

TrendsTalk

What career advice do you give your grad students or postdocs?

Advice from a mentor can be an invaluable in terms of seeing yourself better or starting you down a path that you might not have thought about. In this TrendsTalk article we ask four professors about the best piece of advice that they give to their trainees.



Grant Jensen

California Institute of Technology, USA

Success is the product of three terms: effort, talent, and luck

If you are Einstein (unrivaled talent) you will not have to work very hard to stand out, but the rest of us do. There is a lot of luck involved in early years, and it is healthy to recognize that, but it also dampens out with time. If you feel you are talented and hard-working, but have not seen great success yet, keep trying! Being a tenured professor is the best job in the world, so go for it!

All of us have sets of questions that interest us, types of work we like to do, and things we are particularly good at (and not good at). There are also sets of questions other people care enough about to fund, and projects/experiments that are likely to generate significant new insights soon. The key is to find the union of these sets.

People never like what they do not understand – in presentations, explain the big picture, keep it simple, explain graphics, and above all, remember the audience has never seen your slides before – they cannot digest them all at once immediately! You cannot throw a complex slide up and then immediately point to one detail and start discussing it. Remove words from your slides so people listen to you instead of reading your text.

Collaborate. It is much better to get something done, and have some coauthors, than to waste time discovering (or even worse, rediscovering) minutiae like you have to buy reagent X from vendor Y for the experiment to work. Have frank and frequent conversations with new collaborators about authorship expectations as things proceed.



Houra Merrikh

Vanderbilt University, USA

People matter

One of the most important steps towards building your career is to socialize with people. The 'people' include your mentors, colleagues, lab-mates, fellow scientists in your field, collaborators, and of course, trainees. Socialization can open many doors and help advance science in a meaningful way. For example, sometimes there are disagreements or competing models in science. Realizing that your competitor is just another scientist like you can help elevate the discussion in a positive direction. Working with others, collaborators in or outside of the lab, will teach you skills you did not have, and new ways of thinking about a problem. Seek out your neighboring labs, even those focused on unrelated problems. You might think of a new connection between fields. Attend conferences (gently ask your PI to send you and apply for travel funds). Do not skip social events! We all have heard how some of the best ideas in science came together at a bar or a dinner. Conferences will provide exposure to other experts in the field and opportunities to have deep scientific discussions with them in person. So, in the big picture, 'people' play a critical role in both building the foundation and longevity of your career.





Denise Monack
Stanford University, USA

This is a time for you to discover what career paths you are passionate about and to develop a good strategy to help you achieve your goals

I am not only passionate about microbe–host interactions, but also about mentoring trainees and having had a phenomenal mentor myself, Stanley Falkow, I can truly appreciate how important this aspect of my position is. I am here to support my trainees in their career exploration. Technology is always moving quickly and can open up doors for career paths. Take advantage of being at a place that is at the cutting edge of developing new tools and technologies. We are in an age of 'big data sets' and I feel that it is important to learn some of the skills for analyzing and making sense of so much data. However, do not let this drive your science. Keep sight of the bigger picture and the important biological questions.

In addition to guiding my trainees in their scientific 'mission' and helping them develop their 'toolbox', I always keep in mind where their strengths and interests lie. I advise them that now is a good time to develop their 'career network', to explore careers that intersect with their strengths and interests. I have developed a network of colleagues at various universities, biotech, and consulting companies that I share with my mentees. I encourage them to reach out and to not be shy to seek out the advice of others. It is not possible for me to know the ins and outs of every career in which my trainees might be interested. I am never insulted or bothered when my trainees consult with others for career advice. No matter which career path they choose – whether they stay in academics, become a consultant, take a position in biotech – all of the skills and techniques that they learn during this time will be extremely valuable. I think that instilling the confidence in my trainees that they can excel at whichever career they choose is the biggest contribution that I can make for their future success.



Jan-Willem Veening
University of Lausanne, Switzerland

Identify what you are passionate about and what you are good at, and then further strengthen those skills

Similar to being a professional athlete, try to embrace your talents and exploit them to the max. In addition to becoming a specialist and expert in this area, obtain other complementary skills that will make you more complete. Most often these include computational skills, which are useful in almost every new job nowadays. Even though we are an experimental microbial genetics group, I stimulate my people to take basic programming courses (R and Python), and courses in statistics and bioinformatics. In addition, every person in my lab attends at least one (inter)national conference per year to remain up to date with the field, network, and improve presenting skills.

Many of my people would like to remain in academia, and several do, but this is not always possible due to the limited positions available. I think it is important to bring across that there are numerous very interesting jobs outside academia for which their graduate and postdoctoral training is an excellent springboard. Several of my alumni are now working happily in the biotech industry, as a college teacher or even as data analyst in the financial world. From what I hear, these are all very satisfying careers where one can embrace one's passion.

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