

# How to find your way into industry, start-ups and academia.

## A mentoring session at the Swiss Robotics Day 2022

Whatever career path you're thinking about, it is important to know "the rules of the game". Some are the same for academia, rising start-ups and big companies, some not, some are well known, some less... and among them, there might be the one that will make a difference for your next career move.



Prompted by the moderators Auke Ijspeert (EPFL) and Manasi Muglikar (UZH), inspired by the young researchers attending the mentoring session organized by the NCCR-Robotics Equal Opportunities committee in occasion of the Swiss Robotics Day 2022, **Prof. Dr Simone Schürle-Finke** from ETH Zurich, **Prof. Dr Laura Marchal-Crespo** from Delft University of Technology and **Maja Hadziselimovic (MSc)** from SKAN AG shared their tips to make it in industry or academia.

### **Question: What inspired you to pursue a career in robotics? And do you regret that choice?**

**Simone:** I don't regret it at all, but my path was not straight towards it. I loved math and physics in high school, but didn't dare to go for a PhD in that direction. Then, by chance, microrobotics and nanorobotics appeared in my research and I got hooked to it. Today I am deeply focused on microrobots for medical applications.

**Laura:** I too was not linear in my career, as a child I loved to play with LEGO as much as with Barbies. I didn't even know what an engineer was when I was a child, but then, as I grew up, I discovered it and decided to go and follow studies in industrial engineering. After university, I went to work in a company. It was rather boring so I came back to do a PhD and found my passion: doing robotics for medical applications and truly having an impact on people's wellbeing.

**Maja:** My journey starts in Bosnia: my role model early on was my dad, who was fixing things around the house as an electrician. But I was not sure whether I could study as an electrical engineer; I didn't have anyone to discuss this with at school, I was scared of my physics teachers,... So then I decided to just try it out. As I got in, I realized I was rather good! Then I discovered robotics and found it fascinating. After a bachelor, I obtained an Erasmus scholarship for Slovenia and started my master in robotics. Then

continued in Serbia and then I did an internship in a company in the automotive industry in Germany. In parallel I was working in a start-up developing an exoskeleton and realized that there are so many people in Bosnia who still don't see the possibility to pursue STEM careers, so I decided to do workshops to spread awareness on this, especially among girls. So, I alternate working in the industry and working with kids...

Manasi polls the audience and observes that approx. 50% of the attendees are master students and 20% PhD students. She then asks the mentors for advice for early stage researchers.

**Simone** asks who is sure of how they want to continue and who is unsure. Then says: If you are curious about a PhD and find joy in science, don't hesitate: go and try it. I encourage you to look around, go and look around labs, read a lot, get inspiration from the literature and don't neglect your social environment: think of where you want to live and who is there, who is working on things you like. Also think of the "stage" of the lab: is it new and rising? Is it an established lab? Think of pros and cons of the two cases and which one works best for you. Know yourself and look for something that fits with it.

**Laura:** I worked for one year in a company, between my first master and my second one. And I don't regret that year, as I gained many skills that I still use in academia. Maybe you decide on something, then realize that that path is not for you: that's not time wasted!

**Maja:** My colleagues said it all! I remember at the beginning that people were giving me tasks and I had no clue how to approach them. But then, after a few tasks, you improve, you get ideas, and you say: *yeah, I will figure it out*. This is also important for personal development: you can and will learn anything. There is always time and opportunities. Don't be afraid of tests!

**Simone:** Don't think things are set in stone. Don't think that a choice you take defines you for the future, necessarily. Especially in academia, it may seem that we have less control over our career path, but I see that having several employers and multiple careers in one's professional life is actually becoming more and more common. You can define your own narrative, so even if you are not 100% sure of something, then just try one direction and when you realize it's not right for you, just change. You always grow, learn, improve and become the unique person you want to be.

**Audience Question: I am a former mechanical engineer who got interested in data science and robotics and I am now trying to transition towards this field. I left my former job and now I am not sure how I can join a robotic company, given the competition with younger talents. What advice do you have for someone who is trying to change career later in life?**

**Auke:** The exciting thing of robotics is that it's an interdisciplinary field: people come to it from all kind of different backgrounds. And we need all that. I wouldn't worry, because you might be very interesting because of the broad set of skills you bring.

**Simone:** Think of what is your unique selling point and make it visible. You can for example pitch your diverse background and once you are convinced it is a strength, you will convince others too.

**Audience Question: do you think that this advice is valid in academia too? Or do they look for someone who has gone through a certain set of steps, a certain sequence? And what should I do, just apply? How open are labs to taking people from outside?**

**Laura:** I am an engineer in a medicine faculty. So if this is possible, other interdisciplinary paths are also possible. My lab includes people with many diverse backgrounds. I would like to have you in my lab, if you bring unique skills! As a second point, I think in Switzerland it might be hard to enter academia as an older person because there are age limits, which I personally disagree with. I hope that this will be changed soon but at least in other places, as far as I know, this limit is not there.



**Question: how should I go about choosing an employer in industry? What's the best way to approach a company?**

**Maja:** When I was choosing a company something important for me was the company culture: how do they think of work-life balance, quality of life, gender balance, etc.? that means a lot and tells a lot about the company. I could work in a small company with 20 employees and one with 2000. This difference in size also creates a difference. In a small company, you're involved in all aspects of a product, from research to training, to customer support... while in a bigger company you are more focused on your area of work. This is another thing to think about. It might also be a good approach to start in a smaller company, that at least was good for me, because it gave me the chance to see a lot of different things and aspects that make a whole project, which is a vision you don't get in a larger company. This also helps you identify the part you are most interested in and refine your career choices.

**Simone:** I think that LinkedIn is a very powerful platform for that, so make sure your profile is polished and up-to-date, you can even set your status showing that you are on the market. Then, reach out

within your network! Build your network! To this end, being here now is already a good choice. And then maybe someone that you've reached out to knows someone etc...

**Audience Question: my question is about visibility. As women in STEM, it is sometimes difficult to be the only woman in an environment, and sometimes it is difficult to be recognized and be visible. How can we increase our visibility? Especially in industry?**

**Maja:** You're right, there are not so many women doing commissioning in big factories and sometimes I went through very difficult situations because of that, e.g. receiving stupid comments from colleagues. At the beginning, you are not even aware that this is inappropriate and maybe you don't even know how to react. When I realized that this was a real problem, I joined some networking groups and saw that actually there are many that you can join. A problem there is that each group tends to stick to itself, but I think that we will not solve the problem without joining forces. We should not have to face uncomfortable situations just because we are women. So, join those groups. This is also an opportunity to meet great women, who are in important positions, and this can also help with your networking. But you can also start groups at lower ages, with students, even elementary school students! We need to combine the forces of everyone to solve this problem, as I unfortunately think it will take long to solve it.

**Laura:** Joining forces is important because this way you don't feel isolated, and this is one of the worst feeling one can have: to feel that you don't belong. Personally, I always speak up. This sometimes gains you the label of "a difficult woman", but never accept attacks. If someone is attacking your professional life and self-esteem, don't accept it!

**Simone:** Find your sparring partner to help you. Find a mentor that you can talk to, even inside a company.

**Laura:** If the surrounding is not treating you well, don't burn yourself in order to change the company. Leave, before it destroys you. If you tried and it didn't work, go somewhere else where you feel that you belong.

**Auke:** I completely agree with what has been said so far. An additional note about possibly feeling out of place: I think that everyone suffers from impostor syndrome and women are known to suffer from it more than men. Don't listen to that voice. We all have it, but trust yourself. Everyone has a place.

**Audience Member:** Even as a young individual in industry, I already changed many companies. I had my fair share of unnecessary comments and unusual situations. These things helped me speak up, and especially choose who to speak up to. Not the person who insulted you, but their bosses. Those who can make a change. Secondly, get out of your head and others' people heads. Lastly, there are environments that provide opportunities for women, like NCCR Robotics. NCCR Robotics has specific scholarships for women, I got one and this opened the world for me. Don't try to find your opportunity in environments that don't give you one, go to the environments that are open to the issue and support you. Those places want you there.

**Question: there are a lot of unwritten rules for finding jobs, in academia and in industry too. What are unwritten rules or mistaken to avoid that you want to share?**

**Maja:** One of the mistakes I was doing all the time is that if a job announcement had 10 requirements and I was missing one, I would not apply. Now, I apply even if I have only 5 out of them. I really thought you always need to tick all the boxes and this blocked me from getting very good positions. Don't do this!

**Laura:** Network! Talk to everybody! You never know who will be the one to help you.

**Simone:** I realized that very long emails, with lots of details, not tailored to what the company or lab is doing, are discouraging for those who have to go over that application. Always know your audience! Tailor your application to your job. This really makes a difference.

**Auke:** In academia there are also reference letters. They are so important! Hiring committees don't just look at the CV but also at what the people they know, what the people they trust in the field say about you. Go and invite yourself to labs! I have done it often, and this is a great way to enlarge your network. Go around, visit places, give talks.



**Question: how do you manage family and job?**

**Laura:** If I had a Swiss Franc for every time someone asked me this question, I would be rich! But the answer is: that I don't manage it. You cannot be perfect at the job and perfect at home. Some things you have to let go, learn to prioritize and focus on what is important. Also, choose your partner wisely! If I think about it, I can do what I do because my husband is very supportive, and we share everything 50%. If your partner prioritizes their career over yours, it would be very difficult for you to manage family and career.

**Simone:** Realize that you can't do everything and give yourself some slack. My child is 2 and, of course, needs much attention; but he also helped me to get better at prioritizing and be comfortable to say "no" more often. I feel I might have become more efficient. It was also helpful for me to create routines and define rules (that may change over time as the child is growing and lab/career are evolving) to make sure I have sufficient time for my family.