

Science Communication Resources

Just a few examples to get you started!

- **Storytelling in Science**

- Guidance, context, and perspective:
 - [“Science Through Narrative: Engaging Broad Audiences” symposium volume](#)
 - A collection of open access papers written for broad audiences by a diverse group of scientists and artists
 - See also this blog piece about the symposium: [“Science and art find common ground: The importance of storytelling”](#) on the PLOS SciComm Blog
 - Webinars
 - [“Science Through Story” free webinar](#) sponsored by The Leakey Foundation
 - This 1-hour webinar offers a sample of Science Through Story® workshop content
 - [“Communicating Tropical Biology and Conservation to Broad Audiences”](#) free webinar hosted by The Association for Tropical Biology and Conservation
 - 2-hour webinar presented with cartoonist Rohan Chakravarty of [Green Humor](#) and documentary filmmaker Neil Losin of [Day’s Edge Productions](#)
 - Books by [Randy Olson](#)
 - [Don’t Be Such a Scientist](#)
 - [Connection: Hollywood Storytelling Meets Critical Thinking](#)
 - [Houston, We Have a Narrative](#)
 - Randy’s 10-week [Story Circles](#) training program is also excellent
 - [“How to Share Your Science Story”](#) – free webinar hosted by Spacetime Labs
 - [“Exploring the Role of Storytelling in Science”](#) and other episodes of the podcast [When Science Speaks](#)
 - [Scientists as Storytellers Guide](#) by 3M – a concise summary of essential advice, including tips from well-known communicators
- Helpful examples of stories that make science accessible:
 - Articles and books by [Elizabeth Kolbert](#)
 - Any articles or books by [Ed Yong](#) or [Carl Zimmer](#)
 - Books by [Mary Roach](#)
 - Books by [Siddhartha Mukherjee](#)
 - Articles in [Scientific American](#)
- Helpful examples of stories that humanize science:
 - [Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants](#), by Robin Wall Kimmerer
 - [If I Understood You, Would I Have This Look on My Face?](#), by Alan Alda

For more science storytelling resources: www.sciencethroughstory.org

- [Women in Science: 50 Fearless Pioneers Who Changed the World](#), by Rachel Ignatofsky
- [The Universe Within](#), by Neil Shubin
- Articles in [National Geographic Magazine](#)
- Films
 - Documentary
 - [Human Nature](#), a documentary about the potential positive and negative impacts of CRISPR gene editing technology
 - Films by [Day's Edge Productions](#)
 - Drama & Documentary combined
 - [Mars](#), a National Geographic Series that is part fictional story of the first colony on Mars, part documentary about what it would take to establish a colony on Mars. Also available on Netflix.
 - Drama
 - [Radioactive](#), a biopic of Marie Curie
- **Story Development**
 - [Pixar-in-a-Box Season 3: Storytelling](#), hosted by Khan Academy
 - Special Features of movies, especially Pixar films
 - ["Toy Story 3: Mistakes Made, Lessons Learned"](#)
 - Academy Award-Winning screenwriter Michael Arndt analyzes his own writing process in this animated webinar (including Pixar's original story reels), offering plenty of helpful tips that apply to long-form storytelling in any context
 - [Story: Substance, Structure, Style and the Principles of Screenwriting](#), by Robert McKee
 - [The Writer's Journey](#), by Christopher Vogler
 - Aristotle's [Poetics](#)
- **How Storytelling Affects the Brain**
 - Hasson et al. 2008. [Neurocinematics: The Neuroscience of Film](#). *Projections* 2(1):1-26.
 - ["Using Storytelling to Share Memories Across Brains,"](#) iBiology online seminar with Uri Hasson
 - [Greater Good Science Center](#) - Research center at the University of California, Berkeley
 - [Wired for Story](#), by Lisa Cron
 - [Thinking Fast and Slow](#), by Daniel Kahneman
 - [The Science of Science Communication](#) – publications and symposia from the National Academy of Sciences

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- **Storytelling in Scientific Writing (manuscripts and grants)**
 - [“Novelist Cormac McCarthy’s tips on how to write a great science paper”](#) – the famous author interviewed by *Nature*
 - [Writing Science](#), by Joshua Schimel
 - [The Art of Scientific Storytelling](#), by Rafael Luna

- **Visual Storytelling**
 - [“Can science be simple? Distilling complexity into engaging images”](#)
 - *PLOS SciComm Blog* article by Sara ElShafie and Maya Kostman, with iterations of a scientific figure by Maya Kostman
 - [“Science Through Visual Stories” free webinar](#) sponsored by The Leakey Foundation
 - This 1-hour webinar is a preview of Sara ElShafie’s approach
 - The following resources focus on filmmaking, but I find their content very helpful for any form of visual storytelling:
 - [Cinematic Storytelling](#) – an open online course available from Kadenze and California College of the Arts
 - [Pixar in a Box, Season 3: The Art of Storytelling](#)
 - Also check out [Season 4: The Art of Lighting](#), especially the section on color scripts!
 - [Directing the Story](#), by Francis Glebas
 - [Layout and Composition for Animation](#), by Ed Ghertner
 - Examples of visual science storytelling through comics:
 - [JKX Comics](#), founded by graduate students Jaye Gardiner, Khoa Tran, and Kelly Montgomery
 - [Green Humour](#), by Rohan Chakravarty
 - [When Fish Got Feet, When Bugs Were Big, & When Dinosaurs Dawned](#), by Hannah Bonner
 - [Interviews with invertebrates](#), by Sasha Seroy
 - [The Cartoon Guide to Biology](#), by Larry Gonick
 - [xkcd](#), by Randall Monroe
 - More helpful examples of visual science storytelling:
 - UC Museum of Paleontology infographics and educational resources on [Understanding Science](#) and [Understanding Global Change](#)
 - [Women in Science: 50 Fearless Pioneers Who Changed the World](#), by Rachel Ignotofsky
 - [Ultimate Mark](#) - illustrations, infographics, and sketch notes by Mark Simmons
 - [Beautiful Critters](#) - scientific illustration, graphic design, and animations by Bailee DesRocher
 - [Sketching Science](#) - illustrations, infographics, and comics by Ernesto Llamas
 - [Two Photon Art](#) - science zines (tiny magazines), as well as science-themed jewelry and apparel, by Christine Liu

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- [She Found Fossils](#) – great illustrated kids’ book about women in paleontology
 - [Daring to Dig](#) – another great illustrated kids’ book about women in paleontology
 - [Women in Science](#) – illustrated book about women in all kinds of scientific fields
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- **Data Visualization**
 - [The Visual Display of Quantitative Information](#), and other books by Edward Tufte
 - [Visual Strategies: A Practical Guide to Graphics for Scientists & Engineers](#), by Felice C. Frankel & Angela H. DePace
 - [Stamen Design](#), for lots of great examples of creative data visualization!
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- **Presentation Skills**
 - [Alda-Kavli Learning Center for Science Communication](#)
 - [Resonate, Slide:ology](#), and other books by Nancy Duarte
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- **General Science Communication Skills**
 - [Escape from the Ivory Tower](#), by Nancy Baron
 - [Am I Making Myself Clear?](#), by Cornelia Dean
 - [AAAS Center for Public Engagement with Science & Technology](#)
 - program of the American Association for the Advancement of Science
 - [Sharing Science](#) - program of the American Geophysical Union
 - [Up Goer Five](#) – helpful tool for simplifying jargon
 - [ScienceUpFirst](#) – how to respond to mis/disinformation
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- **Inclusive Science Communication**
 - Canfield K, Menezes S. 2020. [The State of Inclusive Science Communication: A Landscape Study](#). Kingston, RI.
 - [Inclusive SciComm Symposium](#) – papers, presentations, and other resources about the growing field of Inclusive Science Communication
 - Weissmann GS, Ibarra RA, Howland-Davis M, Lammey M V. 2019. [The multicontext path to redefining how we access and think about diversity, equity, and inclusion in STEM](#). J Geosci Educ 67:320–29.
 - [Inclusive Language Guide](#) from the National Assembly of State Arts Agencies
 - [Identity-First Language](#) – people have different preferences, and this is a helpful discussion around this issue
 - [How to Write Good Alt-Text](#) – tips for writing good descriptions of images for screen readers
 - [Live Captions in Microsoft Office](#) – guidance for enabling live captions in PowerPoint

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- Using Accessible Color Palettes
 - [Coloring for Colorblindness](#) – find color combinations that will be accessible to different types of color deficiency
 - [Color Brewer](#) – color advice for cartography (maps)
- **Online Media Resources**
 - Video
 - [Untamed Science](#) - Educational biology videos, plus YouTube tutorials on how to make science videos
 - Live Video Classrooms
 - [Exploring by the Seat of your Pants](#)
 - [Skype a Scientist](#)
 - Twitter
 - @Real Scientists - <https://twitter.com/realscientists>
 - @iamscicomm - <https://twitter.com/iamscicomm>
 - @SciParty - <https://twitter.com/SciParty>
 - Instagram
 - [How we use Instagram to communicate microbiology to the public](#) by graduate students Hunter Hines and Sally Warring
 - YouTube
 - Helpful examples of science-themed YouTube Channels
 - [The Fab Lab](#) with “Crazy Aunt Lindsey”
 - [The Brain Scoop](#) with Emilie Graslie
 - [Deep Look](#) from NPR’s KQED Station with Laura Klivans
 - [The Biota Project](#) led by a team of grad students
 - [Veritasium](#) with Derek Muller
 - [SciQ](#) with Jayde Lovell
 - [It’s Okay to be Smart](#) with Joe Hansen
 - [Physics Girl](#) with Dianna Cowern
 - [Smarter Every Day](#) with Destin Sandlin
 - Tips:
 - [YouTube Your Science](#) by Adrian Smith
 - Podcasts
 - [The Story Collider](#)
 - This [short interview](#) with Executive Director [Liz Neely](#) is a great place to start
 - [RadioLab](#) with Jad Abumrad
 - [OLOGIES](#) with Alie Ward
 - [Talk Nerdy](#) with Cara Santa Maria
- **Science Communication Workshops**
 - [Alan Alda Center for Communicating Science](#)
 - Workshops, webinars, short courses and boot camp, lengths vary; currently offering online webinars and courses

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- [Story Circles](#) with Randy Olson
 - Intensive science story training program that runs 10 weeks, 1 hour per week, now offered online
- [The Story Collider](#) – Workshops on crafting personal stories about science; lengths vary
- [Sharing Science](#) – Topics and lengths vary

- **Science Communication Conferences**
 - [Science Talk](#)
 - Held in Portland, Oregon, USA, usually in March

 - [ComSciCon](#)
 - Conference for grad students by grad students. Apply for the national conference, or for a regional conference near you (If you get into the national conference, all expenses are covered!)

- **Science Communication Award Programs**
 - [AAAS Early Career Award for Public Engagement with Science](#)

- **Graduate Degree Programs in Science Communication**
 - [Ohio State University](#) – Science and Environmental Communication Certificate program open to any current Ohio State undergraduate students
 - [UC Santa Cruz](#) – 1-year Masters program in Science Writing
 - [MIT](#) – 1-year Master’s program in Science Writing
 - [Johns Hopkins](#) – flexible Masters program in Science Writing that can be completed in person or online
 - [Australian National University](#) - 2-year Master of Science Communication program
 - The University of Wisconsin, Madison, offers a [PhD in Mass Communications](#) with their Department of Life Sciences Communication, as well as a [PhD minor in Life Sciences Communication](#) for graduate students in STEM fields.
 - [AAAS Mass Media Science Fellowship](#) – paid postdoc fellowship through the American Association for the Advancement of Science