What is “scientific integrity”?
The Environmental Protection Agency 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 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.

References:
1 https://www.epa.gov/osa/basic-information-about-scientific-integrity
2 https://archive.org/web

Any questions? Reach Jie Jenny Zou at jzou@publicintegrity.org or on twitter @jiejennyzou
Panelists: Lisa Song, Sharon Lerner, Francesca Grifo
• 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 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 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 (requires subscription), which is a text-searchable database of IRS tax-exempt filings, and OpenCorporates, a general biz database. This can be done in conjunction with general public records searches on Nexis, Westlaw, etc.

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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/

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