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Get your science into the news with help from your press office.

Press ahead

Public information officers can help scientists to share their research more widely.

BY ROBERTA KWOK

Megan Thoemmes knows first-hand that a good press officer can catapult scientific discoveries into the media spotlight.

She and her colleagues were about to publish a paper in mid-2014 about mites that live on human faces¹. Sensing a story that could catch the public's interest, her adviser notified Matt Shipman, the research-communications lead at the press office at North Carolina State University in Raleigh, where Thoemmes is a PhD student in ecology and evolutionary biology. Shipman edited a blogpost on the study for the university's website and coached her for media interviews.

That media training came in handy. After Shipman notified journalists, outlets such as *National Geographic*, US-based NPR (National Public Radio), *Wired* and Radio New Zealand

contacted Thoemmes for comment. The coverage was positive and mostly accurate, she says. The process taught her how to distil results into a few key points, among other skills. And other benefits emerged: a medical researcher noticed the news and initiated a collaboration with her team on how mites influence the microbiome.

This year, Shipman wrote a press release about another paper by Thoemmes, published in May, on the communities of microbes and arthropods living in chimpanzee beds². For the next two weeks, Thoemmes was deluged with interview requests from *The Washington Post*, the BBC, UK online newspaper *The Independent* and W Radio in Colombia, among others. She credits Shipman with helping her to reach a global audience. Without a press release, "I absolutely would not have gotten that amount of coverage," she says.

Many researchers do not take advantage of their institution's press office, perhaps because they feel they lack the time for media outreach or are dubious about the benefits. But those who do reach out often find that press officers help them to craft a clear message, connect them with journalists (see 'On the record'), and increase the visibility of their research. Press officers say that they have seen such publicity bring career benefits such as collaborators, graduate students, work opportunities and attention from funders.

However, researchers need to ensure that press releases do not hype findings, say science-communication experts. In today's struggling journalism industry, many news outlets lack the resources for thorough, sceptical reporting of science news, and content-aggregator websites reprint press releases almost word-for-word. "It certainly increases the responsibility of the press officers and the scientists who issue these press releases to be balanced and responsible and cautious," says Marina Joubert, a science-communication researcher at Stellenbosch University in South Africa, and a former freelance science communicator. In addition, not all press releases will prompt major news coverage — and some might provoke criticism of the research.

Many scientists promote their work on their own through social-networking sites, such as Twitter and Facebook. But few can match the huge audiences that the leading mass-media outlets command. For instance, *The New York Times* has more than 2.6 million digital-only subscribers, and BBC News reaches about 347 million people per week. "There's nothing else that has the reach of media," says Jonathan Wood, communications manager at the Francis Crick Institute in London.

News articles about research can bring direct career benefits. For instance, Wood has heard from scientists at other institutions where he has worked that media coverage encouraged funders' interest in their research. When Joubert provided freelance science-communication services to the University of Pretoria in Hatfield, South Africa, she wrote a press release about a soil study. It led an organization to invite the researcher to apply for a work contract at a national park; he won the contract and accepted. And Shipman points to studies that have found correlations between news coverage and higher citation rates^{3,4}, and between media interactions and higher h-indices⁵ — the latter being a measure of the impact of an author's body of research. "There are a number of very selfish, practical ►

► reasons for researchers to engage with their press office,” he says.

For early-career scientists seeking academic jobs, media coverage could provide a boost. Dawn Levy, lead science writer for Oak Ridge National Laboratory’s physical-sciences directorate in Tennessee, notes that she has seen publicity help researchers to garner award nominations, speaking invitations, funding offers and research partnerships. Although she is sceptical that news articles lead directly to more citations, she says that media coverage — and its explanation of why a research project matters — conveys to the reader, viewer or listener that the scientists are trying to solve a significant problem. “That’s a great reason for someone to hire you,” Levy says, “regardless of citations.”

News coverage of geoscientist Simon Cook’s study of glaciers⁶ in Bolivia helped him to stand out when he was applying for academic jobs in 2016, he suspects. The paper, published in *The Cryosphere*, was press-released by the European Geosciences Union (EGU), which publishes the journal, resulting in coverage by major media outlets. Cook, now at the University of Dundee, UK, advises applicants not to focus solely on news coverage. Ultimately, he says, landing a position requires consistently high-quality research, whether it earns press attention or not.

And not every press office has the skills or resources to make a media splash. An inexperienced press officer could have fewer connections to journalists or might use ineffective techniques such as generic e-mails to reporters instead of targeted pitches, Joubert says. At smaller institutions, the press office might consist of a single person who has limited time to spend on each story. If researchers find that their press office cannot offer enough help, they could consider hiring a freelance science communicator, Joubert says. Scientists can find such freelancers by attending science-communication events or asking regional or national science-communication associations.

DISTIL THE MESSAGE

Scientists should consider notifying their press office of a forthcoming paper if they think it will have a strong impact in their field, has practical applications or simply is cool, Shipman says. Other possible newsworthy topics include a conference presentation, award, grant or clinical trial. Typically, the junior or senior researchers on a team can alert the press office by e-mail or phone. Timing recommendations vary; some press officers prefer that researchers let them know about a paper as early as submission, while others say that within a week or two of acceptance usually still allows enough time to put out a press release.

To promote a paper, an institutional press office can collaborate with the journal’s press office to reach more reporters, says Bárbara Ferreira, media and communications manager at the EGU, who publicizes papers

ON THE RECORD

Media management

Media outreach can be intimidating for scientists. Here are some tips to navigate interviews with journalists.

- After the press release is issued, be available for interviews for about one week.
- Return journalists’ calls and e-mails promptly. Reporters often face extremely tight deadlines.
- Prepare a few key points.
- Be conversational — don’t be afraid to show a human side and tell anecdotes.
- Assume that everything you say can be published.
- Most journalists will not send you a draft of the article to look over. However, researchers can offer to answer fact-checking questions.
- If an article contains an error or sensationalizes the findings, ask for a correction, write a letter to the editor, or respond on social media and tag the journalist. **R.K.**

published in the union’s 17 peer-reviewed journals. For example, a university press officer in Germany might have mostly German media contacts, but Ferreira can send the press release to a larger network of European journalists.

If it’s too late to issue a press release, scientists can still spread the message about their work. For example, they could ask a press officer to write a feature about a study for their institution’s website or promote the researcher’s blog post on social media, Levy says. Some press officers set up ‘Ask Me Anything’ sessions on Reddit, a news-aggregator site and forum, which allow researchers to answer questions from the public.

If the work is timely enough for a press release, the press officer typically interviews

the scientist about points such as the motivation for the study, how it builds on previous research, the most surprising or interesting results, and possible societal implications. When reviewing the draft of the press release, researchers should correct inaccurate or misleading sentences and express concerns about any statements that make them uncomfortable, but they should avoid adding technical details and jargon.

In particular, the title should be short and snappy because it is often used as the subject line in e-mails to reporters, Ferreira says.

Scientists should ensure that findings and implications are not hyped. In a 2014 study, researchers analysed health-related press releases from UK universities and found that 33–40% contained statements that went beyond the scientific paper, such as making a stronger causal link between two factors than had been stated in a correlational study⁷. The results suggest that journalists are not the only ones to blame for exaggerations, says study co-author Petroc Sumner, a psychologist at Cardiff University, UK. “A good percentage of them are already there in press releases,” he says.

Sumner also advises scientists to use hedge words such as ‘may’, ‘might’, or ‘could’ when describing correlational evidence and to add caveats. Importantly, his team found no evidence that including caveats in press releases reduced news coverage.

Press officers can help to reduce the risk of misinterpretation by explicitly stating what the research does not imply. Climate scientist Carl-Friedrich Schleussner had this experience when working with the press office at the Potsdam Institute for Climate Impact Research in Germany.

His team’s study suggested that climate-related disasters increased the risk of armed conflict in countries with multi-ethnic societies⁸. To avoid implying a causal link, the press release included a quote from Schleussner stating, “Climate disasters are not directly triggering conflict outbreak.” While this statement did not prevent reporters from asking him



SIMON COOK

Media coverage of his glacier research might have helped Simon Cook to stand out when applying for jobs.

whether climate change had caused the Syrian civil war or the influx of refugees to Europe, working out the phrasing in the press release beforehand helped him to stick to a firm message during interviews, says Schleussner, who works at the non-profit organization Climate Analytics in Berlin. The media coverage was generally accurate, he says.

Scientists should consider who might react negatively to the news, Joubert says. For instance, the press release that she wrote about soil research suggested that four-wheel-drive vehicles (also called 4x4s) damaged the environment and should not be allowed off-road in protected areas. Members of 4x4 clubs complained online and by e-mail. In retrospect, she says, she could have made it clearer in the headline that the suggested ban applied only to off-road driving and that many 4x4 drivers have important roles in nature conservation, such as supporting national parks.

Images and videos are important elements of press releases. Scientists should supply pictures that are not in the paper because the journal typically owns the copyright to the paper's images, Levy says.

She advises using pictures that do not contain text, and adds that videos should be under one minute long; the press office can take care of posting videos on YouTube. Press offices at large institutions may include a photographer, videographer or graphic designer who can produce multimedia output as well.

The press officer could ask the scientist to suggest publications that should be notified about the research. Although press officers are well-versed in mainstream media outlets, researchers might be aware of niche publications read by colleagues. Press releases are often issued through websites such as EurekAlert!, Newswise and AlphaGalileo, and the press officer might also email targeted pitches to journalists.

With a press officer's help, researchers can reach more people outside their field. "This really is your chance to explain why your work is interesting and important," Wood says. "After all, you're the expert. Who better for us, the public, to hear from?" ■

Roberta Kwok is a freelance science journalist in Kirkland, Washington.

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TURNING POINT

Earth hacker

As a PhD student in 2006, Lucas Joppa launched his academic career in ecological theory. But after starting a postdoc at Microsoft in 2010, becoming chief environmental scientist in 2017 and chief environmental officer this July, he now develops tools that harness the power of big data to inform decision-making in the field.

What are your professional goals?

I want to find answers to big existential questions — such as how humans impact ecosystems and how that ultimately affects life on Earth. These questions have become increasingly computational as we amass both huge data sets from all over the world and the tools to analyse that volume of data. I wanted to work with the people inventing the best techniques to sift through all these data — methods that can help to solve the world's most pressing challenges, from maximizing crop production to tracking endangered animals.

Describe Microsoft at the time of your arrival.

I moved to the company in Cambridge, UK, in 2010. People at the forefront of their fields — from machine learning to theoretical mathematics — all work on common problems together. Everybody has the intellectual curiosity to care a lot about everybody else's work.

What did your advisers think of your postdoc?

Some thought it was risky. A member of my PhD committee, a leading ecologist at Duke University in Durham, North Carolina, took me to lunch and asked if I was certain that I wanted to do this. I'm sure it looked as if I had jumped overboard without a life jacket. But I thought it was the safest path.

Were you a computer geek growing up?

No. I grew up in north Wisconsin with no television. With my undergraduate degree in wildlife ecology, I thought that I'd be a game warden.

When did you realize that ecology needed more computational power?

Day one of my PhD. Everywhere I looked, there was no way around it. I was working on ecological networks — from predator-prey relationships to plants and pollinators. You can't resort to pen and paper when you are researching extinctions in complex networks, or when you are using global satellite imagery to determine



whether deforestation has encroached on 150,000 protected areas.

How did your role evolve into that of chief environmental scientist?

A couple of years ago, my mentors at Microsoft urged me to write down how the organization could leverage its investments in computational research to address issues related to the environment, conservation and sustainability. I wrote a memo, called AI for Earth, which detailed the prospects for using artificial intelligence (AI) to improve environmental sustainability. It was published as a Comment (L. N. Joppa *Nature* **552**, 325–328; 2017) at around the time I took on a more-corporate role. To our knowledge, this position is a first for the technology industry.

Describe Microsoft's AI for Earth programme.

When we announced the US\$50-million, 5-year investment for tackling global environmental challenges in December 2017, most people were focused on the dollar amount. But I am struck by the five-year commitment — that's a geological age for the tech sector. It gives me the stability to form partnerships, award grants and foster research to find ways to protect biodiversity and identify crucial areas for conservation.

Do you have advice for ecologists who want to use AI and computing power?

Don't wait. Anyone can get started with programming languages such as R or Python. AI for Earth is about as easy as it can be for PhD students. And we offer small seed grants that require only a one-page form to allow scientists to access Microsoft's best AI technology. Currently, we have 112 grant recipients in 27 countries. ■

INTERVIEW BY VIRGINIA GEWIN

This interview has been edited for clarity and length.