

# The social scientist

Outreach should be part of any scientist's curriculum, as Jennifer Dionne explains.

I went to an all-girls Catholic high school, so I'll start with a confession: despite living in the Bay area, I don't use Twitter, Facebook, Instagram or Snapchat. I don't usually read Reddit or Flipboard, and I don't watch YouTube, Hulu or even old-fashioned television. It's not that I don't value social media — the world is a much more diverse, interconnected and informed place thanks to these technologies. I just find it much more enjoyable to connect with people in person, even if it means falling 'virtually' out of touch. Thankfully, I work in a field where personal interactions are an integral part of the job.

Though scientists are often typecast as lone researchers tinkering away in a lab or buried beneath books and articles, some of the best science today comes from scientists working together. That's because science requires diversity of perspective, thought and expertise; not to mention, inspiration often strikes from the unlikeliest of sources.

The 'social' side of science is not just about who we work with — it's who we work for. And ultimately, scientists work for the broader community. We are educators and inventors who seek to understand people's needs and respond to them. While we can form vignettes of our community in 140-character snippets, personal immersion in a community is far more telling. This immersion was perhaps cemented into my psyche from high school, where the wisdom of Catherine McAuley served as our mantra: "resolve to [do] good today, but better tomorrow." I perceive outreach as a critical component of my job.

My first real community immersion experience came as a junior in college. I was majoring in physics and engineering, and thought I would get out of the lab by participating in an alternative spring break. I spent one week living in a homeless shelter in Washington DC, at the Community for Creative Nonviolence (CCNV). To be honest, my ideal spring break might have involved a tropical island, but like so many of the really good things in life, this option was free. We helped serve food and distribute clothing, but spent most of our day simply conversing with the CCNV community. Many of the individuals there were extremely talented and bright, but luck had just not gone their way. Residents there were grateful to learn that I was studying to be a scientist. They saw — perhaps even



Credit: Art by Alice Lay

more than I did — that science matters. It was needed to improve their lives, whether by promising better joints, a cleaner environment or better transportation. Many of the CCNV members I met that week were frequent lobbyists at the capital, and they were the first to teach me that science needs a voice in policy and in the community.

Since leaving college, I (like many of my colleagues) have participated in a multitude of outreach activities: organizing public science exhibits, speaking at secondary and elementary school career days (the latter confirming that firefighters and emergency medical personnel still have the biggest appeal to a child's heart; perhaps science could benefit from a louder vehicle and 'cooler' uniform).

Yet, perhaps some of my most memorable outreach experiences stem from when the community has entered my lab. For example, four years ago, I was lucky enough to mentor an incredible high school student. This applicant candidly admitted that he wanted to study business but thought he should gain exposure to a new field before deciding. I took a chance on him, admiring his desire to try something new. His summer in my lab reminded me that high schoolers are brimming with potential and that the world is in terrific hands if we can help foster their curiosity and their creativity. This student went on to major in physics and computer science, and I feel grateful that my lab played some role in his decision. I now try to reserve a spot in my lab for would-be

non-scientists, both at the high school and undergraduate level, in hopes that exposure to our field can help break down stereotypes about science and scientists.

My community involvement has also affirmed the close interconnection between science and the arts. A few years ago, the director of Planet Earth Arts, Michael Fried, asked if I would help host a panel discussion following a series of original plays on climate change. The plays had been written in response to the provocative prompt, "Is earth f\*\*\*ed?", and demonstrated how powerful the arts can be in communicating science. We immediately hit it off and in the next few months we worked together to bring six plays to Stanford's campus as part of my class, Science of the Impossible. As one student noted, "The plays were great because they fully engaged me artistically, emotionally and intellectually. They challenged the status quo and the complacency that has existed around global warming and environmental change. With the talent and informational resources [on campus], students hold the tools to innovate." Michael and I have since worked together to instate a playwright residency, and my lab now hosts an artist-in-residence — a poet and playwright developing a full length play centred on the legend of Narcissus but rooted in energy and environmental science that will debut this summer. With Planet Earth Arts, we are now working to install a national playwright residency, in hopes that the promise of science can be better shared to the broader community through the arts.

My outreach experiences have taught me that scientists are role models with the potential for enormous impact on budding scholars, regardless of age, culture or demographic. No matter our particular discipline, we scientists are social scientists. We engage in team science and help connect people to the knowledge and resources needed to make the world a better place. And that's something to 'like'. □

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Published online: 4 May 2018  
<https://doi.org/10.1038/s41565-018-0144-9>