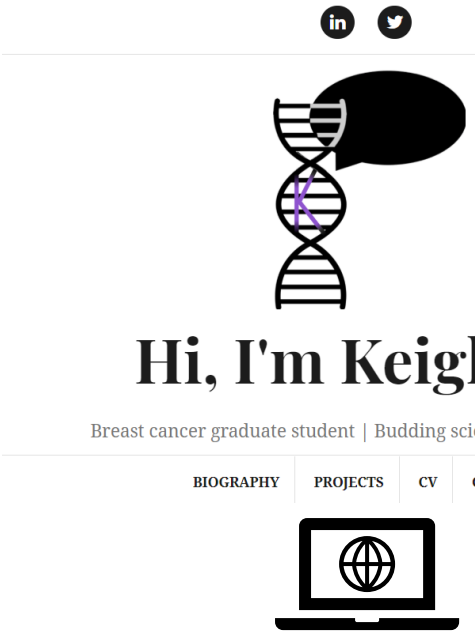
How, where, and why to build an online presence

Starting Online SciComm

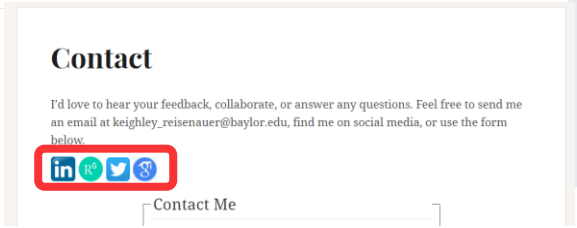


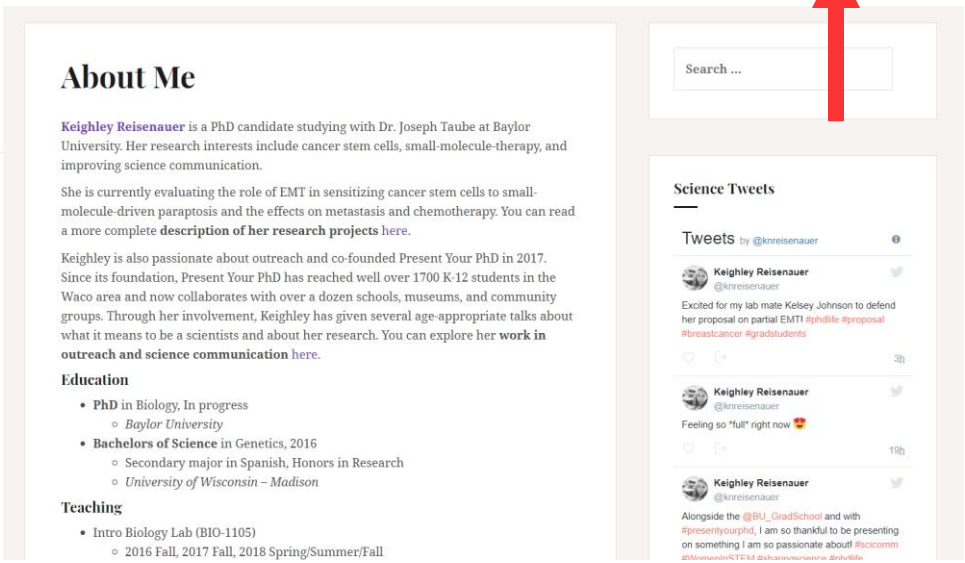
From "From the Lab Bench", AAAS

One Example



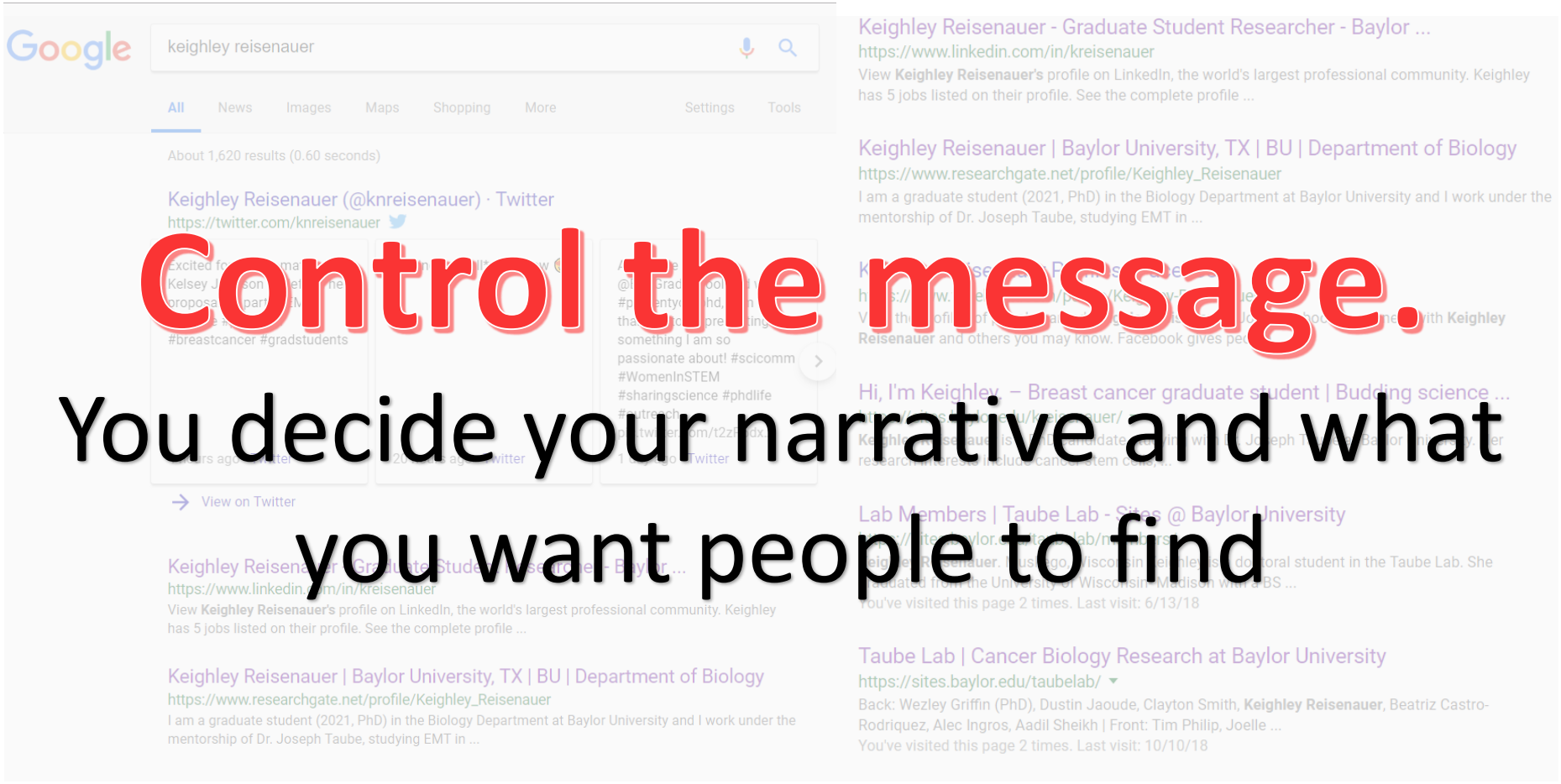
https://sites.baylor.edu/kreisenauer/





Who is my audience?
> Scientists and the general public

The Goal?



Control the message.

You decide your narrative and what you want people to find

Others?

Misconceptions in SciComm

Myth	Truth
Science is “too complicated” for the pubic to understand	“Giving [the audience] reason to care, process, and understand is precisely the point” (Bogost, 2018, The Atlantic)
Some results are too ‘sensitive’ to be spoken and explained out in the public	Effective science communication can straddle intellectual property/ financial necessity and public education
Scientists have too much on their plate already	True. *But*, there is no one way to do scicomm. It is varied and flexible.
It is not the scientists’ ‘job’ to communicate to the public	All scientists are dwarves standing on the shoulders of giants. It is our moral and ethical responsibility to share.
It is “demeaning” to discuss science in social media	Science does not exist in a vacuum and there is nothing demeaning about using a tool that makes it easy to reach out to a potentially large audience

From Muralidhar, 2017 The Wire

DEVOLOPING A SCICOMM STRATEGY

Audience types:

Think about who you want to know about your science. Are you only interested in sharing with other academics? Inside or out of your field of research? Do you want to reach your local community? An online community? In defining your target audience, you should consider key elements such as demographics, audience interests and needs, and how those are being addressed currently.

SWOT Analysis:

You can use a SWOT analysis by completing the boxes below to assess your SciComm plan in the current environment in terms of strengths and weaknesses (internal) and opportunities and threats (external).

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