Communicating your research effectively

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Scientific results are important, but can make little impact on the world without scientific communication - an extremely broad field that encompasses scientific lectures, writings, and reports. The increasing reach of social media in the last 10 years has also increased scientists' abilities to share their discoveries via Facebook, Twitter, Instagram, Snapchat, and blogging. These platforms are extremely useful and scientists can both share their own research and more importantly explain why these findings matter in an easy and accessible manner.

In fact, clear communication, targeted to a lay or broad audience is a key effective strategy for helping your research make the most impact. Whether you aim to share your research with the general public or with other scientists, the more transparent your statement, the more your audience will understand. Tempting as it may be, overusing technical jargon may alienate your audience. When you are immersed in a topic you may forget which words are general and which are technical, so always pause and think about what your audience might know or not know. This doesn't mean you must avoid phrases like autophagy or aliquot, but consider explaining technical terms when necessary. Likewise, including a graphical sketch or a nice fluorescence image might help you to catch the reader's attention, which could guide them to read about your new findings. Short videos explaining your discovery may actually be even more enticing to the reader, and for this reason a lot of scientific journals are implementing them into their press platforms to reach a larger audience. During a workshop I attended recently at the University of Southern California, Carl Marziali, press secretary for the current Los Angeles Mayor, advised the audience to not underestimate the importance of finding a way to reference your published research article on Wikipedia or other widely available and read platforms. For example, as Wikipedia is a free online encyclopedia and one of the most visited portals across the world, citing your work there could definitely increase your visibility across a wider spectrum. Likewise, LinkedIn, a worldwide business and employment-oriented social networking service, allows users (workers and employers) to create profiles and "connections" to each other in an online social network. Posting your discoveries here could also broaden your real-world professional relationships. But what is the best way to communicate your research? You need to know to whom you are talking. In our field we are used to communicating our research findings primarily to specialized scientists in specific fields at select conferences. Therefore, while we are used to the practice

of shrinking down our findings to suit a particular talk time, we unfortunately tend to take for granted that the audience will know a lot of the background scientific knowledge and terminology and as such leave that material behind. For this reason, a major priority nowadays (and also one that ISEH workshops are helping its members to master) is learning how to give a good “elevator pitch.” In these sessions, scientists are challenged to explain the novelty and importance of their scientific project in the time span of 30 seconds to 2 minutes. As an example Steve Palmer, head of press and science communication at Cancer Research UK, during a “media training booth” said that “If you’re talking to a print journalist, explain what you are doing [as if you are talking] to a 12-year-old child… If you’re talking to a TV journalist, you’ve got to explain what you do to a 5-year-old child. This might sound harsh, but it does help scientists condense their research into a 5 minute talk, which is often all the time they get when speaking to print journalists. If you’re on TV, you’ve got to get your spiel down to 45 seconds, hence being able to explain it to a 5-year-old. The main thing scientists need to think about when communicating their research is impact: “What is the impact on society, on all those people who are learning about our work?” or “why did you decide to start doing this in the first place? What did you want to change?” If you can communicate this clearly in about two sentences, you’re all set.” Moreover, Palmer suggests that all scientists should try to explain their research to their friends, particularly those who are not scientists. “Do they understand roughly what you do? And I don’t mean in a rambling long conversation across a whole Friday night. I mean in 5 minutes. Do they get it? And let them replay it to you. If they’ve got it, you’re fine.” In my experience, this has been a valuable suggestion. I am glad to be surrounded by friends that have expertise in varied fields, like social sciences, anthropology and art. I like to challenge myself to explain my research project and why I am pursuing it to them. It is a good exercise that helps you to summarize your work in an easy and accessible way, and if our friends get the meaning, it rewards you immediately. Also, it is important to consider that not everyone is a natural communicator or may be better at one type of communication versus another. Every single person has to work on it - Effective communication is a craft, a skill that you have to learn and work to improve. Some are better at oral presentation than others; some are better at writing. Try them all, see which one fits both you and your research best and use that strength to your advantage. Similarly, look for alternative ways to boost your skills, both in areas in which you are a confident communicator and those in which you are not. For example, during my PhD studies I had the opportunity to join a radio station program on a weekly schedule. The topics we covered ranged from science, politics, art, music, environment and technology. I had to learn how to deliver the news in the most accessible and interesting way in order to attract the listeners. Even though most of the time the news was non-scientific, I built up skills to better communicate in a short and proactive way, and consequently this improved my science communication during scientific meetings. Writing something like this blog is another great opportunity to practice effective communication. Being proactive in many different environments or contexts will definitely help shape your skills and abilities for future applications. Finally, in addition to self-promotion, as described above, to help more effectively communicate your research, take advantage of the press

release personnel of your institution as early as possible. When your paper is almost ready to be published, talk to them and try to schedule a press release that highlights the importance of your scientific discoveries. Don't underestimate the ability of a professional in this area to further the reach of your own discovery – they specialize in translating research to a broad audience and have contacts outside of your institution and field. You worked hard to get to these excellent results, so don't let their impact slip away without being noticed by the scientific community and general public! It is primarily our duty to contribute more on scientific communication to increase awareness and confidence throughout the population regarding the importance on doing our research, and how this will, in the end, benefit them. You need visibility, because eventually increased visibility can also improve your chances to win a grant to fund your future investigations, help you find a job, recruit new collaborators and propel your research forward, so don't forget to invest in developing this key component to a successful research program. "The art of communication is the language of leadership." James Humes

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