

Mentoring the Next Generation: Fiona Watt

Mentor-mentee relationships are essential for professional development, but developing these interpersonal skills is not often highlighted as a priority in scientific endeavors. In a yearlong series, *Cell Stem Cell* interviews prominent scientists who have prioritized mentorship over the years. Here, we chat with Dr. Fiona Watt about her views.

What is your philosophy and approach for mentoring trainees, and how does it vary between Ph.D. students and postdocs?

Have you seen this perspective or your mentoring style change throughout the years?

I received rather little supervision when I was a Ph.D. student, and as a result I started my postdoc feeling under-trained, albeit highly independent. To compensate I put a lot of effort into closely supervising my first Ph.D. students. However, with time I came to realize that students need independence and the opportunity to tackle important problems, which is what I had as a student. Now I try to titrate the attention and expectations to match the individual student's needs. I treat everyone in my lab as equal, whether they are Ph.D. students, research assistants, or postdocs—I give equal weight to their opinions, offer equally interesting research problems, and provide equal freedom to explore new topics. The main difference between Ph.D. students and postdocs is what they aim to achieve in my lab. In the UK, Ph.D. students must submit their thesis within 4 years of registering; otherwise, the university may be penalized, so we need to work toward a specific deadline. Most of my postdocs are looking for independent group leader positions and working out the best time and places to apply is more complicated than ensuring a thesis is submitted on time.

I love the chapter in Sheryl Sandberg's book, *LEAN IN*, entitled "Are You My Mentor?" For me it covers everything you need to know about being a mentor or a mentee. My advice to potential mentees: think what your mentor is going to get out of the relationship.



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What are some important, but perhaps neglected, factors that trainees should consider when searching for a mentor?

In searching for a lab in which to carry out postdoctoral research, Ph.D. students need to think about the quality of science that is being produced, what they want to achieve while in the lab, whether they have a good rapport with the head of the lab, and how they are received by existing lab members. Beware a lab where the existing members aren't willing to tell you about what they are working on, and listen if they tell you that there are problems with funding or other issues. Also, don't be seduced by a lab that only publishes in *Cell*, *Science*, or *Nature*—you need to find out whether there is collateral damage in the form of postdocs leaving with no publications at all. Oh, and don't apply for positions in San Francisco if the love of your life has a dream job in Helsinki—there are many great places around the world to do research and it's important to ensure that your life outside the lab will be as happy as possible.

Do you have any advice for other types of mentors that trainees should seek in addition to their main advisor?

In my institution we encourage Ph.D. students to seek a Ph.D. mentor who is in the year above and in a different lab. We also encourage postdocs to find a postdoc mentor in another lab. These relationships, while very valuable, may turn out to be transient, lasting 1 or 2 years. Therefore it is also helpful to have a long-term mentor, perhaps an undergraduate advisor, or your lab head—someone you will keep in touch with over many years and can turn to when you have had a setback or need to make a difficult choice. I also think it is beneficial if postdocs and students who have already left my lab take an interest in promoting the careers of the next generation coming through, rather than treating them as potential rivals—sometimes positive relationships develop between someone who has left the lab and the person who took over the tail end of their project and helped see it through to publication. And I have been delighted at the relationships that can spring up between postdocs who were originally in competing labs—this is wonderful for ensuring that a field will stay healthy and flourish.

What is one thing you wish you could have told yourself about mentoring when you started?

I don't feel that I had significant mentors during my early career and I equated mentoring with what is known as "the old boy network" in the UK. Historically, this refers to the social and business connections among former pupils of male-only British private schools. As the product of an all-female school, and the only pupil from there to go to Cambridge University, I remember being really surprised that so many of my fellow undergraduates already knew one another. The old boy network has undoubtedly bolstered the careers of many British men over a very long period, and to be

charitable one could view mentoring as a massive extension, and democratization, of old boy principles. With that by way of a preamble, mentoring members of my lab came very naturally, but when I was first asked to mentor other people, I wish I had anticipated how enjoyable the relationship could be—I was initially reluctant to take on the additional commitments. However, I have certainly learned a lot from my mentees, and I also think that I have sometimes been able to help, simply by providing a fresh perspective on a specific problem they are facing.

Senior faculty often play a large role in recruitment and early career development of junior faculty. What do you think are senior faculty members' responsibilities toward younger faculty in their department?

It is very important to provide practical advice about grant writing, including completely restructuring a proposal, if necessary. It is also essential to offer to conduct mock interviews if the award of a grant is dependent on an interview; even explaining the layout of the room and warning that some panel members may be checking their emails or nodding off during the presentation can help to alleviate nerves. Being supportive when a grant application fails is also important—in particular, acknowledging that while it hurts (a lot), it is worth paying attention to, and acting on, any feedback, and that one failure does not mean you will never, ever get a grant. I also think it is important to make sure that junior faculty have opportunities to become known through invitations to speak at conferences and give seminars. Finally, while junior faculty should be protected from a heavy teaching and administrative load, they should not cut themselves off completely from those tasks—when the tenure decision looms, senior colleagues will want to know how you have contributed to, and shown your commitment to, the institution.

What do you think senior faculty can do to encourage and support women and underrepresented minority trainees and faculty and promote their advancement?

It is essential, when drawing up the shortlist for faculty appointments, to make sure

that women and underrepresented minority candidates are included in the list. Provided that the environment is supportive, a strong representation of female and minority faculty are included at all levels, and appropriate mentors are in place from the start of the appointment, women and minority faculty will flourish. Perhaps I should qualify that positive message by saying that being involved in the New York Stem Cell Foundation's Initiative on Women in Science and Engineering (see Smith et al., 2015, *Cell Stem Cell* 16, 221) made me realize that in some ways the environment for women is better in the UK than in the USA. Parental leave is more generous, and the Athena Swan Initiative has led to some tangible benefits such as scheduling faculty meetings within core working hours so that parents are not excluded from attendance because they are dropping off and picking up their children from school or day care.

Who are (or were) some of your most memorable mentors, and how has their impact on your life and career influenced your own mentoring style?

People who have been important in my career include Paul Nurse, Mark Walport, and Robert Lechler, all of whom have given me great support or career advice. One of the things I admire them for is laboring in different ways to improve the research environment in the UK. I met them when I was well into my career and so I wouldn't say that they have influenced my mentoring style. I also admire them for being passionate about their own research while occupying substantial leadership roles. This is an important attribute because I've noticed that scientists tend to slip into leadership positions—Deans, Vice-Deans, etc.—as a means of career progression when their own research careers have stalled, and so they can't be entirely trusted to look out for the interests of active, younger scientists.

In terms of women scientists, there are several who have been wonderful colleagues and friends. However, I will only mention Zena Werb and Mina Bissell, who opened my eyes to what it means to be a female scientist. I was referring to Zena and Mina in an article I wrote over

10 years ago (in 2006, in *Nat. Rev. Mol. Cell Biol.* 7, 287) about the communal washrooms at the old Gordon Research Conference sites in New Hampshire, which is where I recall first meeting them. The far-ranging, scurrilous conversations we had while brushing our teeth made me realize that being a female scientist can be great fun.

Can you think of any unique experiences or opportunities that you either gave your trainees or encouraged them to pursue that you think more faculty should consider as training experiences?

I think our annual lab retreat is a great opportunity for members of my lab to get to know each other better. It isn't so much the science we discuss as the heroic feats of cooking for large numbers of people and the events such as the cocktail competition and the Murder Mystery evenings that form bonds that last a lifetime. Even though two people may still not like one another by the end of a retreat, they will definitely understand one another better and that leads to better working relationships in the lab. I'm always pleased at the way in which different generations of scientists who have been through my lab stay in touch with one another.

What are your thoughts on "plasticity" in mentoring? To what extent do you think mentors need to adapt their mentoring style?

I think it is important to be sensitive to each trainee's cultural background—for example, my lab has always been a forum for intense and passionate political discussion but we need to realize that this can be stressful and uncomfortable for some people. We also need to be vigilant to spot unproductive behavior, whether in the form of threatening "What's App" message strings or senior postdocs trying to derail the projects of more junior members of the lab. I suppose the bottom line is that to mentor the scientist you have to understand and respect the individual.

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