



Why and How to Communicate your Science

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About

Maddie (@OKeefeMadeleine | @UW_WIPAC, @UW_IceCube)

- Boston University, B.A. in Astronomy, M.S. in Science Journalism
- Internships at CERN and Argonne National Laboratory
- Freelance writing for *Symmetry Magazine* and *Ars Technica*
- Current role: Communications specialist for the Wisconsin IceCube Particle Astrophysics Center / IceCube Neutrino Observatory

Sarah (@perdue366 | @UWMadPhysics)

- UW–Madison, B.S., Biochemistry
- Cornell University, Ph.D., Microbiology
- AAAS Mass Media Science and Engineering Fellow 2010, SciComm internships throughout grad school and postdoc
- Current role: Director of Communications for UW–Madison Department of Physics

Why communicate science?

- Raise awareness for your area of research
- Support for your work (federal funding, etc.)
- To have a voice
- For informal peer review
- Inspire the next generation of scientists
- Get your work into the hands of a journalist



Jason Sheltzer
@JSheltzer

Replies to @JSheltzer

71% of interviewees for life science faculty positions have a Twitter account.

12:16 PM · Aug 11, 2020 · Twitter Web App

<https://twitter.com/JSheltzer/status/1293234892063506433?s=20>

There are many ways to do it!

Writing

News articles (magazines, online news, etc.)

Twitter threads

Blog posts

Visualization

Graphic design/infographics

Producing video for YouTube, Instagram, etc.

Illustration

Smartphone apps

Speaking

Public outreach talks or webinars

Outreach events at museums, etc.

Podcasts

Think about how to use your hobbies!

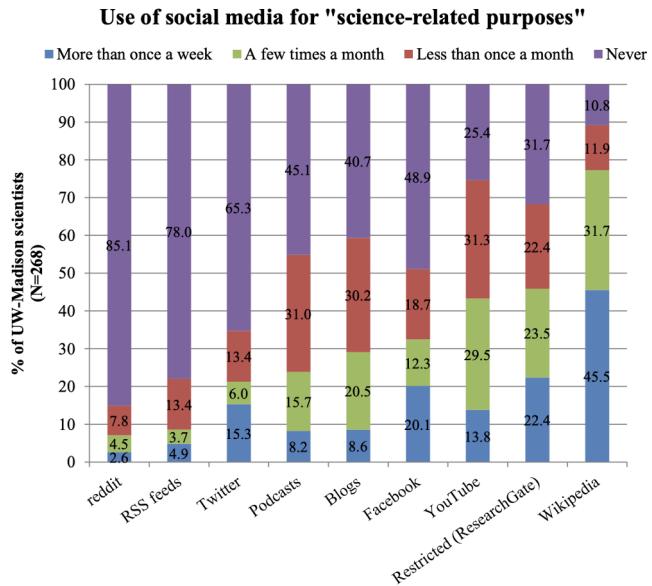
Where?

Social media

- Where do people get their news?
Landscape is changing.
 - Social media skews younger, traditional news skews older.

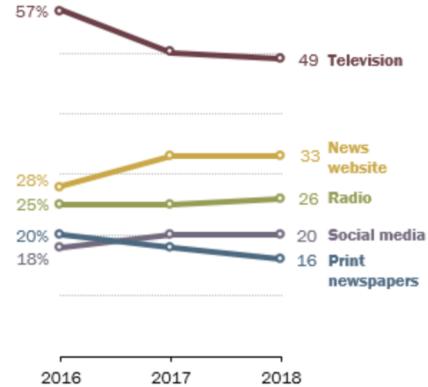
News releases

- One of the best ways—if not the best way—to have a science journalist cover your research!
 - UW sends out some press releases to a listserve of science and local journalists.



More Americans get news often from social media than print newspapers

% of U.S. adults who get news often on each platform



Note: The difference between social media and print newspapers in 2017 was not statistically significant.

Source: Survey conducted July 30-Aug. 12, 2018.

PEW RESEARCH CENTER

How?

- Identify your audience and tailor it to that level.
 - Consider...
 - Level of expertise.
 - Example: For a general audience, think about how you explain your research to your parents or grandparents (unless, of course, they are also physicists).
 - Preconceived beliefs or misconceptions.
 - Your format (time, space, medium, etc.)
- Make it accessible and compelling!
 - Think about your vocabulary (generally, avoid jargon).
 - Use analogies!
 - If you aren't already using a visual medium, consider adding visual aids (videos, illustrations, animations, photos, etc.)

Some resources

- [Writing About Science for Nonscientists – inChemistry](#)
- [9 Tips For Communicating Science To People Who Are Not Scientists – Forbes](#)
- Dr. Anna Funk's blog: [The \(Important\) Difference Between SciComm and Science Journalism](#) and [So You Want to Be a Science Writer \(For Science Grad Students\)](#)
- [Lifeology.io](#) (website for science communication through art)
- [Writing in the Sciences \(Stanford\) – Coursera](#) (disclaimer: have not tried this)

UW Resources

- SciComm Club
- Take an LSC course for grad student scientists <https://lsc.wisc.edu/academic-programs/non-degree-graduate-students/>
- Write something for the department!

AAAS Mass Media Fellowship — Apply by Jan 1

- Get paid to write about science
- Physicists are in high demand
- Roughly half of alumni are not in a scicomm field, many stayed in research, are PIs, etc

 AAAS Mass Media Fellowship @AAASMassMedia · Oct 1

Are you a science student or postdoc interested in #scicomm and journalism? You can try science journalism out in a newsroom next summer as a @aaas #MassMediaFellow. Applications are now open for 2021. Learn more and apply by January 1st here: aaas.org/fellowships/ma...

Put yourself in the picture

Apply to be a 2021 AAAS Mass Media Fellow today!

massmediafellowship.aaas.org



AAAS | Mass Media Science & Engineering Fellowship

Class of 2020

You should SciComm...but how?

Some activities for the day

1. Write 1-2 sentences explaining your research to an audience of your peers
2. Create an analogy
3. Now, write 1-2 sentences explaining your research so that Sarah (who has never made it past Physics 207/208) can understand it.

Bonus: Can you do it using the 1000 most common words in the English language? <https://go.wisc.edu/7x10zi>

Example: Sarah's thesis 😂

1. During transcription in *E. coli*, a sigma factor-directed RNAP binds promoter DNA, the transcription bubble melts, and the complex either collapses back to the start or escapes the promoter into productive transcription. In early elongation, RNAP may encounter a repeat of the promoter element, inducing a promoter-proximal pause due to the sigma factor re-engaging DNA. The thermodynamic strength of the RNA-DNA hybrid directly relates to the percent capture and duration of the pause event.
2. Analogy: Driving a car. First the car has to be turned on, then it may pause at stop or yield signs on the residential roads, but eventually it is on the highway where it can cruise.
3. Rewrite: In order to survive, all living things must follow the instructions written in their cells. One machine that the cell uses is RNAP. Like a person trying to drive a car from home to work, RNAP may not turn on at first, it may need to run back home because it forgot to grab its lunch from the fridge, and it certainly better remember to stop at the stop signs. But once it gets on the highway, it's (usually) smooth sailing, keeping the cell alive and happy.

Optional homework: Write a news story

1. Hook us in (1-2 sentences) | **Lede**
2. Summarize the overall “big picture” (1-2 sentences) | **nut graf**
 - Assume no one reads past these two paragraphs
3. Set up the background
 - What was known before you started? What was an unknown that you help answer in your study?
4. Go into study specifics
 - What were your experiments and what did they allow you to conclude?
5. What are the conclusions
 - Expand on the big picture, note how you moved the needle
6. (optional) Where can this work lead or what do you plan to look into next?
If there were important limitations to the work, what are they?
 - AKA “I don’t want my colleagues to think I’m making too big a deal”

Some thoughts and tips on your homework

1. Can you fit your analogy (or a different analogy) into your story?
2. Does this story sound like a good elevator pitch to you? Maybe tweak it a little for conversational tone, find places you can make cuts or trim the language, and practice it for your elevator pitch
3. Does this story sound like a good Three Minute Thesis submission? Submit it there! (next year, looks like the deadline has passed for this year)
4. Write someone else's story! Rather than write your own, work with a partner, briefly interview each other, write a news story using this outline, and then get feedback from your interviewee



THANK YOU!

Questions?

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