Science AMA Series: We are Chemistry World, a news magazine published by the Royal Society of Chemistry. We report on the latest science news and research from around the world. AMA.

Chemistry$_{W}orld^{1}andr/ScienceAMAs^{1}$

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April 17, 2023

Abstract

Hi Reddit, We are: Chemistry World Deputy editor Dr Philip Robinson MRSC, News editor Patrick Walter AMRSC Comment editor Chris Chapman MRSC ARPharmS. We are all journalists with a background in science, and are happy to talk about anything related to science journalism – from how we pick which stories to cover through to how we share them with our readers. We can also recommend the best science books out there, or give you our personal insight into science politics and research trends. Here is a link to our feature article on content curation online, discussing the /r/science moderator community and why chemists should get involved. Edit: Thanks for all your questions! We're heading off now. We hope you found this interesting and useful.

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REDDIT

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CHEMISTRY_WORLD R/SCIENCE

Hi Reddit,
We are:
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News editor **Patrick Walter** AMRSC
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We are all journalists with a background in science, and are happy to talk about anything related to science journalism – from how we pick which stories to cover through to how we share them with our readers. We can also recommend the best science books out there, or give you our personal insight into science politics and research trends.
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CORRESPONDENCE:

DATE RECEIVED:
January 22, 2016

DOI:
10.15200/winn.145338.80390

ARCHIVED:
January 21, 2016

CITATION:
Chemistry_World , r/Science , Science AMA Series: We are Chemistry World, a news magazine published by the Royal Society of Chemistry. We report on the latest science news and research from around the world. AMA., *The Winnower* 3:e145338.80390 , 2016 , DOI: 10.15200/winn.145338.80390

One of the tensions I see in science journalism is that every story has to be portrayed as exciting and groundbreaking, whereas scientists generally achieve incremental progress on established research projects. Do you think it is possible to convey the incrementalness of science will still vying for readers' attention?

iorgfeflkd

Very good question. And yes, it is a tension. We try to make sure we put our stories in context, explaining the steps that have led to this point, and also the steps that must follow. Sometimes the slow process of science is actually the story; science stories are a combination of the discovery and the people who made it, so that aspect of the story allows us to explore the human side of the process – the determination and despair.

I'd also argue that audiences (particularly those that consume science news content) are pretty well informed and understand the sometimes conflicting natures of science and news coverage, as your question demonstrates.

And much as we try to keep our heads, we get caught up the hype too. Even though we're always careful to be responsible and objective, and not oversell a story, we do get excited. We've run stories that have later been disproven or debunked. And then it's our duty to revisit those stories, which reflects the evolving, corrective nature of science too.

What is your advice on getting started for a scientist (PhD, postdoc experience) who is looking to make the transition from academic research to science journalism?

standardlydeviant

My advice is: turn up. You can start writing now – you need some combination of: An idea; an editor; a word processor; the internet.

There are lots of guides out there on how to structure a story but chances are you'll make a pretty good fist of it if you approach it with your research skills. Pick a news outlet, read some articles, learn the style and content, see what sort of things they are doing and then try to replicate it.

Experience is obviously the best way to learn and a good editor will give you feedback on your work (asking for it helps). Any editor will want to see an example of your writing, and if someone else has published it, that's a good endorsement.

To get an editor, I'd say the most valuable thing a writer has is an idea. If you have a good idea for a story, then I want to hear it. Most people are having ideas all the time, you just need to train yourself to spot them and make a note. Everyone does it differently – but I think the last thing you should do is sit down with a pen and write down 10 ideas. Or you can do it, but don't send them to me. You've probably heard it before but it's true – take a walk, shower, wait for a bus and an idea will come creeping at the edge of your mind – take a moment to see what it looks like and sketch it.

But of course, you don't have to go through an editor – the internet lets anyone (I mean, really, just anyone) write or record or expose or exalt or insult whatever they want. Keeping a blog is another equally valid route into the industry, but this has its own challenges – it can be tough to keep doing it without an extrinsic motivation (like pay, or feedback). The best advice I've heard here is to find a niche – however small – and then become an expert. Track down other people on that twitter and force yourself into the community. If you come with a ready-made audience, you're an attractive potential hire. And if you find an audience big enough, you don't even need to be hired.

Over everything that you've covered, which would you say will have the biggest impact on the futur and how do you think it'll change things?

mogoul

Patrick: It's always difficult to predict which developing areas will have the greatest impact. August committees of top scientists struggle and regularly get things wrong. Every top scientist who developed a ground-breaking idea has a story about their idea being rejected by grant funding committees. The chemistry Nobel prize for bucky balls in 1996 is regularly held up as a prize that was given too soon and that fullerenes haven't really delivered enough to make them worthy of this accolade. For me personally, I think catalysis is going to be one of the big development areas of the future. It's perhaps not the sexiest of fields but breakthroughs in this area will be incredibly important in tackling all the challenges we face – energy and climate change (splitting water to use a fuel/energy carrier and as a way of storing renewable energy), food (cheap, clean, energy efficient production of fertilisers) and pollution (cleaning up air and water).

How did each of you get into your current roles? What were your career paths into science journalism? Thanks!

ScijournalismQs

Philip: I studied chemistry at university, and then I was a teacher for a while before I got into publishing as a technical editor for a research journal. I was always interested in science journalism so I kept pestering the team at Chemistry World whenever there was a vacancy and eventually they gave me a shot. I didn't have any formal experience, but I was young enough to believe that my patchwork of experience gave me all the skills I'd need. As it turns out, there's lots of other stuff to learn, which I'm definitely going to get around to looking at some day.

Chris: I was just finishing my pharmacy pre-registration year and realised that I didn't actually like what I was doing! There was too much focus on looking at boxes and making sure the packets were right, and not enough science. After graduation I took the summer off, and applied for a few jobs as a sub-editor on various journals. I ended up getting an assistant editor position. Once I was 'in', I managed to transfer to being a reporter and worked my way up on various magazines (with a brief stop running the British Medical Association's web campaigns).

Patrick: I entered a scientific publishing career after university, helping to manage the peer review process for a number of chemistry journals. I discovered that writing about science was much more interesting than curating the literature and found writing experience wherever I could covering goings-on at the Society I was working at in newsletters, writing short research synopses and copy on patents for the in-house science magazine. I wrote a number of features in my free time for the magazine and talked with management there and pushed to get my foot in the door. I was lucky enough that they were able to accommodate me and I got a part-time role writing for the science magazine, while still working on journals. Once you've got your foot in the door things become much easier – you've got that chance to prove yourself. I ended up getting a full time position and from there things spiralled.

What are your tips for a freelance writer wanting to pitch to Chemistry World? Is it best to start with short news pieces so you can judge the quality of the writer before committing to anything longer? Anything to definitely not do?!

biovelo

Chris: the biggest tip I'd give is to look at what we've covered already. Head on to the Chemistry World website and have a look at the kind of stories we cover, and what we've done before. Quite often I get pitches from freelancers that would be terrific, but are too similar to a piece we've done the month before.

In terms of judging the quality of a writer, we'll generally start off with something smaller. This is so we can see the quality, and also because, if it doesn't work out, it's easier for everyone involved.

Have there been any stories that have surprised you in their popularity? Looking back, what do you think might have been the reason for it?

Journalism can be messy work - what do you generally use as guiding principles when researching/reporting a story that might rake up some muck and potentially burn some bridges?

biohazmatt

Chris: I'm sometimes staggered by the lack of net literacy in science. In a previous magazine I ran a piece called 'How to use the internet'. It was one of the most popular pieces I'd ever written. I think that the older generation of scientists are often a little worried about getting involved online - which is a real shame, because their knowledge is invaluable.

As for muck-raking, I try and avoid it. Science is a small community; being unethical will always come back to bite you. We try and follow good journalistic principles. Being right is more important than being

first.

That said, if there is a story that should be told and someone doesn't want you to share it, I don't think you should be afraid to do so. Good journalism is as much about honesty and integrity as witty headlines and telling a great story.

Philip: I'm always a little surprised by how popular our really fundamental stuff is. A lot of news writing teaches you to focus on applications and human interest. So when we report on research that might make lithium-ion batteries safer, nobody panics. But when we say that 0.01 little gram in the weight of Ytterbium is going to change, everyone loses their minds!

If you know something could be controversial, then you do your duty: check your facts, check your sources, get more viewpoints. This actually raises a good point for science journalists on responsibility and accountability. There's plenty of cheerleading stories out there, but science journalists should be willing to ask hard questions and dig a little deeper. It's a delicate balance, though. Scientists don't have to talk to the media and a combative approach can quickly close doors.

There are many programmes for students and academics to get involved in communicating their research to a wider audience - be it in writing or in the form of outreach. What advice (other than the usual 'ditch the jargon') would you give them to make their communication more effective?

TheGrumpyChemist

Chris: Be concise. Also think about the best way to show your research. If you're working with something that has an amazing visual impact, show it. It will help capture the audience's imagination. Finally, think about why you are excited by your research and get that passion across.

Do you think that the peer review process leads to better science or do you think that it hinders the ability of scientists to "think outside the box" of fear of not passing through the review process?

mmoffitt15

We need some way to distinguish good science from rubbish, and right now peer review is the best way for a journal and the science community to ensure something is credible. In general, there is a real problem of not thinking outside the box. Last year a paper in PNAS looked at the connections between biochem papers and found that the majority of research is covering the same ground. We do need to support outside-the-box thinking, but I think that's more to do with the funding mechanisms.

Here's a great piece by Philip Ball discussing the problem in more detail.

What are some of the challenges translating chemistry research into stories that the public finds interesting and relevant? How do you pick stories and then how do you cover them in ways that are still accurate but accessible?

I'd also love to see your recommendation of the best books about science for lay people that have come out in the past year or so.

firedrops

Chris: A few book recommendations:

What If? by Randall Munroe (of xkcd fame)

50 Chemistry Ideas You Really Need to Know by Hayley Birch

Why does Asparagus make your wee smell? by Andy Brunning

Also I know it hasn't come out in the past year, but it would be remiss not to mentionSurely You're Joking, Mr Feynman. I LOVE this book.

Edit: xckd... yikes. I'm going to get excluded from geek club for that one, aren't I? Corrected.

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Patrick: If you're aiming squarely at the general public then a story needs to connect with them in some way. We've mentioned that some of our most fundamental stories have massive pick up. But why does something as esoteric as visualisation of hydrogen bonds get such a lot of interest? Simply put, I think people remember hydrogen bonds from school from those lessons explaining that life couldn't exist without them. And here they have the opportunity to actually see what's been an abstract concept. Similar stories such as why mercury is a liquid when you'd expect to be a solid from looking at the period table also perform well. Other stories that connect have similar links to people's lives be it batteries, food, transport or pollution. These things all affect people.

We pick stories based on how we think they will connect with our readers. Trying to gauge you audience, to know them, is very important. As we're not aimed solely at the general public but those with a bit more chemistry knowledge our choices are a bit different to other publications but there is a lot of crossover. We're more likely to cover stories that have been an on-going point of contention within the chemistry community, for instance (see microwave heating), than other more generalist publications. Finally, just because you're trying to compress a complex paper into a short story, it doesn't mean you need to dumb down. Get the core idea across is what's important and much of the technical detail can be left to those that work in the field.

Philip: The hydrogen bonds piece is another good example of the potential pitfalls of science reporting. That story was hugely popular (it was covered all over the place), and remains so to this day. But just a few months later, another paper was published that suggested the original paper may have over-interpreted the data. That story didn't get nearly so many hits (or anything like the amount of coverage on other sites) and so I always feel guilty that people got so excited by that story without ever knowing it might not even have been true.

With increased calls for reform, it seems almost certain that changes to the peer review process will be made in the near future. In your opinion, which of the changes proposed (e.g. open review, paid reviewers) are most likely to be implemented?

standardlydeviant

Philip: I won't guess at which way publishers might move, but I do feel that the community-centric ethos of initiatives like preprint archives and post-publication peer review are very positive. I also think these issues need to be addressed in the context of a much bigger discussion about how we create and share scientific research.

How do you feel about the way journalists without a scientific background write about scientific discoveries? Does it bother you when sensationalist headlines misrepresent or overstate the findings? And do you think there's a way to address this in news media in general?

WELLinTHIShouse

Chris: It depends on the journalist, because some are very, very good. But if it's wrong/misinformed/sloppy, I hate it. I often find myself having a grumble about the way scientific 'discoveries' (often they aren't) are misreported and misrepresented. My particular pet peeve are sensationalist headlines about 'cures' for HIV, Alzheimer's, diabetes, blood pressure or cancer. It devalues the work that goes in, and gets the hope up of people affected by these terrible conditions who don't understand how these things take time.

Sadly, I don't think there's a way to address it. One of the best things about the time we live in is the accessibility of information and the ease of which it can be shared. The downside is that that also involves misinformation. The only way we can deal with it is by ensuring we have places online where accurate information is open and accessible to the public, and that these trusted sources are known and used.

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Patrick: We won’t deny it’s galling. Sometimes we have a laugh about it at the morning news meeting, usually accompanied by ‘What do you expect from newspaper x’. However, before I go off on a rant many of the old guard in science journalism don’t have a science degree. And many of them are very good – they’ve taken the time to learn their beat and first and foremost they’re good journalists. I haven’t worked in the pressure cooker environment of a newspaper or fast moving website, but from what I understand a big part of the problem is editors. They see a science story and they want the sensationalist angle. The junior reporter then has a couple of hours to turn something out to that brief. To have good science reporting, more than anything else, I think you need good editors prepared to give space to the caveats and ‘I think you’ll finds’ of real science. On cleaning up the news media, I think great steps have already been taken. Many outlets/news programmes (in the UK at least; I believe quite a few sci journos at big papers etc have been downgraded/sacked in the US of late) have dedicated science reporters. People who know their area is what is needed and viewers or readers should complain if they’re being short changed. Some papers simply don’t care about the accuracy and are only interested in clicks from the sensational take on the story. I don’t think they can be reached!

Is there any (scientific) subject you wouldn't cover? Anything too political, or too ethically difficult?

ScijournalismQs

Chris: I don't think there is a subject that we wouldn't cover. I think that there are some where we would be very careful about *how* we cover it. It's about giving the right balance of views - not equal balance. For example, we would cover climate change, but we wouldn't give a platform to climate change denial as it doesn't reflect the scientific consensus.

Also, I personally think that homeopathy is magical horse-whipped shaky water, and a total waste of

time and money. While I'd cover that (and if there was suddenly strong evidence that revealed the established laws of science are wrong and homeopathy is effective more than placebo, I'd change my mind), at the moment I wouldn't say that I think it works, because I don't believe it.

To what extent do you believe that science journalists should be writing about political issues that affect science? What rules do you try to follow when writing about issues like research funding and political conceptions of scientific research?

dark_magnetar

Chris: I think it's essential. As journalists it's our job to try and get voices heard and open issues up for discussion up: for example, diversity in science is another huge topic that we all need to talk about.

Ultimately, science must be transparent, both in its practice and, where possible, in its culture. That means we can't ignore these issues.