Michael Potente rose quickly through the ranks of Frankfurt’s Goethe University—first pursuing a medical degree, then combining post-doctoral research with his clinical career—before being snapped up by the Max Planck Institute for Heart and Lung Research in Bad Nauheim at the age of 35 years.

Potente’s rapid career ascent is no surprise once you get talking to him. He comes across as decisive, a man on a mission. He suggested to Circulation Research that this attitude may have been shaped by his clinical cardiology experience. In medicine, he explained, there is no time for lengthy decisions. It is a question of getting things done.

At the Max Planck Institute, Potente heads the Angiogenesis and Metabolism Laboratory, where his team studies the development and growth of blood vessels and how the vasculature changes during aging and disease. In particular, Potente asks how the underlying metabolic mechanisms within endothelial cells control vessel growth, maintenance, and function. He describes the subject as both fascinating and beautiful. Even in a fast-paced laboratory, there is time for aesthetics, he says.

Tell Me About Your Childhood
I was born in Aachen, West Germany, but only lived there until I was 4 years old, when my father, who is a professor of engineering, got a new position at the University of Paderborn. That is where I spent most of my formative years.

As a teenager, I had some wild times. I was heavily into skateboarding and hip-hop culture, I was into music, and—you may not believe this—I even had dreadlocks. So I looked different than I do today.

How Did This Hip-Hop Dude Turn Into a Doctor?
In high school, I was thinking about what to do, and medicine just seemed attractive to me. I always liked science, but the engineering side of it, which my father had introduced me to, was not really for me. Medicine, however, is a nice balance of science and doing something meaningful for people.

So it was something that I decided on early, and more specifically, I knew I wanted to be a cardiologist.

Really? Why?
For one thing, a cardiologist is someone that people look up to, like a neurosurgeon. But also, when I was a teenager, my father had a small myocardial infarction, and this to some degree, influenced my decision. From then on, I had a clear focus. It was like an internal force.

When I started medical school at Goethe University in Frankfurt, I even considered that I might want to be a heart surgeon, but then I realized that this is not so compatible with my interest in science, or the more intellectual side of medicine. I wanted to be thinking about problems, trying novel things, not just carrying out procedures.

What Happened Next?
After finishing medical school, I was looking for somewhere I could pursue both clinical medicine and basic research. I decided to join the departments of Andreas Zeiher at Goethe University and Stephanie Dimmler at the Institute for Cardiovascular Regeneration, which by German standards was an unconventional mix of cutting-edge clinical medicine and cutting-edge basic science. I did post-doctoral work in Stephanie’s laboratory in parallel with my residency with Andreas.

In academia, it is always recommended that you relocate after medical school or university, so that you show mobility and independence, but I decided to stay in Frankfurt because it seemed like the best place for my career. So it was an active decision, not a passive one.

And You Stayed Even After Your Post-Doc and Residency?
Yes. I thought about doing a post-doc in the United States. At that time, it was almost mandatory for a young scientist to go to the United States to do good science and become recognized. Only through a foreign experience were you considered to be a real scientist. But my science was actually going well—my first papers came out, and at a certain point, I realized it was probably already too late to go.

What Do You Mean by Too Late?
If you go to the United States, this is an endeavor of 3 years, and there is no guarantee it will be successful. I was doing reasonably well in the laboratory and the clinic, so while the United States was a tempting prospect, I realized I would have to get to the end by a different route.

I still collaborated with scientists around the world, and in the laboratory, I got my own budget and had a lot of freedom. These things helped me to get scientific independence early on.
When the opportunity for getting an independent research group at the Max Planck Institute came up, I was ready. There was an open call for new investigators, and I thought, if I want to do serious biomedical research, I should probably try to apply for that. I was lucky enough to be awarded with this prestigious research group.

You Seem Like You Are in a Hurry…

Actually, I tend to be a bit of a perfectionist. When I write a paper or a proposal, for example, I can spend a lot of time on the wording of the paper, getting it just right, and I am the same with scientific data. I spend a lot of time making sure the data are robust from all possible viewpoints. But what I learned is that sometimes this can slow things down. Sometimes there is no need to get everything to 110%. It is ok for the things that are nonessential to be good enough instead of perfect. One has to take strategic decisions and ask, is it necessary to work on this for another week, or is this just fine-tuning? Will it make the difference between the paper’s acceptance or not?

My clinical work that I still do 20% of the time has probably shaped the way I think about science. For example, if you work in the cath laboratory, it is all about getting things done, you have to solve problems acutely, they cannot wait until tomorrow or next week and often you do not have an ideal solution. This is different from science where you think about things over a long period, writing grants and papers, and you do not get to an end. But even in science, sometimes a not perfect result can be a good result.

What Drives You Scientifically?

My experimental doctoral thesis, in the laboratory of Rudi Busse, was on how blood vessels dilate. It was not about the growth of new blood vessels, but it spurred my interest in that. Then in Stephanie Dimmel’s laboratory, I got interested in basic questions, like how do blood vessels grow, how does it work at the cellular level.

Somehow, I have always found the process of angiogenesis and vascular development fascinating, as well as being beautiful to look at. In vascular biology, there is a strong focus on imaging, and the blood vessel is a beautiful biological structure.

What Difficulties Have You Faced in Setting up Your Own Laboratory?

There is a learning experience with starting a laboratory. When I first started, I thought this is a cool laboratory and I want to hire people I like and that have the same attitude as me, but then I realized that this is probably impossible. People have different ideas and viewpoints and sometimes conflicts arise, and I realized that I needed to, in a way, professionalize. I am not anymore just a scientist. I am in charge of managing the group and resolving any problems or conflicts.

I took part in a management course that was offered as part of the EMBO young investigator network to which I belong. That was actually insightful. I realized how many mistakes I made—mainly for not being transparent enough. I realized we needed open communication so that everyone feels part of team.

Any Other Difficulties?

There is more and more administrative work for things like animal experimentation and genetic safety. There are visits by the authorities to check you are documenting everything correctly.

Science nowadays takes a lot of documentation, which can be a little bit boring and does not really add anything to your work.

How Do You Cope With the Admin?

I am a person who tries to put-off the boring things till later. But at some point I realized that this will backfire and hinder my work. So what I try to do now—in an unemotional way—is just get it done. This actually turns out to be satisfying.

Typically, when I come to the office in the mornings, I do these administrative things first so that they are off of my desk and I can focus on the things that give me pleasure. That is not always successful, of course, but that is part of being human.

What Aspects of Your Character Are Responsible for Your Success?

Persistence is certainly one of them, being focused, and having a genuine curiosity.

What Do You Do Outside the Laboratory? Do You Still Skateboard?

Unfortunately not. I would love to. I am probably too old for this now. I like other sports—biking, running. I also have a wife, and recently my life changed a bit because I got a little son. He is 8 months old.

Is It Difficult to Juggle Your Work and the Baby?

No, not really. Obviously, things have to change a bit because I am now responsible for a small kid, but it does not create a conflict for me. I like my family, but I also like my work, and to be happy I need a balance. Sometimes you need to spend more time at work because you have an important grant deadline or you have to submit a paper, other times you can spend more time with your family. I think that is actually something nice about academia: you have some flexibility. In a situation like mine, where my wife also has work duties (she is a surgeon), some flexibility is essential.

Do You Have Advice for Young Scientists?

Follow your ideas and be persistent. Believe in yourself. Science can be unpredictable—your paper might be rejected or need big revisions. You might start asking yourself, how will I do this in the future? Should I do something more predictable? What I would say is, be consistent, focused, and define your intermediate and long-term goals. Then, believe in these goals and in your own capability to achieve them. Do not loose faith.

Disclosures

None.

References

Michael Potente: No Time to Waste
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