

# Go Public or Perish

When universities discourage scientists from speaking out, society suffers

By the Editors

**Opioids. Fracking. Zika. GMOs.** Scientists should be speaking up about all sorts of science-based issues that affect our lives. Especially now, when Trump administration officials tell us that climate change is debatable and that killing African elephants can benefit the herd, scientists should be constantly exposing misinformation, bogus alternative facts and fake science.

Unfortunately, the greatest obstacle to informing the public may be the very universities that many scientists work for.

When *Scientific American* editors talk with Ph.D. students, postdoctoral researchers and early-career scientists, they often tell us that an adviser or senior department member has instructed them not to write blogs or articles for the general public, speak at public events or talk with reporters and to stay away from social media. In a 2016 survey of 61 chairs of U.S. and Canadian medical departments, only 23 percent said it was important for faculty to participate in blogs hosted by *medical journals*. Never mind personal blogs and those in the media.

These activities, they are told, are a waste of time because they do not count toward attaining tenure or promotions. The only things that count are publishing research in respected journals, getting grants, teaching and serving on a university committee. Forget the rest of society.

This message is delivered most strongly to young scientists, who are striving to build a career and are passionate about improving the world. Older scientists also tend to stay silent because it has been ingrained in them to do so. Yet if these individuals would write popular articles, appear on radio and television, or post their insights on blogs and social media, scientists as a group would have far more influence than they do today.

Some veteran scientists are starting to criticize this system, in part because it allows politicians, corporations and science deniers to hijack public scientific discourse. For example, Jonathan Foley, who serves on *Scientific American's* board of advisers and who held influential university positions before becoming executive director of the California Academy of Sciences, has come out swinging. In an online essay he states that science communication is "a moral imperative." Too many scientists, he writes, "view science communication, outreach, and engagement with disinterest, disdain, or even contempt." He adds that a scientist's job is not to "crank out obscure academic publications by the dozens, and amass a long list of peer citations.... As scientists, your *real* job should be to make great discoveries and share them with the world."



Organizations that fund science or represent scientists are beginning to encourage greater public interaction. The National Science Foundation now requires grant applicants to address the broader impacts of the proposed work, part of which is public outreach and education. In 2016 the American Geophysical Union published a statement saying that its 60,000 members have a responsibility to communicate their findings and to respond to inaccurate portrayals of science. And a 2016 report from the American Sociological Association recommended that universities include public engagement in academic promotion criteria, noting that outreach not only benefits society but also can raise a school's public profile.

If universities do not modernize their tenure and promotion policies, these good starts may accomplish little. A handful of universities have begun to change. The Georgia Institute of Technology, for example, is discussing ways to recognize outreach when assessing promotions and is considering a prize for faculty who do it well. The institute is also planning to teach scientists the skills needed to write and speak publicly. So is Michigan State University. Changes are under way at Virginia Tech, the University of Minnesota and other institutions.

These moves are encouraging. Many more schools should follow suit. That will require academic administrators and faculty leaders to change their attitudes. Survey after survey shows that people worldwide respect scientists highly. But if citizens never hear from these legitimate experts, no one can blame them for indifference to fake-science tweets, decisions by politicians that ignore facts, or cuts to federal agencies that are supposed to be built on sound science. ■

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