



ADAPTED FROM GETTY

reporting the abuser isn't the only necessary action. Regular social-media users also have techniques to calm themselves down after being criticized. Shiffman will often step away from his digital device to play with his dog or chat with a friend. And social media can also help researchers to get in touch with like-minded colleagues and associates who can commiserate and offer support.

Mack says that she sometimes enlists friends to sift through the rubbish, so that she can avoid reading the most insulting comments while the friends can ensure that no danger lurks.

Some followers do make violent threats, say both Mack and Shiffman, although they deem most to be non-credible. Shiffman keeps a record of such posts in case he is attacked, so that he will have information to give to the police.

### CRITICAL DECISIONS

Eisen says that sharing opinions, even negative ones, is what makes social media so valuable. But he adds that it's important to be careful about whom he debates with online, and how he frames his opinions. "Try your best to never make it personal," he counsels.

Social-media users also need to be careful about posts that could be taken out of context. That happened to Brembs when he posted a two-part tweet about another researcher's work, noting that he'd had similar ideas, and congratulating the other for succeeding where he'd given up.

A third person whom Brembs follows on Twitter picked up only the first half of the comment in his blog — making Brembs seem to be arrogantly claiming that he'd already had the great idea. In response, Brembs wrote one comment to that blog to clarify his position. Then he thrust it all from his mind.

Given Twitter's 140-character limit, it's especially easy for misunderstandings to boil up on that platform. Brembs once got into a heated Twitter argument about whether a person ought to submit chapters to a mentor's book project. His opponent blocked him. Later, he realized that he and the other person simply had different definitions of the word 'mentor'. "It would have cleared up if I'd just caught my cool," he says. "My advice is to never, ever tweet when agitated." But if you're reacting to a nasty post, or if argumentative posting is unavoidable, he suggests using humour, even with a self-deprecating tone, to ease tension.

Sometimes researchers must decide whether to engage at all. Fabiana Kubke, a neuroscientist at the University of Auckland in New Zealand, does her best to avoid Twitter discussions that she thinks might lead to misunderstandings. If the issue can't be resolved in three tweets or fewer, she won't respond on Twitter, or she'll post a response on her blog and include a link on Twitter.

The risk of being criticized or trolled means that social media isn't for everyone, users say. "If you're the sort of person who wonders if you suck when one random person tells you that you suck," says Shiffman, "while 1,000 of your respected peers tell you that you're

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great, you should not do this." Of course, harsh critiques are hardly unique to Twitter. Marcus du Sautoy, a mathematician at the University of Oxford, UK, has been writing in newspapers and other publications about science for the public since 1994. "If you raise your head above the parapet, people are going to shoot," he warns. Some of his earliest critics were scientists who complained that he'd cut corners or simplified his explanations for lay readers.

He learned early on to avoid the comments section below his online articles because that forum often contains posts that aren't productive, and may be nasty: an attacker there once smeared him for marrying a Jewish woman and raising Jewish children.

"It's important to have the right mindset so that you don't get crushed by these things," he adds. When critics attack, he recommends that researchers remind themselves of what they've achieved in science. For example, he likes to console himself, he says, with the knowledge that he once discovered "a new symmetrical object in high-dimensional space that nobody had ever seen before". ■

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### WORK-LIFE BALANCE

## It's not all about the job

Career success does not lie in working longer hours, says Robert Lechler, president of the UK Academy of Medical Sciences, as part of a diversity initiative urging researchers to embrace outside interests. On 23 February, the academy launched the campaign, called #MedSciLife, to promote dynamic working practices. Lechler says in a special issue in *The Lancet* that time spent outside work nourishes creativity, builds resilience and offers fresh perspectives on problems (R. Lechler *Lancet* **389**, S1; 2017). These are "precisely the skills that result in the best-quality research", he writes. "A life outside science is not an extra." The campaign website offers personal stories and resources for medical researchers and those who are considering the field as a career ([www.medsclife.org](http://www.medsclife.org)). "I find science pretty stressful," says Paul Martin, a cell biologist at the University of Bristol, UK, in a post on the site. "So I have several hobbies to 'escape' work." As part of the campaign, photographs of early-career medical-science researchers in their work and personal lives are exhibited at the academy's headquarters in London.

### TRANSFERABLE SKILLS

## STEM must branch out

US graduate programmes in science, technology, engineering and mathematics (STEM) are too focused on the development of academic-research skills and should be retooled to meet the needs of employers outside academia, a report finds. In *Professional Development: Shaping Effective Programs for STEM Graduate Students*, the Council of Graduate Schools (CGS) in Washington DC notes that non-academic STEM employers want candidates with transferable skills (see [go.nature.com/2m3fkfa](http://go.nature.com/2m3fkfa)). Some of those include experience in data science and big data; science policy; governance, risk and compliance; and time, project and budget management. Just 10% of US graduate programmes actively teach these skills, the report finds. Graduate students often do not participate in professional-development programmes because they feel that faculty members do not value the non-academic career path, and because some federal funding structures do not incentivize broad professional preparation, the report says. The CGS offers an online database of university professional-development programmes that other institutions can use as a model.