

ACS AMA: Hi Reddit! I am Sam Lemonick, a freelance science journalist. Ask me anything about writing about science!

AmerChemSocietyAMA ¹ and r/Science AMAs¹

¹Affiliation not available

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Most of the scientists I know feel like the reporting is sensationalist to the point of absurdity, or misinformation. What is done in the field to prevent clickbait science from being written?

[PhotonicMagnets](#)

Lots of people asking questions along these lines. I'm answering this one but I'll mix in responses to some of the other ones I'm seeing.

I think most of the science journalists I know feel the same way, which makes you wonder where all these sensationalist articles are coming from. What I do to prevent clickbait is to try to be very careful. That means reading any new research study or paper deeply, talking to as many people with different (reasonable) views as I reasonably can, and being open with readers about the limits of a new finding or evidence to the contrary. And I try to include some historical perspective. If there's a potential new drug being developed, I try to explain how many promising drugs failed well before they got to market. The editors I know and work with expect the same, and they don't tolerate hype. I've had a story rejected because an editor thought it was too close to sensationalism.

All that said, I recognize (and my editors recognize) that "10 Amazing Molecules You Never Heard Of" is a successful model for journalism right now. And successful journalism has always been about capturing readers' attention. So I don't want to shoot myself in the foot by headlining all my stories "A Potentially Important Finding That May One Day Result In Something That Possible Has Some Benefit To You Or Someone You Know," even if part of me would like to. There's a huge profit incentive to draw clicks with misleading headlines or even misleading articles. I don't know how (or if) we can stop that.

One thing we all can do is to read and share (and pay for) good science journalism, and help explain to our friends why sensational coverage is bad.

There's another part of this, that's harder to grapple with. Science is a messy process. Readers get frustrated when one article says coffee will kill you, and another that it will let you live to 100. If science journalists are going to cover news in their field, they'll probably end up covering studies that seem to be at odds. So I think we need to help readers understand why that can happen. That means including context in stories to explain that there are conflicting data on a given subject, or just mentioning that it can take a while to reach consensus.

There's also a place in science journalism for broader perspectives on trends in a field. But any given outlet can only print something like that once every few years on a specific topic, if that. If the magazine or website is covering news, they'll almost certainly have to find ways to deal with conflicting information.

What would your advice be to someone who is interested in going into science journalism? How did you go about entering the field yourself? Would you still recommend people pursue a science journalism career given the journalism industry has been in steep decline for awhile?

[stathicus](#)

I'm doing these out of order. I got into the field when I realized I should do both the things I loved doing, science and writing. As an undergrad I only thought about doing one or the other. After graduating college I took a year off to work on applications to chemistry PhD programs, but in that time I realized I was ready to be done with school.

When I started writing I was actually trying to be a teacher; I was subbing in some schools to get a feel for it and get my foot in the door. I had some free time though, and I missed science and I missed writing. I'm lucky that my uncle, Michael Lemonick, is a science writer, so I had some idea that person could do that.

I started off by going through my college's alumni directory and calling up all the science writers I could find. One of them, Helen Fields, forwarded me an email looking for interns for a blog about women in science, Under the Microscope. I also found an old ad looking for summer interns at Earth Magazine. It was September by then, but I emailed the editor and she was willing to let me write for free. Once I had a few clips from those places, it got easier to get work elsewhere. For the first few years I was still subbing, and I worked in a bar for a while too at the beginning. Now I'm freelancing full-time.

I didn't go to journalism school or do any formal science writing training. If you want to be a science writer, those are good places to start. I know there's some debate out there about whether or not those programs are worth it. In my career, I've decided it made more sense to keep working than to take time off and spend the money to go back to school. But I also see people younger than me who've just come out of a science writing program and they know as much or more about it than I do.

Should someone pursue a career in science journalism? I don't know. It's not easy. There aren't that many jobs available. Freelancing is hard work and the pay isn't great. I've been able to make it work, thanks in part to having a spouse who works a real job. I wouldn't want to do anything else. But there's no question that you're choosing a tough row to hoe if you go into science journalism right now. If you have a science degree, there are definitely more stable and more lucrative options.

Is there any (legal) consequence that you may have to face if you were to write wrong or misleading articles?

[Evanedyr](#)

A lawyer could answer this question better, but in general, in the US, journalists have a lot of legal protections. Even for writing things that are wrong and misleading.

There are, of course, some professional consequences for journalists who write wrong or misleading articles. Journalists get fired for plagiarism or for making up quotes. Jonah Lehrer, who wrote about human behavior, is one big example in the science writing world. His made up Bob Dylan quotes were what brought him down. Lehrer's also a poster child for another problem: he just had a book out last year, the start of what will probably be a lucrative rehabilitation and come back.

First of all thank you for your contribution !

Some questions :

- 1) Is it a stable profession ? (in term of volume of activity, money income etc)
- 2) Is it possible for a pure scientist to be accepted by medias that you know as a science journalist ? Or is a specific degree needed ?
- 3) Beside your domain is it easier/harder for certain science domains ? (for example in Astrophysics make metaphors can be easy i guess)

[StellarNear](#)

Stable is a hard thing to define. I'm making it work, I'll say that. I have plenty of work. More money would be nice. I choose to be a freelancer for the freedoms it affords, like traveling and not wearing pants. In exchange, I hustle for work and don't make much. That's a tradeoff I'm willing to accept, at least right now.

It's definitely possible for a pure scientist to work as a science writer or journalist. Some of the very best that I know came from science backgrounds (dropping out of a PhD program is a popular route). They have to be able to write, of course. Some scientists decide to get a journalism degree. Others don't. And other scientists write without being pure journalists. There are some very knowledgeable and excellent bloggers who are or were professional scientists. I think they play a critical role in science communication.

Yeah, some fields I think are definitely easier than others, at least in some respects. Space is the big one. Everyone loves space. And it's absolutely amazing. There's more demand for space writing than there is for chemistry writing. But chemistry has its advantages too. After all, everything is chemistry. So there's no shortage of topics to write on.

Thank you! I think quite a few scientists and science students don't know much about how science journalism works.

- How did you get started? Did you approach a magazine, saying "hey, here's an article about X, would you like to publish it?"
- How are the topics chosen? Do you get requests like "we need an article about this specific discovery/press conference/..."? Do you get to write one article about a topic of your choice per medium per x days?
- How long do you typically work on one article?

[SirWitzig](#)

You can see my response up top about how I got started in this career. But approaching a magazine with a topic is one way I get started on a new assignment.

When I pitch a story (that is, suggest to an editor that they pay me to write an article), I've already started doing the work of writing it. At base that's a few hours of research. For a more involved story, say a feature that will run a few thousand words, I've probably done a couple phone interviews as well. Then I write a pitch, usually about 10% the length of the article I want to write, outlining my ideas. The key is to show the editor why the topic is interesting to their readers, and demonstrate that I'm the one they should pay to do it. Sometimes it's an editor I've worked with before. In that case, my pitch might

be a bit less formal. When it's someone who doesn't know me, it's a little more like a cover letter. (If that's not what cover letters are supposed to be like, someone please let me know.) I often start by pitching to the biggest name I can think of, say Nature, and then work my way down to more likely outlets.

In those cases, I choose my own topics. That's true for most of the work I do these days. For something like Reactions, I'm one of a group of people who submit pitches into a pool of story ideas. Sometimes I'll end up writing a story I pitched, other times it's someone else's. And sometimes an editor will email me and ask if I can do a story for them on a given topic, like a new research paper.

How long I work varies widely. Some stories I do in a day, or even an afternoon if I can get all my sources on the phone easily. Other articles take weeks or months.

I'm skeptical of "freelance journalists" given how broadly that term is used these days. What makes a freelance journalist legit?

[zbplot](#)

Not much. I'm skeptical of them too. The outlets that publish us give us some credibility. My editors take some responsibility for my work. Otherwise, I'm only here on the quality of my work. And it's not always easy for readers to judge if a journalist is legit. You can decide if you like the writing or not, but you might not know if I'm being honest or not. Journalists help to police each other, and places like [r/science](#) help to process what's good and bad science writing too.

What was the most boring thing you had to cover and make interested. How did you do it?

[Danger1672](#)

I honestly have never had to cover something I thought was boring. I'm lucky. But I do think that making boring things interesting is kind of what I do. Most people don't don't give chemistry much thought in their daily life. If I can get them to think about it, or understand a chemical reaction they see every day (Looking at you, Maillard reaction), that's a success for me.

What do you do when you're not working as a Freelance science journalist?

[youcannneverbewhoiam](#)

Same stuff as regular people, I hope. It is my full time job. I just moved to California so I'm spending a lot of my free time exploring this part of the country: skiing, hiking, camping, etc. Right now I'm dog/housesitting for a friend so I'm enjoying their beautiful garden. When I'm done here I'll probably go take the dogs for a walk on the beach.

What have you found to be the hardest type of science to write about? Also have you ever received hate mail for an article/video you've done?

[AlopeLago](#)

I got my first hate mail recently, actually, after writing an article on curcumin, the supposed beneficial molecule in turmeric. Someone actually went to the trouble of writing an article debunking mine, although they didn't manage to spell my last name write.

I've also gotten some constructive criticism in comment sections. That's really nice, although it's not that fun when someone points out my mistakes. I did a story for Forbes about fallout from the Fukushima disaster, and I didn't acknowledge some of the earlier research on the subject. Readers pointed that out, and I corrected the story.

Who are your other favorite science journalists to read?

What is an idea you haven't been able to get your head around?

What are your thoughts on the effect of roving social gatherings on comps performance?

[balla033](#)

My very first favorite science journalist is Mary Roach. Looking back, her book *Stiff* got me interested in science writing as much as anything else. These days I'll almost always click on something by Carmen Drahl, Jeffrey Mervis, Derek Lowe, Deborah Blum, Ivan Oransky or Rose Eveleth. Some of them probably blur the definition. And that's an extremely, tragically, irresponsibly incomplete list.

Is it okay to say all of physics? That's not totally true, but seriously, physics is hard. Electricity in particular really gets me. If I went back and did my life over with science journalism as the goal, I'd have taken more physics classes. But I'd still be a chemistry writer. Another thing I can't get my head around is the word "floored." For some reason it means angry in my head. I have to talk myself through it every time.

I am extremely pro roving social gatherings, for any occasion.

Have you ever written or been interviewed for Radiolab?

Do you ever speak at colleges of science about the profession of being a scientist/journalist that writes about Science? Despite during the era of "Yellow Journalism," I've never seen a time when we desperately need journalists to be the best they can be.

[Spaceman4u](#)

No to both, but if anyone is listening, I'm more than willing to do either. Hmu.

This may be a dumb question but I'll ask anyway. I know automotive journalists get cars for a while and then give them back and write a review, do you get free science instruments and then give them back?

[alientacobar](#)

No. Or I don't, at least. If someone wants to lend me an NMR for a week that would be cool.

What is your view of AI written articles and 'automation' moving into the news business?

[EuropoBob](#)

That scares me a lot. I think I'm better at this than a computer, but I bet I'm wrong (or will be soon).