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1. How did you become a scientist and what were the important moments in the course of your career? Did you plan it or was it more due to coincidences?

My path towards being a scientist was filled with many twists and turns and until the age of 28 or so, it was an unplanned journey. At high school, I was rather good, yet not exceptionally talented, in Mathematics and Natural Sciences. Like many others, I was intrigued by the intricacies of the universe and the mysteries of living organisms, but my passion was rather directed towards sports and music (alike for many others). It was through coincidences that I ended up getting a MSc degree in (optical) physics and doing a PhD in (materials) physics.

The turning point came in the course of my PhD studies (at the age of 28 or so), which I decided to conduct not because of passion but because I didn't really know what else to do. But the more I studied and the more experiments I conducted, the more I got drawn by the fact that each "answer" raised number of new questions. This never-ending path fascinated me. I studied molecules, their interactions with other molecules, and the control of the properties of molecular materials with light. This topic was rather specific, but slowly I started seeing its connection to the outside world. Even if my interest towards my studies was never driven by technological applications, seeing the connections and realizing that many technological disruptions are in fact driven by materials development, was important for me.

The decision of pursuing an academic career came during a two-year post-doc period in Tokyo Institute of Technology, Japan. Living and working in a very different culture was inspiring both professionally and at personal level, and a decision without which I would not be in my present position. That period also marked a shift from physics to chemistry, the difference between which in the end is rather marginal from my perspective even if at high school or freshman levels they seem very distinct. Of key importance for my path was also the ability to closely work with, and learn from, several professors, both physicists and chemists. I would count five central influencers in the beginning stages of my career. Each of them had very different ways of working and thinking about science, and "my way" is a synthesis of what I have learned from them.

2. What do you think is important to become a successful scientist? How would you define success in science?

I would like to think that the most important things are curiosity, creativity and passion. This may sound a bit idealistic, but it is hard for me to imagine a successful scientist without these attributes. From these, the role of creativity is perhaps not often emphasized in scientific context but during my discussions with artists I have come to believe that there are lots of similarities behind new scientific discoveries and artistic creations. When I have talked with or seen lectures of Nobel Prize winners, what distinguishes them from many others seems to be the endless curiosity and passion towards what they do, which is admirable. Additionally, I would like to point out that science is a collective effort and in most cases being a successful scientist requires integrating to, and interacting with, the scientific community of one's own field and beyond.

But how to define success in Science? That's a question which in its complexity is beyond my capabilities. Surely there are simple metrics based on publications, citations and so on, and that metrics often dictates the possibilities of advancing to next career stage, hence being important especially in the beginning stages of scientific career. But of course success cannot be reduced to simple numbers. The impact of one's work sometimes becomes clear only after tens of years, awaiting other scientific discoveries the sum of which leads to disruptions in our world views or technologies we use. On the other hand, a scientist can be very successful even without ground-breaking discoveries, e.g. through inspiring and mentoring others, by being excellent educator and so on. So without even trying to define success, I would like to conclude that it definitely cannot be measured by simplified, short-term metrics.

3. What advice would you give to students who are just starting their journeys in science?

To quote Einstein: "The important thing is not to stop questioning. Curiosity has its own reason for existing. One cannot help but be in awe when he contemplates the mysteries of eternity, of life, of the marvelous structure of reality. It is enough if one tries merely to comprehend a little of this mystery every day." I think this is a good guideline to every young scientist. New knowledge has a value of its own and it does not need justification from e.g. short-term application perspectives. This renders each scientific domain equally valuable. Keep your mind open and try to find connections between what you study. And follow your own interests – nobody can dictate to you what you should do or how you should build your career – every path is different. Good luck in following yours!