Chapter 6: Outreach

Being a professor is like being the CEO of a small company. Just as a CEO appears at various public events, talks to the media, gives interviews, etc. to promote his company, it is the duty of a professor to promote the work of her group. Similar to the adage about the tree falling in the forest, it doesn't matter how good your group's work is, if no one knows about the work.

There is this wrong notion that “good work speaks for itself”. This is a highly damaging myth because it makes students think all they have to do is to do the research, and the rest will take care of itself. This is not true at all!

If you observe any star researcher, you’ll notice two things. First, they are mainly known for a few key results. Nobody remembers *all* the work someone else did; we tend to remember the best work. Second, if you go look at their travel, they would have spent a considerable amount of effort in spreading the word about their key results. They would have written blog posts, given talks at various universities, and talked about their work on social media.

I really like this model of work: you work on a few ideas, but once you have spent multiple years on a paper, you then spend weeks or months spreading the word about your ideas. Given how much time we spend on research, I think we owe it to ourselves to spend some time on outreach about the work.

Contrast this with a model where you publish a lot, but not a lot of people know about your new ideas. Though assistant professors do need to publish and be productive to get tenure, the end goal is to have impact through your ideas, and outreach is crucial to achieving this goal. So let us talk about how to do outreach.

6.1 Web page

It is kind of strange to begin a chapter on outreach by talking about your web page, but I am doing so because it is so basic and fundamental. Your university web page should have the following for every paper you publish:

- Publication metadata like title, authors, and venue
- A link to the paper PDF
- A link to a self-hosted, well-formatted bibtex entry (don’t depend on ACM for this)
- A link to the talk slides if the work has been presented
- A link to the Github repository if the code is available

I find it baffling how many professors don’t put links to their paper PDF in their web pages. Many publishers allow authors to post the PDF (the “camera-ready” accepted version, minus copy

editing and formatting applied by the publisher) on their own web pages; for example, see ACM's Author Rights page and IEEE's Author Rights page. With open-access publishers like USENIX, it is explicitly allowed to post the published version on your web page. It is much easier to google a paper and pick it up from the author's web page rather than from ACM or IEEE. You should make it as easy as possible for others to find and read your paper: please share it on your web page.

You should also make it easy for people to cite your work. Writing your own bibtex entry gives you a chance to get the details right, such as capitalization of the title in your paper, or perhaps the spelling or accents in your co-authors names. Naming the bibtex entry right also saves the folks who cite your paper some work: it is easier to cite "MohanEtAl21-DataStalls" rather than "10.14778/3446095.3446100".

Finally, I believe that sharing your code so that others can reproduce and build on your work not only leads to better science, but also increases the impact of your work. I highly recommend sharing your code whenever possible. Add a link to the github repo on your web page (and inside the paper) so that people can find your code easily.

6.2 Blogging

Blogging is one of the best ways to get your ideas out. Setting up a blog is free and quick, and writing is a skill that professors are already good at. Some professors have blogs that are read by thousands (or even tens of thousands) of people – for example, see the widely-read blog, "Shtetl-Optimized", by my colleague Scott Aaronson.

There are several benefits to blogging:

- By blogging about your area of expertise, you can quickly build an audience of informed readers who engage with your work.
- A blog is a great way to create your "brand" – the topics you know and care about (so that someone could invite you for a panel or a PC).
- A blog is a good way to reach out to a broader community, increasing the impact of your work. For example, practitioners in industry might not read a technical paper, but will (and do) read blogs
- A good blog is also an effective recruiting device: students will read it, get inspired, and want to work with you.

What makes a blog good? A good blog is *accessible, interesting,* and *regular.* First and foremost, a blog should be accessible – a blog that simply regurgitates the technical material in your papers is not going to be widely read. The audience for a research submission is different from that of a blog: for a paper submission, you are mainly talking to your peers in the academic community, trying to get them to accept your paper; for a blog post, you are talking to a wider audience: interested practitioners in industry, undergraduate students, etc. So you don't need to be as defensive, or talk as much about the novelty or how it compares to prior work. You should write it so that an interested third-year undergraduate student can read and appreciate the

material. This means no unnecessary use of acronyms or technical terms, and no assumption that the reader would have read the seminal papers in the field. You should focus on the big picture: the big problem that the paper tackles, what is the cool new insight that is powering the paper, what are limitations (practitioners care about where this can be applied), and what are the implications for the wider field and folks in industry.

Second, a blog must be interesting. Oftentimes, this comes directly from the research that you are doing. When we write a paper, we tell the "straight-line story": we had this brilliant idea, we implemented it, and we got amazing results. However, as researchers, we know that the path of research is almost never a straight line; there are many twists and turns and dead-ends. However, a research paper is not the right place to tell that particular story. A blog post is appropriate, and hearing such stories is inspirational and educational to the junior members of our research community. For example, it is a big deal for a junior graduate student to understand that even their research heroes get their papers rejected sometimes! A while ago, I started a blog called "Computer Science Research Tales" to document these stories behind CS research. Such tales would make excellent blog posts!

Finally, the hardest part about blogging is being regular about it. For a blog to really take off, it needs to have regular updates. This is pretty hard to do! For example, when I started at UT, I used to blog regularly about my research, but it was harder to make the time after we had kids. Ideally, you want to have a post every month or so. The most popular blogs often have multiple posts a month!

How to get started with blogging. I would recommend just making it part of the publication process. Basically, every time you have a paper out, spend some time writing up a blog post about it. The material would be fresh in your head, so it would be easy to write the blog post and talk about the path the paper took to getting published. When you post the details of the paper on your web page, link to the blog post as well. When someone asks what your latest paper is about, send them both the blog post link and the paper link. I guarantee they will read the blog post first (and perhaps only the blog post).

6.3 Using social media

I often get asked about using social media as a professor. There are many questions: should profs use social media in the first place? Will posting on social media make professors seem as if they are not serious? What should they post? How much time should they spend on this?

Social media is an amazing tool that was not an option for the professors before us. It has many benefits:

- It allows you to find a community of other professors, get support, form friendships, and chat with others going through the same things.
- It allows you to broadcast your research easily. Before social media, this was primarily done by traveling to conferences or other universities

- On a related note, it allows you to provide your takes on technical events/breakthroughs, and engage with the community, without publishing papers or attending conferences
- It allows students to identify what kind of an advisor you will be, and therefore can attract students to your group

Of course, as with any tool, it is possible to use social media badly. You should remember that it is a public space, with your posts visible both to students and your peers (and potential future employers). You want to maintain a certain sense of decorum with your official account, especially since your posts do reflect on your university in a way (even if the views are only your own).

I primarily used Twitter, and it was extremely beneficial for me. It allowed me to gain visibility for my group's research without having to travel a lot. It allowed me to network with other faculty without having to attend program committee meetings. It allowed me to broadcast to students what I was looking for, and the culture of my research group. It would be much harder to do these things without social media.

Overall, a professor doesn't *need* to have a social-media presence. It is completely possible to have a thriving academic career without ever being on social media (as demonstrated by most senior profs). However, social media offers opportunities that are hard to come by otherwise. For example, some of the opportunities I got were because some senior professors noticed my tweets. It would have been hard to replicate this at conferences.

So what should you post on social media? To start with, you can post the highlights. You could post whenever you have a paper accepted. I usually post something like "Excited to share that our paper on X got accepted at Y. This is joint work with.. . Read on the main ideas and insights". Make sure to tag your students – it is a big deal for them, and helps them get on the radar of employers. You could post whenever you or someone in your group gets some major award or grant. I usually learn about grants and awards on Twitter, it spreads fast.

Once you are comfortable doing this, you could branch out a bit more and share more "slice of life" things on social media. For example, I usually share pictures when I'm out for dinner or a fun event with my research group. I sometimes share pictures from brainstorming sessions. These posts help students understand what life is generally like in your research group.

You could post about your reaction or comments to major news events. For example, if a new technology came out, you could present your take on how it will impact academia or your own sub-area. For example, a lot of professors talked about the impact of the US administration's guidance to make federally funded research open access.

Professors also use social media to discuss research that they read or come across and liked (or disliked). There have been interesting Twitter conversations about various papers posted on Arxiv – in fact, many professors use Twitter as one of the main ways in which they discover the latest research (especially machine learning).

Things not to post on social media. This should be pretty obvious, but do not post anything obscene or vulgar. Always remember that you represent the university, even in your personal account. One way to remember this is that if you post something terrible and it goes viral, it is definitely going to be reported as “University of X professor.. “.

On the less obvious side, it is fine to critique the system or a conference's policies, but posts like “John Doe’s work is terrible” are poor form. There is a fine line here where you can criticize someone’s *work*, but not criticize *the person*. This can be hard to navigate, and if you mess up, you end up hurting both the person criticized and yourself. I would be careful around this; just vent in person to some trusted colleagues over coffee or a drink.

Another thing to be careful about is politics. Again, remember that your posts are public. Angry folks might email your posts to your university administration, making all sorts of complaints about you. I know some university administrations handle this well, for example the University of California system. Others might not. If you are posting something political, always ask yourself if the post were to end up in front of your Dean, what would the consequences be? If you are just beginning to use social media (and you are also just beginning your academic career), best to steer clear of this.

Maintaining authenticity on social media. Some students tell me that they feel being on social media forces them to portray themselves in a certain, inauthentic manner. I agree, but this is also true of being at work in some sense; your professional self and your personal self are different. So there *are* limits on what you can say and post on your professional social-media account. If you have a separate private account not linked to your professional identity, you are free to post whatever you like there.

Should you post about your likes and dislikes on social media? Should you let your personality come through, apart from the strictly curated professional image?

Having a bit of your personal self come through social media makes it easier to find friends in the academic community who share the same likes. When folks share their personal life, I find myself relating to them more: *ah, that superstar researcher is just somebody like me!*

I would say feel free to share anything you could tell peers that you just met at a conference poster session. Do you love cycling? Great, feel free to share. Do you love baking? This was really popular during COVID, so feel free to share. Do you love rock climbing and want to talk about the great gym you found? Go right ahead. Skip anything you would not be comfortable telling strangers.

6.4 Giving talks

One way to spread the word about your research is to give talks at other universities and companies. This has a number of benefits:

- You get to pitch your idea to folks, and get their live feedback. This can be especially useful for work that is still in progress.
- You get to meet people who are interested in your work, and this can lead to collaborations.
- Hearing a talk from the authors is the best way to learn about a work; it is easier than reading the paper and more memorable. Folks who come to your talks will often later read your papers and cite your work.
- You get to establish your brand. If your work is thematically focussed on something, people will remember you later as "person from university X who works on Y".
- Sometimes the undergrads come to your talk, get inspired, and then want to work with you for grad school. It is a good way to catch the attention of strong students.

The only problem with this approach is that it is expensive, both in terms of money and your time. Many professors will do a "tenure tour" just before they go up for tenure, to ensure their letter writers know their work and have a chance to meet them. I've heard this is expensive and exhausting (but also fun). For my own tenure tour, I gave talks on Zoom due to the pandemic, so I couldn't experience this directly myself.

Getting invited. If you are interested in giving a talk at a university, just email someone you know there and express your interest. Absolutely no one turns down a talk from their peers. The only catch here is that you must be known to the folks arranging the talk (you must be someone in their research community). But academic communities are rather small – if you don't know someone personally at the university, chances are someone you know does. Request an introduction to someone they know at the university. Getting a talk invite at a company works the same way.

Zoom talks. While you might reserve doing the physical talk tour for tenure, I would recommend doing a similar tour on Zoom for every big paper that you publish. Remember the idea is to have a few papers that are highly impactful and that you are known for (not a big mass of unknown work). Zoom talks are easy to set up in that there is no travel involved. The Zoom talk is also a good bar for deciding whether to work on something: if this work gets published, would you be excited enough to give a dozen Zoom talks about it? If not, should you be working on it?

6.5 Networking at conferences

Networking at conferences is a core skill that you will need to develop as an assistant professor. Success in academia depends a lot on being invited to things – to program committees, to journal editorships, review panels, etc. Getting invited is a combination of three factors: the work that you do, who knows you and your work, and luck (as with everything in life). Networking is about increasing the set of people who know you and your work, so that the next time they need an expert in your area, they'll think of you!

So the first thing to realize is that the best way to attend a conference is *not* to sit through all the talks. Really! You might feel like that's the "best value" (given how much you spent to get to the conference) but it's really not.

The talk marathons that we have in CS conferences are a consequence of our unique conference-first publishing model, where we publish our work in conferences rather than in journals. In most other fields, journals are meant for publishing research, and conferences are meant to meet people. As a result, there is a lot more time planned for interaction.

The way to make the most of a conference is to attend a few sessions, but spend the rest of the time meeting people.

Go through the schedule beforehand and mark out a few sessions you would like to attend. For those sessions, pay attention, and go up to the microphone and ask any questions that come to mind. Speakers love when folks have questions! There is nothing more deflating than practicing endlessly and giving a good talk only to be met with no questions. So your questions will be appreciated.

There is this wrong notion that for networking to be useful, you have to talk to "important/famous people". And because it's scary to talk to famous people you haven't met before, you get stuck and don't get started. This is closely tied to the notion that you should have a goal in networking ("to impress Prof. X").

The goal. Here's what I'd recommend instead. Your goal is to be able to go up to a new person and have a conversation for five minutes without having anxiety or panic attacks.

That's it. It could be anyone, like a new student at another research group. There doesn't need to be a "payoff" in the conversation, and you don't need to explicitly ask for anything or say you are looking for jobs or anything like that.

What should you talk about? Have a short introduction and one-two sentence elevator pitch (see this from John Wilkes at EuroDW 2018) about your work ready. *"Hey I'm Vijay Chidambaram, an assistant professor from the University of Texas at Austin. I work on storage*

systems for emerging technologies and applications". Cap it to a minute or so – give the other person time to absorb and respond. Ask them about their work. People love to talk about their work, so this is always a ready topic!

One of the nice things about academic confs is the shared context that provides material for conversation. Talk about the food. Talk about the keynote. Talk about the poster session!

Obviously, this comes easier to some than to others. It is harder for introverts and shy folks. Regardless of how naturally gifted you are at this though, it's a learnable skill that gets better with practice. Once you get better at this skill, you will then be able to approach people you want to talk to.

Poster sessions and evening events. Make sure you go to the poster session. Look for the stuff close to your work. Introduce yourself and ask questions! Again, authors love when folks come and ask questions at the poster session! If there are other evening events, attend those if you can. Sometimes there are fun Ask Me Anything or similar sessions later in the day.

Taking a break. Feel free to take a break and recharge as much as you need. Weaving in hallway sessions and talk sessions gives you a change and a break from each type of activity. I'm usually exhausted at the end of each conference day. It can be exhausting having to be "on" all the time. This is normal, and okay. Get a good night's sleep!

To summarize, attend a few sessions, and spend the rest of the time in the hallway. Practice introducing yourself and talking to new people.

"Success" in networking just means meeting people, learning about their work, and spreading the word about yours. You don't need to have tangible outcomes like a new collaboration or interviews or something like that for it to be successful. Focus more on the process (being able to introduce yourself, holding a conversation) than the outcomes. You will rapidly get better at this, and as the set of people you know grows, it will become easier at the next conference. With time, you won't have to consciously do this – conferences will just become a place where you meet friends and talk about the cool work your group is doing.

Other Resources

Check out this excellent advice on attending conferences from Michael Ernst and David Notkin.

Summary

We have talked about how to do outreach so that the world learns about your awesome work. Outreach is a crucial component of being successful, especially when you are an assistant professor without an established brand. Don't be shy about using every tool you have to do it! Next, we will talk about service for your academic community.