

Women in Metabolism: Part 3

The “Rosies” of *Cell Metabolism* are back for the third part of the “Women in Metabolism” 2015 series. We are closing our anniversary celebrations with 14 inspiring and engaging new stories from women scientists in the metabolism field. A round of applause to all who contributed and supported this project!

Find a Friend



Frances Ashcroft
University of Oxford, UK

I feel immensely fortunate to be paid for doing what I love—I can't think of anything more exciting than being a research scientist. Looking back, it's been a roller-coaster ride—the thrill of discovery and the joy of seeing my work help patients being balanced by failed experiments, a lack of self-confidence, the problem of getting a permanent position, “difficult” reviewers, and yes, gender discrimination. But I believe there is usually a bright side to everything and that with enough determination you will always get there in the end.

When I first set up my lab, I rashly changed field, preparation, and technique all at once. In retrospect, I am surprised at my younger self as I lacked self-confidence, but I wanted to use the newly invented patch-clamp method, and I selected the pancreatic β cell as it had interesting electrophysiology and was associated with a disease (diabetes). It paid off. So I advise my students that, if possible, they too should seek a novel line of research that uses their skills and experience but is entirely their own. But my strongest recommendation is to find a friend; collaboration is the great joy of a scientific life. It's so much more rewarding to work with others. There is always someone to argue with, to bounce ideas off, and to commiserate with when the experiments don't work or the competition is behaving badly. I have been lucky enough to have had many wonderful collaborators, and I recently celebrated 30 years together with one of them.

It Takes a Team



Erika Pearce
Max Planck Institute of Immunobiology and Epigenetics, Germany

Starting a lab takes a lot of hard work, some luck, and the generosity of established scientists in your field. But it also takes a fair bit of managerial skill, and this is something that we are often poorly prepared for as scientists. Strong research is not just about individuals with great ideas; rather, it takes a team to create a significant body of scientific work. The team becomes all-important and plays the largest part in determining whether or not you, or any of your trainees, will succeed. Remembering this is key to being a successful manager and having a successful lab.

On this subject, I firmly believe that if your job seems too difficult, then you aren't working with the right people. One of the best aspects of having a lab in academia is that we choose the people that we take into our research groups. Use this to your advantage and be selective. Make sure that the people you let into your lab add to the collective vibe. Make sure they enjoy working together and supporting one another, both professionally and personally. Life is richer when you are part of a group working toward the same goals. Surround yourself with good people—who take research as seriously as you do—and good things will happen.

Keep Learning and Good Luck



Linda Partridge, PhD
Max Planck Institute for Biology of Aging, Cologne, Germany

Like many of my female contemporaries, I did not have any kind of life plan, and I owe a great deal to luck and to key mentors. Thanks to brilliant biology teaching at school, I did a degree in zoology at Oxford and was lucky to stay on to do doctoral research in animal behavior. By the time I graduated, the UK university sector was rapidly expanding, and after a short post-doc, I joined the academic staff at Edinburgh University. There was great local expertise in evolutionary genetics and a collegiate atmosphere, enabling me to pursue a new interest in the evolution of mating systems and life histories, particularly aging. For family reasons, I had to move back south, and I was lucky to be offered a position at UCL, which also has an excellent scientific environment. I became fascinated by the idea that we might be able to intervene in the aging process to prevent aging-related diseases. I was lucky to collaborate with Sally Leivers, who inducted me into molecular and cellular approaches and was a great collaborator. The Max Planck Society recognized the new scientific opportunities in research into aging, and I became founding director of its Institute for Biology of Aging in Cologne. Times are harder now for junior scientists starting out on the research road, and more is expected right from the start. Try to find a stimulating and supportive environment in which to pursue your own scientific questions. Curiosity, luck, and willingness to change and keep learning can also serve you well.

The Rocky Road to the Top

Anu Suomalainen, MD, PhD
Research Programs Unit and Neuroscience Center, University of Helsinki

I have been privileged to conduct my career mostly in Finland, a country with few glass roofs in science. We have a long history of gender equality: most women work, men take parental leaves, and the society provides high-quality, affordable daycare. These aspects I rarely actively appreciate—except when traveling abroad. For example, my European female colleagues have been discredited for having small children, when competing for posts—unheard of in my surroundings. But is Finland successful considering gender balance in highest academic professions? Surprisingly not. The proportion of women professors in my faculty is exactly the European average: 20%. A good amount of post-docs and early-stage group leaders are women, but why do they not reach the top? First, women should look in the mirror. I see talented scientists hesitant in taking the step toward independence, and in the critical period, mentoring is especially important. Second, unconscious cultural and psychological behaviors apply. Women are typically less aggressive in promoting their data; indeed, I have been told to be naive when stating that the data should speak for itself. A small survey suggests that papers with women as senior authors are cited less. Obviously, these aspects matter in competition for funding and posts. And, even in Finland, scientist image requires revision: visitors have mistaken me as a post-doc of my lab and as the secretary of Professor Suomalainen. The odds are still on their side.

Trying Something New

Anne Brunet, PhD
Stanford University

I find aging fascinating because it is an extraordinarily complex process that defies many conventional rules in biology. Key unanswered questions that captivate me include the following. How do external stimuli that affect aging exert long-lasting effects? How have vastly different lifespans evolved in nature? To address these questions, my lab has developed a multi-organismal approach, including the naturally short-lived African killifish. But I did not train in the aging field, nor did I have experience with these organisms before. So, a question I often get is “How does one build the confidence to try something new?” Part of it may be just not knowing how hard it is! I would also say that it is important to try something that one is most passionate about. Try, seize opportunities, be enthusiastic, fail, and try again. If I reflect on my own path, I was fortunate to have incredible mentors throughout my training and still now—one never stops benefiting from mentorship even when independent. Another factor that inspired me was that several exceptional scientists in the aging field are women, for example Cynthia Kenyon and Linda Partridge. These terrific role models likely underlie the fact that women are better represented in the aging field than in other areas. Finally, I feel that training students and post-docs is rejuvenating, and I greatly enjoy learning from them. I encourage women, and all junior scientists, to be fearless, have the confidence to seize opportunities, and try new things.

Remember Your Passion

Almut Schulze
Theodor-Boveri-Institute, University of Würzburg, Germany

When I think about what made me pursue a career in science, I recall the excitement that I felt as a student developing X-ray films in the dark room—the thrill that I might find something that nobody has ever seen before; to add a new piece to the ever-growing jigsaw of knowledge, even if the piece is tiny. I felt this passion again when I listened to the late Julian Lewis speaking about the joy of looking at images of zebrafish embryos. Now, running a lab on cancer metabolism, I get excited when the efforts of many months come together to prove an idea or raise even more questions. During these moments, science feels like the best job ever.

As a female scientist, I ask myself why our numbers are dwindling as we climb up the career ladder. There are many reasons for this, but one factor could be lack of confidence. Women tend to question themselves and their work more than their male colleagues. In my view, constant re-evaluation lies at the heart of scientific research. Without questioning the current dogma, we would not find new answers. Self-criticism is a valuable trait for a scientist and should be promoted rather than selected against.

My advice for early career scientists is to not get lost in the small things. This is even more important when your time is precious because you have other obligations. So remember your passion, have the right level of confidence, and focus on the questions that really make a difference. Then a career in science can be rewarding and fun.

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