

Going Public in Support of Science

Scientists are stepping up like never before to support science in the public arena. In big and small ways, scientists are adopting creative ideas to promote science.

Scientists at every level, from trainees to senior leaders, are going public with their passion for science. Their specific aims are diverse, but the overarching message is the same—data, research, and scientists themselves can and should be essential contributors to civic discourse and decision making.

Many scientists are more comfortable staying out of the public eye and focusing on their own research programs. However, several trends in recent years, ranging from the rise of mainstream media coverage of science, to popular science blogs, to TED talks, have shown the value of a more public discussion of new scientific results. Given that backdrop, for many, the current global political climate is motivating them to raise their public profiles even further.

Humanizing Science

Many scientists are starting to tell their own story in order to humanize the institution of science. On Twitter, a number of scientists are posting pictures of themselves at work and tagging them #actual-living-scientist. These inspiring and entertaining tweets include photographs of Esther, from Kenya, who researches sustainable crops “to feed everyone amidst a changing climate;” a woman scientist in a lab coat with pipette in hand, “doing drug development research and growing a baby at the same time;” and Chris, collecting freshwater plankton from a bog in Scotland.

Another way scientists are humanizing science is by making sure their neighbors know what they do. In their view, a scientist’s own enthusiasm for science, when shared with those around them, can make a difference. “It’s important for scientists to be visible in their communities. Writing letters to a local paper, giving a talk at a local library—even if it’s twenty people. . . It’s not about science education, it’s about reminding people that scientists are not closeted away

somewhere or the geeks that you see on television shows. They’re your really smart neighbors, they’re part of your community,” says Andrew Rosenberg, director of the Union of Concerned Scientists’ Center for Science and Democracy.

In France, the Institute of Biological Sciences put out a call to biologists last year to write a one-page reflection for the general public on their research. The reflections will be collected into a book highlighting current and potential future scientific discoveries. Catherine Jessus, the director, appealed to her colleagues to “amaze society with the . . . life on our planet, and show them that discoveries of the living world are still ahead of us, that the living world is as fascinating as space exploration and that it deserves to be explored to the same degree.”

Influencing Policymaking

Another way that scientists are supporting science is by advocating as citizens. Rosenberg says he would like “Congress . . . and the administration to hear directly from scientists about why [a policy decision] is contrary to the scientific evidence. They’re hearing from their constituents, which is much more powerful than hearing from . . . an advocacy organization. It’s more powerful to say, ‘I vote in your district, you represent me, and this is what I think.’”

The Union of Concerned Scientists provides extensive training in communication and advocacy and offers videos on their website, including “The Role of Science in the New Political Era.”

In a more directed approach, the Society for Neuroscience (SfN) trains young scientists to effectively advocate for science through their Early Career Policy Ambassadors program. The Ambassadors first take part in Capitol Hill Day, where SfN members from all over the country come together in Washington, D.C. and then are dispatched in small groups to meet with members of

Congress to discuss neuroscience and the need to fund the National Institutes of Health and the National Science Foundation. Once they return home, the ambassadors participate in local advocacy efforts, such as inviting lawmakers to tour their lab or volunteering to help lawmakers prepare for hearings on scientific topics.

“It’s very empowering,” said Sloka Iyengar, an ambassador who visited Capitol Hill in 2015. She had just completed her postdoctoral work studying epilepsy and the causes of seizures at the Nathan Kline Institute in New York when she met with six different senators and representatives from New York and New Jersey. “That was my first time ever doing anything like this,” said Iyengar. The lawmakers were “quite interested” and were “very, very receptive.” Visiting lawmakers, said Iyengar, “allows you to see the impact of what you’re doing in the lab.”

Banu Gumusoglu, an SfN ambassador and a PhD candidate in neuroscience at the University of Iowa, advocates locally by organizing letter-writing campaigns to Iowa representatives and communicating with local scientists through a social media platform that she herself created. She also wrote an op-ed piece in *The Daily Iowan* encouraging bipartisan support for science funding and evidence-based policies: “Science has the potential to benefit all Americans and bridge deep political divides,” writes Gumusoglu. “We deserve a government that believes in science.”

Some scientists also plan to speak up for science at the March for Science, which takes place on April 22 in Washington, D.C. and in over 400 satellite cities around the world. According to its website, the march is going to be “a celebration of science” and an entreaty to the public and to government officials to value science and to base government policies on scientific evidence.

Preserving Data

On January 24, the EPA was ordered to remove the climate change page from its website; this page included links to global warming research and emissions data. The decision was rescinded the next day, but some scientists have taken these events as evidence that

government websites cannot be considered permanent data storage sites.

Because many believe that research funded by the public should be readily accessible in perpetuity, scientists are taking steps to retain and store research results. The University of Pennsylvania's Program in the Environmental Humanities recently launched DataRefuge, a public project that preserves data related to the environment, climate change, and social justice. They have held dozens of public events to identify and back up data that they assess as valuable to research and the community. In February, 200 people spent the day at the University of California, Berkeley copying data from NASA's earth science division, and 130 people spent a day at the Massachusetts Institute of Technology downloading data from a variety of government sites.

Co-sponsoring events with DataRefuge is the Environmental Data and Governance Initiative, a new grassroots network of academics and nonprofits that also identifies and stores data. They also serve as a watchdog, monitoring changes made to the websites of federal energy and environmental agencies.

Electing Scientists

Currently only one member of the US Congress holds a PhD in the natural sciences, and the new organization 314 Action, a cleverly named (think Pi) political action committee, would like to change that. It was founded to help scientists get elected to all sorts of positions, including local school boards, state governments, and Congress, by providing training and a political support network. Hundreds of people have signed up as potential candidates, and 2,000 people registered for their in-person and online candidate training.

So far, at least two scientists have publicly expressed their interest in running for office in 2018: Michael Eisen, a genetics professor at the University of California in Berkeley, and Jacquelyn Gill, an assistant professor of ecology at the University of Maine.

Creating New Ways to Support Science

To support science in creative ways, scientists are making logos, posters, T-shirts, and shareable posts; they are setting up advocacy groups and informational campaigns about why science

matters; and they are talking to local businesses, schools, and religious organizations.

The European Molecular Biology Organization creatively stepped forward to support their colleagues after President Trump's initial executive order temporarily restricted travel to the United States from seven countries. They created Science Solidarity, a website where scientists in Europe and Canada can offer bench space, desk space, and library access (and sometimes living space) to US-based scientists who became stranded abroad (see #ScienceShelters). More than 1,000 people have signed up to help scientists stranded by the executive order.

For science to survive and thrive, it needs to adapt to the social and political climate it finds itself in. Scientists are influential when they speak up, and they are finding a variety of ways to do so—with their voice or pen or artwork or physical presence. Scientist citizens are also cultivating relationships with decision makers and with members of the public in order to create a larger culture that values science and evidence-based policies.

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