

Science in an Age of Scrutiny

How Scientists Can Respond to Criticism and Personal Attacks

Scientists, experts, and practitioners whose research or other work is at the center of public policy debates often see an increase in attention. But this attention can be distracting and intimidating if it comes in the form of hateful email from strangers, or if public officials use their office to cast doubt on your research, or if bloggers publicly misrepresent your findings or question your integrity.

This guide suggests some steps you can take to deal with harassment and other attacks on the integrity of your work. It is crucial to be deliberate in the first hours and days after these attacks occur, as this is often when people make the most mistakes in attempting—or not attempting—to engage. Planning in advance, both individually and with colleagues, is essential in managing these types of situations.

It is important for scientists to be able to differentiate between good-faith inquiries and unfounded criticisms.

It is vitally important that experts respond to valid critiques and questions about their work, from both colleagues and the public. However, it is equally important for scientists to differentiate between good-faith inquiries about their research and unfounded criticisms designed to undermine public confidence in the scientists, their research, or even their field of research. And in all cases, it is important for scientists to be honest, communicate clearly, and demonstrate their trustworthiness to the public.

Experts who face harassment need to know they are not alone. Indeed, these types of actions are part of a disinformation “playbook” often deployed by ideological or financial interests that feel threatened by a scientist’s work or an entire field of research (UCS 2018).

This has been happening for decades. In the 1960s, asbestos manufacturers hired public relations firms to question research linking asbestos exposure to cancer, specifically attacking the work of Dr. Irving Selikoff, a pioneering asbestos researcher

(Egilman 2004). In the 1970s, the lead industry relentlessly targeted Dr. Herbert Needleman, a physician whose research revealed the harmful effects of lead exposure on children’s development (Denworth 2008).

More recently, industry-funded groups and political forces have attempted to discredit the research and reputation of notable scientists including Dr. Katharine Hayhoe, who faced a cascade of vicious emails from the public after political figures attacked her work on climate change, and Dr. Tyrone Hayes, who was harassed by the company Syngenta as a result of his research linking the herbicide atrazine to birth defects in humans and animals (Dawson 2012; Aviv 2014; UCS 2017). During the COVID-19 pandemic, local public health officials faced enormous pressure from political and business interests, as well as harassment by the public both online and in person, as they attempted to follow the best scientific advice in setting policies meant to protect their communities (Weiner and Cha 2020).

Some organizations and elected officials have also used subpoenas and taken advantage of open-records laws to demand data and private correspondence from scientists at public universities and in government agencies. Given ideological divides on many science-based policy challenges, as well as the integral role of science in the policymaking process, we can expect such attacks to continue.

Especially in the realm of social media, scholars who identify as women, people of color, or other marginalized groups may be targeted for attacks because of their identities (Lloro-Bidart 2018). Scientists need to defend their colleagues against such aggression by supporting each other on social media, in person, and within their institutions (Grollman 2015; PEN America 2020a).

The Union of Concerned Scientists (UCS) has created this booklet to provide some basic guidance on dealing with harassment as well as legitimate requests for information. Nothing in this guide constitutes or should replace legal advice. We advise you to consult with your own counsel or to contact organizations that could provide you with legal assistance and advice specific to your circumstances, such as the Climate Science Legal Defense Fund, the Foundation for Individual Rights in Education, and Public Employees for Environmental Responsibility (see p. 7).

How to Respond to Harassment on Social Media

- ▶ **If trolls or bots comment on or reply to your posts . . .**
- ▶ **If you receive spam . . .**
- ▶ **If you are the target of an organized social media attack . . .**

You should:

- Know the norms of social media platforms you post on and the tools available to you to moderate the environment. Your response is contextual and should be framed based on the rules and norms of the platform.
- Develop your own policy and standards for posts on your public-facing social media pages where possible (for example, “Any racist, homophobic, sexist, or abusive comments will be deleted.”), and cite them when you delete abusive comments.
- Take a screenshot of the post that attacks you and make sure it includes the name or username of the attacker and the date the message was posted. Keep the screenshot in a secure file or external hard drive. Unless a post is abusive, do not delete it.
- If you engage, do so on your own page (e.g., on Twitter, retweet a post and quote it) where you can control the message.
- Respond publicly to valid criticism if you can educate others by doing so.
- Act quickly. Social media platforms can generate a “pile-on” effect as more people see and comment on posts, which will make the situation harder to address later if the attacks continue. (However, if you get a single comment from an online troll, swift action is usually not necessary.)
- Encourage your institution to look for the source of the message and motivations behind it. This is especially true if you receive many similar messages via social media, as this may indicate an organized attack or spillover from an attack on another platform.
- Report the message to the authorities and to your supervisor or HR department if it threatens anyone’s safety. On many social media platforms, you can and should report behavior that doesn’t adhere to their rules of conduct. You can find details about how to do this on the platforms’ Help pages.
- Share your experience with a few trusted colleagues so they can support you.

Try to avoid:

- Being inconsistent or impulsive in your response.
- Delaying too long before handling publicly visible, abusive messages.
- Engaging in long, drawn-out correspondence with attackers.

Desired outcome:

- You have a record of the attacks.
- You have notified parties who can often address the source of the attacks.
- You have not created an environment for further attacks to build upon the original one.
- Trusted colleagues are aware of the attacks and can provide support.

What if . . .

“ . . . a future employer finds a tweet that claims I committed scientific fraud?”

Think again.

Many human resource managers are adept at assessing the trustworthiness of such claims.

How to Respond to Harassing Correspondence

- ▶ **If you receive an email from an unknown individual alleging that your research or field of research is fraudulent . . .**
- ▶ **If you answer questions from someone via email and receive a seemingly endless string of follow-up questions . . .**
- ▶ **If you receive a letter that threatens physical harm to you or your family . . .**

You should:

- Respond to valid inquiries as you see fit. If you're not sure about the inquirer, do a quick online search, which might help illuminate their credentials or motivations.
- Assume that any response you write can be forwarded or published online.
- Look for signs that an emailer is wasting your time with endless questions, or attempting to play "gotcha" by asking badly framed questions. Examples include "Isn't it true that science is never certain?" or "Aren't you putting out these results so you can just get more grant money?" or "What are you trying to hide by not releasing your raw data?".
- Refrain from responding to harassing correspondence.
- Compile all threatening email or paper mail into archives (such as a folder that is safe and protected on your computer, in the cloud, or in your office).
- Contact a lawyer if the correspondence threatens legal action.
- Notify law enforcement immediately, as well as your supervisor or HR department, in the case of a clear and explicit threat to someone's safety.
- Share your experience with a few trusted colleagues so they can support you.

Try to avoid:

- Engaging in a protracted back-and-forth argument over email, which could lead to misrepresentations of your work or selected out-of-context quotes.
- Responding directly to harassing or threatening email. The emailer may use your response to attack you publicly or see it as a reason to harass you further.
- Examining the correspondence in excessive detail. It is not worth your time or frustration to interact with people who do not wish to be constructive.

Try to avoid: (continued)

- Assuming that the source is legitimate. Take the time to evaluate the source and its history.
- Deleting email. You will have no readily available evidence that a threat was made.

Desired outcome:

- You have saved your valuable time.
- You have a record of all abuse that can be used as evidence in any investigation.
- You have not given the emailer any satisfaction or motivation to attack you publicly.
- The proper authorities and your institution can protect you and your colleagues should the situation escalate.

What if . . .

" . . . the person who sent me the email is wrong? I could convince him or her of the truth if I just provided the right data!"

Think again.

Your explanations are unlikely to persuade people who send harassing messages, as they are not usually driven by a simple disagreement over your research (PEN America 2020b). Remember that you have limited time and resources. Instead, spend your time communicating in other venues about your scientific expertise.

How to Respond to a Hostile Blogger

- ▶ **If a relatively popular blogger misrepresents your research . . .**
- ▶ **If a blogger releases your personal contact information . . .**
- ▶ **If a post on an obscure blog accuses you of scientific misconduct . .**

You should:

- Determine whether the blog is highly trafficked or obscure. Highly trafficked blogs have lots of comments and are more likely to be referenced elsewhere on social media and the Internet.
- Evaluate the blog's tone and track record. Knowledgeable colleagues can help you determine whether a particular blog is often the source of such attacks.
- Ignore spurious claims from obscure blogs with small audiences. Treat them like harassing emails (see p. 3).
- Consider responding to attacks from more prominent blogs with the facts, but do so on your own blog, social media page, institutional website (if the harassment involves the institution itself), or other outlet.
- Acknowledge valid criticisms and strongly rebut invalid ones if you reply.
- Prepare a response in case mainstream media outlets take interest if attacks are high-profile or gain traction.
- Copy and paste the blog post and related material into a Word document, take screenshots of any offensive material, and archive the webpage using the [Wayback Machine](#), a free digital library of websites.
- If you see any content or receive any correspondence that you perceive as threatening, notify your employer and contact law enforcement. Also consider contacting a legal group for assistance (see p. 7).
- Share your experience with a few trusted colleagues so they can support you.

Try to avoid:

- Posting a response in the comment section of a hostile blog. You will provoke the blog author and their readers, who are likely predisposed to take their "side."
- Getting drawn into an endless exchange with a blogger. A single response on your own blog or other online arena you control is often adequate.
- Amplifying the spurious comments by linking to them or otherwise drawing more people's attention to them.
- Ignoring valid criticism. It is possible to mollify reasonable bloggers who have taken issue with an aspect of your research. Refusing to answer valid criticism can engender further attacks.
- Mistaking an obscure blog for a legitimate media source.

Desired outcome:

- You have defended your reputation in legitimate venues.
- You have a record of the attacks.
- You likely have not given harassing bloggers any more ammunition to attack you and your research.

What if . . .

"... the blogger misrepresented my data? Shouldn't I fight back and expose them?"

Think again.

Engaging with a harassing blogger can lend them unwarranted legitimacy, create unnecessary controversy, and draw the attention of larger blogs and mainstream media outlets.

How to Respond to Demands for Private Information

- ▶ **If a group issues an open-records request for your data, research materials, or email correspondence . . .**
- ▶ **If a blogger claims you are hiding information because you refuse to release private communication . . .**
- ▶ **If your university receives a subpoena for your emails . . .**

You should:

- Keep work email messages professional, and assume that all messages are discoverable. Understand that your institution owns your email and often has the right to review it, as well as a legal responsibility to share it in certain situations. Also know that your correspondence can be made public through the institutions of your colleagues.
- Differentiate between your research and your personal correspondence. Open-records requests often inaccurately conflate the two.
- Consider using one email address for your professional duties and another for your personal correspondence. This can make it easier to differentiate between discoverable and non-discoverable emails if you are ever targeted.
- Research the person or entity making the request to determine why they may be interested in your work.
- Understand that laws regarding disclosure vary by location and venue (such as whether your employer is public or private), and that many exempt personal correspondence or certain forms of research correspondence (CSLDF 2019).
- Reach out to an organization that may be able to provide you with free legal assistance, such as the Climate Science Legal Defense Fund or Public Employees for Environmental Responsibility (see p. 7).
- Publicly speak out when you believe the request is designed to undermine your research or the public's understanding of science, and ask colleagues to do the same.

Try to avoid:

- Handing over content immediately.
- Assuming that your institution has your best interests in mind. Its primary responsibility is to protect itself, though it may have obligations to you as an employee.

Try to avoid: (continued)

- Attempting to resolve the situation alone, without contacting your institution and, if needed, your own counsel.
- Assuming that a requester's motivations are relevant. Courts and administrative officers rarely consider motivation when ruling on subpoenas and open-records requests.
- Venting over email. Since everything you write could be made public, keep conversations professional.

Desired outcome:

- You have not fueled your attacker with content that can be used to skew and distort the public conversation.
- You are prepared to defend yourself, and have enlisted others who are willing to help.
- Although courts should not consider motivation, you can alert others as to why the request was not made in good faith.
- You have served as an example to other researchers who want to protect their privacy.

What if . . .

“... I have nothing to hide? Shouldn't I just hand over everything and get this over with?”

Think again.

While transparency is important, all experts need and deserve a safe space to develop and test new ideas. Institutions should balance transparency and the right to free speech. Automatically complying with requests can set a bad precedent when your colleagues face similar attacks.

How to Respond to Attacks from a Mainstream Source

- ▶ **If a newspaper editorial or op-ed claims that your research is flawed . . .**
- ▶ **If a reporter calls you for comment on a blog post that accuses you of scientific misconduct . . .**
- ▶ **If a public official or politician publicly attacks you or your research . . .**

You should:

- Respond to reporters' questions promptly and explain the inaccuracies in the charges against you. You can also help shape a story, for example, by explaining how the peer-review process works.
- Ask newspapers if you can respond to an editorial or op-ed with your own op-ed or letter. Many newspapers will grant this request, especially if you are named in the original piece.
- Seek assistance from your public relations office, your scientific society, or other resources in responding publicly to attacks from politicians or public officials. These sources can help you understand how to communicate your research most effectively. If you work at a college or university, you should also check its media relations policy.
- Ask colleagues who understand your work to help you set the record straight by validating your response.
- Promptly develop and share a public response on your personal or institutional blog or website or on social media.
- Share your experience with a few trusted colleagues so they can support you.

Try to avoid:

- Saying “no comment” in response to a reporter's questions. The reporter may assume you have something to hide. Also, a news story is much more likely to be inaccurate if you refuse to engage.
- Getting defensive, which will also give the impression you did something wrong. Calmly and clearly explain the facts.
- Answering illegitimate criticisms. Instead, put them in an appropriate context.

Try to avoid: (continued)

- Assuming that you can speak “off the record.” Unless you get explicit permission in advance, anything you say to a reporter can be quoted or used in a story.
- Overemphasizing the debunking of misinformation about technical details at the expense of sharing top-level information that experts in your field know to be accurate. Make sure to first provide context so the reporter better understands the scientific consensus, which will make them less likely to amplify any false equivalency or manufactured doubt or debate.
- Responding to attacks from public officials or politicians without seeking assistance. The legislative and public policy environments are much different from the scientific environment.

Desired outcome:

- You have shared your side of the story and helped shape the media coverage.
- Readers or listeners hear your point of view and become better informed.
- You are well prepared to respond to additional questions from reporters or legislators.

What if . . .

“ . . . an attack is similar to that of a hostile blogger? [See p. 4] If I'm not supposed to engage in that case, then I shouldn't engage here either, right?”

Think again.

Mainstream news sources, public officials, and politicians reach the people who will benefit most from understanding your research and its implications.

Additional Resources

Even though harassment can be a scary and stressful side effect of doing policy-relevant science, focus on the fact that your work can have a positive impact on the world. And remember that you are not alone.

WHERE TO LOOK FOR HELP

- The [American Association of University Professors \(AAUP\)](#), with 47,000-plus members, works to advance academic freedom and shared university governance, to define fundamental values and standards for higher education, and to ensure higher education's contribution to the common good. AAUP has worked with UCS to defend researchers from political attacks.
- The [Center for Science and Democracy \(CSD\)](#) at the Union of Concerned Scientists works to restore the essential role of science, evidence-based knowledge, and constructive debate in the US policymaking process. We help build scientists' ability to respond to harassment.
- The [Climate Science Legal Defense Fund](#) believes that threats to one scientist or institution can threaten science as a whole. The fund provides free legal assistance to climate scientists, and has acted aggressively to protect the interests of science.
- The [Climate Science Rapid Response Team](#) is a match-making service that connects climate scientists with lawmakers and the media. The group is committed to providing high-quality information quickly to the media and government officials.
- The [Foundation for Individual Rights in Education](#) is dedicated to defending the rights of students and faculty, and works to educate the public and members of college and university communities about how these rights can be preserved.
- [PEN America's "Online Harassment Field Manual,"](#) written for journalists and writers who are facing harassment online, contains a wealth of advice about protecting yourself from online harassment that scientists will find valuable, too.
- [Public Employees for Environmental Responsibility \(PEER\)](#) is a national alliance of local, state, and federal professionals who work on natural resources. Among other objectives, the group defends and strengthens the legal rights of public employees who speak out about resource management and environmental protection. The organization provides free legal assistance if needed. See

- "[Speak Up & Stay Safe\(r\): A Guide to Protecting Yourself From Online Harassment](#)" is a digital handbook from the organization Feminist Frequency, designed to help you protect yourself from online harassment, written by women who have experienced cyber mobs, stalking, and other harassment online.
- The [UCS Science Network](#) is a community of more than 17,000 scientists, engineers, economists, public health specialists, and other experts across the country working to educate the public and inform decisions critical to our health, safety, and environment. In addition to public engagement activities, you'll receive invitations to online and in-person events designed to help you become a more effective science advocate. You can also [follow us on Twitter](#).

Focus on the fact that your work can have a positive impact on the world and that you are not alone.

- Scientific societies or university associations such as the American Council on Education can speak out in your defense in the media or the courts.
- Your department head, organizational leadership, faculty senate, public relations office, or Freedom of Information Act representative may be able to offer you additional support.

TOOLS

- [Google Alerts](#) is a service that emails you when specified keywords, such as your name or related terms, show up in newspaper articles, major blogs, or other locations on the internet.
- The [Message Box](#) from COMPASS. This science communication tool will help you prepare to discuss your work with different audiences, including the media.

*The 2020 edition of Science in the Age of Scrutiny was researched and written by **Shea Kinser**, program and outreach associate in the Center for Science and Democracy at UCS. The original 2014 edition was conceived of and written by Michael Halpern with input from Aaron Huertas and Tim O'Brien.*

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