

# Correspondence

## Close loophole for chemical weapons

As the Fourth Review Conference of the Chemical Weapons Convention meets next month, state parties need to address mounting concerns about the potential development and use of law-enforcement weapons involving chemical agents that act on the central nervous system (CNS).

Since 2013, when the Organisation for the Prohibition of Chemical Weapons was awarded the Nobel Peace Prize for ridding much of the world of stockpiled chemical weapons, lethal nerve agents have been used in Syria (sarin), Malaysia (VX) and the United Kingdom (novichok). There is a high risk that our enhanced understanding of the brain, coupled with rapidly advancing technology, will facilitate the development of increasingly dreadful chemical weapons.

Article II.9(d) of the Chemical Weapons Convention designates law enforcement, including domestic riot control, as a potentially acceptable purpose for the use of certain toxic chemicals (provided that the types and quantity used are consistent with this purpose). However, the range of potentially permissible chemicals has not been established. This provides a possible loophole for states to use CNS-acting chemicals for law enforcement. The use and development of ever-more sophisticated agents for such purposes would work against the prohibition of chemical weapons.

We strongly believe that this potential loophole must be closed. There are 39 countries that publicly support an initiative led by Australia and Switzerland against the use of such aerosol agents in law enforcement. In our view, a crucial first step is for the meaning and application of the convention in this area to be clarified at the review conference

so as to ensure that CNS-acting chemical agents cannot be used for law-enforcement purposes.

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## Co-producers: open data can test trust

I agree that trust and open data are essential for successful collaborations between stakeholders and scientists (see [go.nature.com/2quejkd](https://go.nature.com/2quejkd) and, for example, *Nature* **562**, 7; 2018). However, what happens to raw data once they become freely available can erode participants' trust in science — as I found when working with farmers in a pilot survey of soil health earlier this year.

In this survey of more than 1,300 hectares in the United Kingdom, farmers monitored earthworm populations on their land. Earthworms are good indicators of farmland biodiversity. The data will help to underpin initiatives such as the ongoing national #30minworms farmland survey, which aims to make crop production more sustainable (see [go.nature.com/2owgztz](https://go.nature.com/2owgztz)).

Raw data are openly available for other earthworm surveys conducted at the Broadbalk field-trial site in Harpenden, UK, which has records going back to 1843 (see [go.nature.com/2yz8u8q](https://go.nature.com/2yz8u8q)). An independent analysis of these unreplicated data concluded that earthworm populations are in drastic decline (R. J. Blakemore *Soil Syst.* **2**, 33; 2018). Unfortunately, the paper prompted alarming media speculation, such as: “Farmers around the world have been turning verdant fields into subterranean deserts” (see [go.nature.com/2ebruek](https://go.nature.com/2ebruek)). Many of the farmers I'd worked with were shocked to see those data, painstakingly collected like their own, trivialized in this way by the media.

Open data sets assembled

from participatory science must not be seen as a liability by research co-producers. I suggest that publishers could help to protect trust between research co-producers by developing best-practice guidelines specifically for these data sets.

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## Policy training for junior researchers

Early-career researchers can be promising candidates for informing and shaping science policy (*Nature* **560**, 671–673; 2018). Given the necessary support, they could learn to engage with policymakers and to create sustainable interactions with them for the future.

Senior researchers would need to share their knowledge and networks with these new team members. Research institutions could offer regular training — or even integrate it into the curriculum. Debates on policy implementation strategies, stakeholder involvement and far-reaching changes in science-policy systems might all be included.

Once active at the science-policy interface, early-career researchers would be in a position to inspire and mentor their peers to follow them.

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## Junior researchers need a break, too

What does your out-of-office reply say when you are on holiday? Chances are, your answer depends on whether you are a junior researcher or a tenured professor.

During the summer break, I sent an e-mail through the mailing list of the German

Society for Psychology, and received 223 out-of-office messages in response. Most replies (150) did not specify whether e-mails would be read or not, or if the sender was out of office for maternity leave or illness. For those who indicated that e-mails would not be read at all (31 replies), it was almost twice as likely that the message came from a professor (21 replies, or 68%) than when the message indicated that e-mails would be read occasionally (42 replies, of which 34% came from professors). Junior researchers' replies (37 in total) fell predominantly into the latter category, with just 10 saying e-mails would not be read.

Given the technological possibilities for accessing our e-mail accounts even in the remotest corners of the world whenever we feel like it, abstinence is a deliberate choice. This choice is apparently easier for a tenured professor to make than it is for a junior researcher.

I suggest that, as a community, we should create an environment in which the choice over whether to read e-mails during holiday periods is not dependent on seniority (see also J. Overbaugh *Nature* **477**, 27–28; 2011).

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## Nature readers can cope with faeces

I was surprised by your Research Highlight ‘Why naked mole rats eat poo’ (*Nature* **561**, 9; 2018). It was not so much the content that surprised me but the use of the colloquial and decidedly juvenile headline. I hesitate to speak on behalf of the global scientific community, but I think it's safe to assume that we have the nous and maturity to deal with the word ‘faeces’.

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