

2. Savage, N. (2015) Scientists in the Twitterverse. *Cell* 162, 233–234
3. Darling, E.M. *et al.* (2013) The role of Twitter in the life cycle of a scientific publication. *Ideas Ecol. Evol.* 6, 32–43
4. Van Noorden, R. (2014) Online collaboration: scientist and the social network. *Nature* 512, 126–129
5. Ekins, S. and Perlstein, E.O. (2014) Ten simple rules of live tweeting at scientific conferences. *PLoS Comput. Biol.* 10, e1003789
6. Wilkinson, S.E. *et al.* (2015) The social media revolution is changing the conference experience: analytics and trends from eight international meetings. *BJU Int.* 115, 839–846

## Special Issue: Communicating Science

# Scientific Life

## Speaking Up For Science

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**Communicating science and being an advocate for public support of research are critical roles for scientists. However, despite having the most relevant expertise, many of us do not get involved in matters bridging science and policy. Here I discuss the importance of science advocacy by researchers, and present strategies for communicating the relevance of your work to the public and elected officials, including the crafting of a two-minute pitch – a valuable skill for all scientists.**

An academic career incorporates many diverse responsibilities. These include developing a research program and driving it forward, training students and post-doctoral fellows, and participating at multiple levels as a member of the scientific community, both within our institutions and in study sections and advisory panels for federal agencies. Many of these responsibilities involve communicating the importance of our work with our scientific peers and trainees. But while we often speak *about* science, how often do we

speak up and advocate *for* science more generally? Importantly, if given the opportunity, would we know how to advocate for science to the general public or to our elected officials?

### Why YOU Should Advocate For Science

Most scientific research is supported with funding from federal government agencies. In the USA this funding comes mainly from the National Institutes of Health (NIH), the National Science Foundation (NSF), the Department of Defense, and others. The budgets of most of these institutions are set annually by appropriations committees in Congress, such as the Labor, Health and Human Services, Education Appropriations Subcommittee in the House of Representatives (see [1] for a more detailed description of the appropriations process relevant to funding biomedical research). This funding represents the lifeline of most research laboratories. Given this importance, communicating the importance of research and its contribution to the entities that ultimately support these efforts and determine the budgets of these institutions – the tax-paying public and elected officials, respectively – would seem essential. This advocacy can involve visiting elected officials to speak about the importance of basic biomedical research, and to emphasize to them that research is long-term and needs dependable and sustainable funding streams to support it. This also can involve writing to our Congressmen after receiving a federal grant, or contacting them ahead of upcoming votes to encourage their support for NIH and NSF at the highest possible levels. Importantly, it involves communicating with the public in ways that are engaging and informative to non-scientists, which can require a style of communication in which many of us scientists are not ‘fluent’. In short, it can take time and energy, and one could argue that this is a reason preventing many researchers, often already overcommitted, from getting involved in science advocacy. Additional barriers include not knowing how to get involved in advocacy efforts, and the notion that advocacy is the realm of

scientific societies and partner advocacy organizations. However, individual voices make a difference, and some of the most compelling and vivid arguments in support of research come from scientists ‘in the trenches’.

It is important that scientists actively speak up for the importance of basic biomedical research because, unfortunately, many people – including some lawmakers – are skeptical of science and scientists. In addition, they see large amounts of money being directed to scientific research, but the outcomes of these investments are not always immediately obvious. The scientific community must tackle this issue with urgency because the negative impact of this communication gap has already affected research and the careers of scientists. The past several years of flat or decreasing budgets, and decreasing pay lines, have led to a funding crisis in biomedical research. The purchasing power of NIH has decreased about 25% in the past decade when inflation is taken into account [2,3]. During the same time-period, NIH used to fund about one in every three grant proposals, but that has decreased to roughly one in six currently [2,3]. In 2014, four eminent scientists published a pivotal article on the crisis in the biomedical enterprise [4], which has kicked off many subsequent discussions. These discussions have included how to address the current funding crisis, the need for greater communication and advocacy around science, and how best to sustain the biomedical scientific enterprise. In conclusion, the funding crisis in science and the current state of the enterprise make it even more essential that we scientists speak up and advocate for the importance of our research.

Fortunately, some good news came in at the end of 2015. The FY16 budget for NIH increased by 6.6%, or by \$2 billion dollars, resulting in the biggest boost for its budget since 2003 [5]. While this is indeed a high point after several years of dismal budget news, this does not mean our job is done.

Advocating for science needs to be viewed as a priority and a continuous obligation; lawmakers need to hear from scientists on a regular basis in the same way as they hear from advocates in other sectors of the economy. As a community, we must fight to ensure sustained and dependable funding streams for science, and it is vital that every scientist joins in the effort. This involves being active advocates, presenting our case to our elected officials in the government. Perhaps most importantly, it involves understanding the value of communicating the contribution of basic research to the public, and changing the perceptions that paint scientists as being 'out of touch' and the science as inaccessible. Not only will it help the larger scientific enterprise but, as I will argue below, it will help you focus and hone your own message, and position you as an effective communicator, a game-changing skill in science.

#### Seize the Day (at Capitol Hill)

My entry point into the world of science advocacy came after joining a professional scientific society, the American Society for Cell Biology (ASCB). I read about opportunities for scientists to meet with lawmakers and their staff to speak about basic biomedical research. I thought this sounded like an amazing and unique opportunity, and I immediately applied for a Capitol Hill Day offered through the Coalition for Life Sciences (CLS) advocacy organization. It was through this experience that I became hooked on science advocacy and realized the importance of talking to elected officials. The experience of going to Capitol Hill as a scientist is both (initially) terrifying but completely invigorating. It is a different environment for most scientists – one where suits and business cards are commonplace. The visits themselves can easily take you out of your comfort zone because elected officials and staffers may ask you any question related to science, and thus every office visit you'll have is unique. In addition, because you usually are not speaking with scientists on Capitol Hill, you need to be

prepared as to how to communicate with your audience. On my first trip to Capitol Hill in early 2009 I heard at first hand some of the misperceptions about NIH funding and scientific research, such as that NIH funding only impacts on Bethesda, MD (where intramural research and NIH headquarters are located; staffers do not always remember how much NIH funding is distributed extramurally), or, for example, confusion as to why studying model organisms is important for human health. From these types of comments and questions, I wanted to understand where they were coming from, and help to educate in any way I could.

If you attend a Capitol Hill Day led by CLS or a scientific society, you will likely be part a small group of scientists from diverse backgrounds and career stages. Society staff often accompany you during your appointments. They will work with you to develop key talking points, usually related to current legislation working its way through Congress relevant to science or science funding or to upcoming budget discussions, or remind you about the committee appointments or voting record related to science of a particular elected official. Scientists in the group will usually have the opportunity to talk about your own research to members of Congress and their staff. You will want to think ahead

of time about what you want to say, and practice presenting your research in a clear and concise manner so that the congressional staffers and elected officials can understand. In the work that I do now as chair of the ASCB Public Policy Committee, we refer to this as your 'elevator pitch' or your two-minute speech. I've included some pointers from developing my own elevator pitch and from coaching other scientists in [Box 1](#).

I cannot emphasize enough the importance of being able to talk about your science in one to two minutes, and finding a common language that resonates with non-scientists. As scientists, being able to distill our message, and explain the science by avoiding the use of scientific jargon, is one of the most important communication tools we can develop. These communication skills are also extremely useful throughout our careers, and can be applied in many different circumstances. For example, we can use these same skills in publishing and funding our work, helping to convey the impact of a research finding to a scientific editor or to the program officer of our next grant proposal. The skills translate for when we speak with colleagues working outside our fields, and with university administration and technology transfer offices. We may also use this skillset to talk to the

#### Box 1. Creating Your Own Two-Minute Pitch

*Introduce Yourself; Point Out Your Career Status*

*Tell a Short Story About Your Research; Do Not Be Afraid To Personalize It*

- (i) What is your broad area of research? What is the specific question you are working on? Are there any good analogies you could use to help you to avoid scientific jargon?
- (ii) Why is this question important? What is the ultimate goal of your work? Why should we care about this (e.g., are there any healthcare or economic implications)?
- (iii) Share your excitement and passion for your work.
- (iv) Mention how you and/or your lab is funded; let them know about the outcome of any recent grant proposal.

*Wrap Up*

- (i) Avoid just asking for more money. Rather, thank them for their continued support of basic biomedical research at the highest possible level.
- (ii) Point out any specific concerns you have about the future (e.g., whether you can continue your current experiments depending on the outcome of your next grant; whether you will have to lay someone off; if you are a student, what are your plans for the future; etc.).
- (iii) Offer to follow-up with staffers if they had specific questions you could not immediately answer.
- (iv) Offer to be a resource if in the future they should require additional information regarding the topics you discussed.

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