

### **Philipp Back's doctoral journey: balance and impact.**

I chose to interview Philipp Back who wrote his thesis on “AI for Optimal and Sustainable Forest Management”. Philipp completed his dissertation at the Department of Information and Service Management under the supervision of Professor Pekka Malo, whom I also interviewed. I met Philipp during Ph.D. orientation week where he led a panel, alongside other soon-to-be graduating Ph.D.'s, about his doctoral journey. His speech resonated with my own expectations. I specifically decided to talk to Philipp given that his lifestyle and his ability to successfully combine family life, work and sports is something I also practice and expect to keep doing.

Before starting his Ph.D., Philipp worked as a Data Engineer. At his workplace he was surrounded by colleagues who had Ph.D.'s in applied physics and math. He started to feel certain peer pressure to get a Ph.D. status. But it was the research and exploration in academia that finally convinced him to make the ‘move’. The corporate life was not challenging enough for Philipp, as he had a higher interest towards the technical side of things and wondered: is there a degree that would help properly delve into studying concepts in depth? Philipp decided to speak to his master's thesis supervisor, Pekka Malo, to inquire about the Ph.D. path – little did he know that Pekka would eventually become his Ph.D. supervisor and mentor.

For Philipp, who defended his dissertation last month, the experience has been a “rollercoaster”. His initial theme was at first very unclear and as he calls it “not a Ph.D. topic”. Gradually his work began to take shape. As opposed to a known paper writing practice in management studies that kick off answering a particular research question, the nature of the Information and Service Management department's process, guides the scientific inquiry from the method. Hence, none of Philipp's works involves an explicitly formulated question, but rather, his research is focused on optimizing the method to obtain results. Philipp's Ph.D. journey wasn't too structured, he recalls. He was expected to write and publish already during his first/early-second year – a common practice in his field. Interestingly, In ISM, many conferences even outweighed paper publications. That was a somewhat surprising, yet useful discovery. Knowing how our departments and journeys differ, lowers unrealistic expectations towards my own work. And, I think, makes my process and relationship with the Ph.D. journey healthier.

After a while of exploration, participation in conferences and other research work, Philipp stumbled upon the topic of Forest Management and in an “aha” moment it was clear it would be the driving theme of his Ph.D. work. His research contributions started to materialize: “it was essentially from one kind of paper or message to the next until all 3 papers were there”, Philipp recalls. What drove Philipp in the research process was the exploration of the method behind it. The aspect of mathematical optimization. He was happy that there was so much interest around the theme of forest management and that Pekka and himself had advanced methods in mind to approach it.

Philipp highlights the utmost importance of **collaborations** and partnerships in research. His first paper was born from a collaboration with an expert in the field of forest management. From this collaboration he learnt how to look out of the box and explore the ‘unusual’ and ‘uncommon’ ways of doing things, in particular, he refers to a method’s applicability: “this method - multiple objective evolutionary algorithm - has been used for so many other domains and it seems to work on this type of problem very well, **but nobody has ever used it in a forest context**”, he underlines. He also recalls when they (Pekka and himself) first started collaborating with researchers from the University of Helsinki (a collaboration that perdures!) and points out the synergies among their expertise: “they know about forest management and we have more like...the methods background, the machine learning and then, by combining them, we were able to make some new discoveries”. Likewise, to me, networking, teamwork, and collaboration are essentially embedded into the researcher’s profession, despite it being commonly considered a lone occupation. For Philipp, the support of others helped him thrive, he says:

I never felt like it was a lonely endeavor - of course there are some things that you do by yourself but, by large, I felt always working on some project with other people and that helped me a lot, because I don't like just being by myself for 4 years and researching something (Philipp)

Philipp speaks about **research with impact**. In his opinion academia and practice aren’t far away. I second that, and at least expect to experience the same in my work. I recall being interviewed to join the Entrepreneurship Unit at Aalto and how I emphasized the importance of impact. It is not just the corporate and startup world that prepared me to think in terms of impact, but also the strong belief that academia and business practice must unite to improve the world we

live in, taking small steps together in the same direction. Aalto, as an institution propagates this belief. Hence, unsurprisingly, Philipp's research led him to the commercialization of his ideas. He said that it was such an interesting endeavor. That's when Philipp understood how many diverse opportunities might emerge from research work and it is also when his **skydiving pitch experience** comes into the picture. Philipp shared with me how a 'crazy' USA trend of pitching a startup idea in the sky – quite literally - became his own experience! Hanging in the sky, while filmed by another skydiver Philipp spoke about the commercialization of his research. It might sound quite fascinating. Except. it is not the skydiving pitching that inspired me in Philipp's journey, but how he was able to balance doctoral research with family life and his love for sports.

Philipp started his Ph.D. alongside his wife who also joined doctoral studies at the same time. During year two they had a boy, Joakim. Despite the 'common belief' that you can't marry, can't have kids, or will divorce during your studies, Philipp proved the opposite to be true. He attributes overcoming many challenges throughout the research journey thanks to his wife's support. Philipp's passion for powerlifting also has been 'medicine' to stress. What I take in is that, undoubtedly, there will be challenges during the doctoral journey, but it is possible to **keep a healthy work-life balance**, attend to family matters and especially benefit from the support of your loved ones to push through and not give up.

Philipp also has some **regrets**. He regrets not taking full potential of great conferences he was invited to, not being able to travel to network with peers or even interact with some of his colleagues due to the COVID-19 spread. However, there was nothing he could do – affecting the global pandemic was outside his control. In regard to his area of influence – he regrets not polishing enough his second paper. He felt there is quite a lot he could come back to and improve but, at the same time, submitting the paper was an "optimal" decision at that moment, he recalls. The paper was accepted and published in a well-acclaimed journal. I conclude from his story that, at times, as researchers, we need to decide when we need to wrap things up. There is a point when data collection is good enough to start writing or when a paper looks good enough for publication. Surely, we could spend years and years "perfecting" an article for submission or delving into the data collection process, but it might be even more important to look at the cost-benefit scale.

Philipp appreciates the Ph.D. program outline and structure at Aalto. The flexibility of the program allowed Philipp to complete his Ph.D. in four years and work remotely or take time off work to spend time with his family when it was required. He could explore subjects beyond the department's offer and was always able to receive guidance and support from professors and peers. Philipp says he feels lucky that he was offered to continue his postdoctoral research at Aalto which motivated him even further in his academic journey. He shares with me his thoughts on **role building**. Philipp is convinced that titles are somewhat meaningless and that we each have the power to create our own role combining the tasks we enjoy or the ones that would bring us to our desired job activities. At some point he asked his mentors something in those lines: 'I am interested in hands-on field work, but also in academic research and teaching. Should I then be a business consultant and get a professor-of-practice position at the University? Or should I stay in Academia and take consulting jobs on the side?' His experienced and senior peers told him that there is no black and white. The beauty and challenge of academic work is in its flexibility and a self-disciplinary approach. Philipp concludes:

You can really make it the way fits you best and I think that is something I like...you can find a role for yourself and do the activities that you enjoy... (...) ...and I think without academia I would not have thought like that. I always thought in terms of jobs and jobs titles...very formally (Philipp)

Philipp views his doctoral journey and dissertation completion a success. He is now in the process of forging his own role.

Rewinding to the beginning of the interview, I told Philipp about the **getting started and moving forward courses**. He mentioned how valuable he thought such courses were and missed not having them when he started, but then he also asked: 'what about the wrapping up course? When is it happening? Interesting input, I thought. Philipp said that "wrapping up" for him is one of the most important aspects of the journey. It is a necessity for Ph.D. researchers to learn how to properly wrap up, conclude their work and move forward in academia. Philipp also highlights that it is extremely important to be present at the department, to go for lunch with people and connect with peers. At the department "you will learn really important things that are not written anywhere", he says, so "**be part of the community**". Since I joined the Department of Management Studies, I also applied it as my rule number one – to be present. Interacting,

exchanging, and learning with and from colleagues has been really enriching and important for me. Pekka, Philipp's supervisor, agrees that Philipp's proactivity with research work and at the department has been one of the reasons for the successful completion of his dissertation. Pekka also highlights that his tandem with Philipp was a success because of their fit as supervisor and supervisee. According to Pekka, Philipp's skills were good enough to provide satisfactory results - the gap between Philipp's initial knowledge and desired knowledge - has not been too hard to breach. Philipp's willingness for skill development showed from the start – coming from a business background, he had some catching up to do. Pekka also points out the importance of the second supervisor for the Ph.D. student. Each supervisor has different skills and expertise in a narrow area. It is best if supervisors are complementary, in the sense that their knowledge does not overlap or repeats but contributes to filling the gaps in knowledge or expertise of the doctoral researcher they advise.

Pekka repeated once and again that despite the effort of the supervisor to look out for the students' success, it is the motivation and hard work of the students which will eventually help them successfully obtain their degree. Pekka believes it is not his job to “gift” degrees to people or include people's names on papers. He even feels that it is his duty to, sometimes, discourage students from pursuing a Ph.D. or taint their motivation early in the process – at the end ‘a consciously motivated student and a dedicated supervisor are a **winning tandem**’, he explains.

All in all, listening to Philipp's and Pekka's experiences has been particularly insightful for me. I managed, at least in part, to grasp what lies ahead the doctoral journey. Pekka's and Philipp's accounts gave me food for thought - and now, I hope, they will nourish the curiosity of others who read about them.