

What is “scientific integrity”?

The [Environmental Protection Agency](#)¹ defines scientific integrity as “adherence to professional values and practices, when conducting and applying the results of science and scholarship. It ensures: Objectivity, Clarity, Reproducibility, and Utility. Scientific Integrity is important because it provides insulation from: Bias, Fabrication, Falsification, Plagiarism, Outside interference, Censorship, Inadequate procedural and information security.” *“Science is the backbone of EPA’s decision-making.”*

If you think of scientific integrity as the foundation that entities use to make decisions, there’s no reason why it can’t figure into your beat.

You can do this nationally:

- [U.S. military replacing toxic firefighting foam with toxic firefighting foam](#) (2018)
- [WHO cancer agency “left out key findings” in benzene review](#) (2018)
- [EPA pollution estimates are unreliable. Why is everyone still using them?](#) (2018)
- [Official Toll in Puerto Rico: 64. Actual Deaths May Be 1,052](#) (2017)

But also locally and regionally:

- [Maine battles tick explosion as state officials ignore climate change](#) (2018)
- [Scientists say Trump’s border wall would devastate wildlife habitat](#) (2018)
- [One-Stop Science Shop Has Become a Favorite of Industry—and Texas](#) (2014)
- [John Hopkins medical unit rarely finds black lung](#) (2013)

Don’t forget about the private sector:

- [The Teflon Toxin](#) (ongoing)
- [Science for Sale](#) (2016)
- [Exxon: The Road Not Taken](#) (2015)
- [Documents Reveal Secret Finances of Pro-Industry Science Group](#) (2013)

Tips & tricks:

- Whenever you see something suspicious or weird on a website, take screenshots, or use the [Wayback Machine](#)² to archive pages. Federal and state agency sites change constantly during/after disasters, and it can be helpful to have a historic archive of their data/news releases.
- Get the raw data. If you’re writing about a public agency, FOIA for the original data points behind the report, study, map, etc. If you’re writing about a private institution, reach out to that institution to get info about their methodology/sources. In some instances, data might be considered proprietary/confidential and it could be worth noting who does/doesn’t have access to that data.
- If you’re not sure whether a study/a scientist has done something that violates scientific integrity, or falls into a gray area, talk to other scientists in the field—preferably scientists who’ve never worked with the person you’re writing about.

¹ <https://www.epa.gov/osa/basic-information-about-scientific-integrity>

² <https://archive.org/web>

- Universities, scientific publications and government research agencies should have their ethics/codes of conduct/rules of scientific integrity and/or conflicts of interest disclosure rules published. Look these up, or FOIA for them.
- If you're writing about a technical topic and the story hinges on the quality of the science itself, try to find a guide. This could be a scientist who's never quoted or mentioned in the story, but acts as a scientific sounding board. Some scientists may not want to be involved in the story itself, but they can still be valuable in helping you understand the data.
- Backgrounding an individual can help frame their approach to research and shed light on which entities they've been connected to.
 - Start off with their body of work. If they publish academic papers, are they disclosing conflicts of interest? Are the papers peer reviewed? Who cites/shares their work? Any retractions, corrections or rebuttals?
 - Wayback machine and [advanced Google searches](#)³ can help you comb through their past funding/relationships. General clip searches will to give you a sense of how they're viewed within their field, authority, etc.
 - If they've worked in government, check any [financial disclosures](#)⁴ filed with the U.S. Senate or House. See if they've testified in Congress before. Ask if they've been involved in court cases as expert witnesses or consultants.
 - See if they're connected to business entities by checking websites like [CitizenAudit](#)⁵ (requires subscription), which is a text-searchable database of IRS tax-exempt filings, and [OpenCorporates](#)⁶, a general biz database. This can be done in conjunction with general public records searches on Nexis, Westlaw, etc.

³ https://www.google.com/advanced_search

⁴ <https://extapps2.oge.gov/201/Presiden.nsf/PAS%20Index?OpenView>

⁵ <https://www.citizenaudit.org/>

⁶ <https://opencorporates.com/>