

# Interview – Sven Schneider

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*Why did you decide to stay in academia instead of going into industry?*

I did ask this myself during my promotion. Scientific research fascinated me for quite a long time. I think this interest was aroused during my external research stay between my intermediate diploma and diploma. It was the first time I was involved in a research laboratory which motivated me a lot. In the sense that you have the freedom to follow your own ideas and only aim for pure knowledge. To answer your question: I did not want to follow a utilitarian motivation. In addition, when working in academia you're always cooperating with young people. They almost stay the same age, when one of your co-workers has left, another one is employed. This is something that keeps your mind young.

The freedom to choose your own research and the consistent employment with young people are my reasons to work in academia. The prior has been the crucial factor during the decision-making. Through my PhD, I was involved in a project at BASF to get insights into the industry. I realized that companies mainly aim for commercializing their research results. This is something that didn't appeal to me back at that time. Today, I'm also a member of a start-up's advisory board which was founded recently. That means I'm also involved into the industrial sector to some extent. Nevertheless, the fundamental gain of knowledge is my personal priority.

*Working in academia also includes teaching as an important role. Is teaching something you like to do?*

If I ask myself, what's the output of my work, of course, there are publications and scientific results in the first place. But being an independent researcher for all these years made me realize something: I choose unsolved, abstract, and difficult scientific problems and train young people in their thinking to solve those problems. In my opinion, that's what a graduated scientist really is: A problem solver. I think that this is the main output of my work – graduated, young scientists. In this regard, I don't separate teaching and research.

*You've been to the USA as Post-Doc. How would you describe the work in the United States compared to Germany?*

In the USA the dispersion between the quality of the universities is larger. Also, the range between prestigious and less reputed universities is quite large. Of course, Post-Docs want to join the prior universities for their work. I realized that there is almost no separation between work and private life. This is strongly represented in their daily routine: People start working in the morning, they leave for the gym at noon, then they come back for work, sometimes have an appointment in the afternoon, and finally work until 9 pm in the evening. A regular working day in the USA fluctuates a lot between academic and private activities. That doesn't mean that people in the USA work more than we do in Germany, it's only harder to distinguish between their work and private life. Often, social contacts are also the co-workers. At least, that's what I've experienced. For group leaders, this has a great advantage because resources are also used at night and are therefore more efficient. In Germany, night shifts in the labs are rare. Leading labs in the USA do not have more resources than we do, they only use them more efficiently. Nevertheless, you need to like this kind of lifestyle.

*Imagine, someone would offer you unlimited resources, what would you like to investigate?*

The fixation of dinitrogen has always been a very interesting topic for me. And that's what we are doing. However, I didn't start investigating this topic until I was offered the professorship because it's a risky issue. You could ask, why I'm interested in nitrogen fixation due to the existence of the Haber-Bosch process. Nevertheless, it is a difficult topic and as mentioned before, I try to choose difficult topics to train young people to become researchers. And this topic suits me the most.

*How do you choose your students and co-workers?*

I think one prerequisite is that the applicant really is interested in the chemistry I offer them. Of course, it's an advantage if someone also offers good grades in their studies. Nevertheless, good grades do not guarantee that the person is the best researcher. For an optimal PhD, the student needs to be supported intensively in the beginning. If the person aims for new scientific challenges elsewhere after 3-4 years of working with me, I say "mission accomplished". Some students intend to work on their own from the very beginning. Therefore, the student must be really talented but still, this can be problematic. As mentioned before, the optimal route to a PhD is gradually from very close supervision in the beginning to near independent work.

In addition, the dynamic of the group is not neglectable. It is important that a new student must be compatible with the group. In the case of internal applicants, this is not too difficult, since they are already known from research lab courses, etc. In the case of external applicants, I generally let them get in contact with my group and afterward ask for feedback from my co-workers. I think it is very important that a new student does not interfere with the group dynamic, otherwise this would be very bad.

*Was it always your dream to become a chemist?*

I've been fascinated by sciences for a long time with a special interest in medicine, physics, chemistry, etc. Within this complex of natural sciences, I think chemistry is one of the "central sciences" because it covers a wide range of topics from atomic to macromolecular scale.

To become a physicist, I guess I was not good enough in mathematics, to be honest. When I started my studies, my interest was quite much into biochemistry. However, at the technical university Darmstadt, biochemical subjects can be chosen after passing the intermediate diploma. Prior to that, I had my external research stay in an inorganic chemistry laboratory which fascinated me a lot. So, I became an inorganic chemist.

*What do you recommend to the next generation of young researchers?*

Always follow your own interests. At least in regard to scientific decisions, you have to take during your career. It's not easy to become a successful independent researcher, but it's even harder if you're not fascinated by the things you do.