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Inhouse magazine

“Our gene therapy could succeed.”

Markus Rüegg on the development of his gene therapy for muscular dystrophy in children, and the hurdles still to overcome.

Editorial

Dear Employees

Careers and success in science are neither simple nor linear. The stories in this issue show that ingredients such as hard work and excellent ideas are sometimes simply not enough.

In this issue, Markus Rüegg provides insight into his personal research career, which has taken him from basic research all the way to practical application. He is now on the verge of being able to offer a gene therapy to children with LAMA2-related muscular dystrophy. Why animal welfare is essential for these kinds of projects is explained by Frank Neumann in "5 Questions for." As a Research Compliance Officer, he is responsible, among other things, for animal welfare and the 3Rs at the university.

Research also relies on a large number of staff working behind the scenes. In a new series, we aim to highlight the people of such services. We begin with Cristela Oliveira, Susanne Bürgi, and Patrick Groelly from the Media & Lab Ware Preparation (MLP).

In addition to performance and perseverance, success in science always requires a bit of luck. This also applies to the many prizes and awards that line researchers' career paths. Some awards come with the most curious stories.

Speaking of luck: Ferdinand Weidner did not have much of it in his personal life last year. After an injury forced him to take a break from his new hobby, he is now on the rise again, aiming for the very top.

With that in mind: we wish you good luck!
Your **Inhouse** team

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Ready to climb the career ladder? Take a chance and play our Snakes and Ladders game.

Content

“Our gene therapy could succeed.”

For more than thirty years, Markus Rüegg’s group has been studying muscles and nerves. In the interview, he talks about the development of a gene therapy to treat a severe form of a muscular dystrophy in children, the challenges – from funding to patient expectations – as well as the important role of animal research.

Interview · Katrin Bühler

Your team recently published a new study on LAMA2-related muscular dystrophy – a rare hereditary disease. As a basic researcher, how does it feel to have come this far and now hold a promising therapeutic approach in your hands?
It is incredibly rewarding. Ever since I was a teenager, I have been fascinated by research and wanted to understand the fundamental processes of life. Once you understand those, you can begin to see what goes wrong in disease. The LAMA2 project began as pure basic research, and now we have reached a point, where we have a potential therapy within reach. It would be a dream come true to see this therapy alleviate the disease in affected children. Now we need to take the final steps toward clinical testing.

How did it all begin?
In my early years as a group leader at the Biozentrum, we identified binding domains in the protein agrin. Agrin is a component of the extracellular matrix – the structural scaffold that surrounds and supports cells – and essential for the formation of synapses between nerve cells and muscle fibers. While searching for binding partners of agrin, we were the first to show that it binds to laminins and we were able to pinpoint the exact binding site. In a research proposal to the Swiss Foundation for Research on Muscle Diseases, I suggested investigating the significance of this interaction. Even back then, I suspected the work might be relevant to LAMA2-related muscular dystrophy, and I proposed testing the effect of a “mini-agrin” – a shortened, optimized version of the protein – in mouse models of the disease. Fortunately, the proposal was approved.

What is special about your latest results?
We had previously demonstrated the beneficial effects of so-called linker proteins – one of which is the aforementioned “mini-agrin” – in genetically modified mice. Our latest study shows that these linker proteins can also be delivered into LAMA2 mouse models using adeno-associated viruses (AAVs) – harmless, engineered viruses that act as carriers for genetic information. This is precisely the method used in gene therapies in humans. Our results therefore pave the way for testing this gene therapy in clinical trials as soon as possible.

Can your findings from animal models be translated to humans?
Yes, because both the cause and the consequences of the disease are the same in humans. Gene therapy can stabilize muscles and nerves, improve their function, and halt disease progression. When we treat the animals immediately after birth, they develop largely like their healthy counterparts. Even older animals benefit from the therapy, and treated mice show significantly extended life expectancy.

The treatment targets not only muscles but also nerves. Why is this important?
For a long time, the disease was thought to affect primarily the muscles. Our latest data show that peripheral nerves are also impaired. If only the muscles are treated, problems in the peripheral nervous system can develop later, leading to peripheral neuropathy – a neurological disorder that mainly affects the hindlegs of the mouse. Our gene therapy ensures that the linker proteins are produced not only in muscle fibers but also in peripheral nerves, allowing us to address both disease aspects simultaneously.

LAMA2-related muscular dystrophy manifests already in newborns. What is the potential of early treatment?
In mouse models, we see striking effects: a single treatment in newborn mice is enough to almost cure the disease and even older animals benefit. This gives us hope that our gene therapy could make a real difference for patients. Because the linker proteins are already based on human gene sequences, we are close to clinical application.

If the scientific basis is so solid, what is still needed to move to clinical trials?
The production of AAVs – the actual “drug” – requires a specialized company capable of manufacturing them in large quantities under strict, controlled conditions. This is very expensive, and securing funding is extremely challenging. We have the results from animal studies, contacts with pediatricians and patient organizations, and a network of affected families. In principle, we are ready to go. However, producing AAVs and conducting clinical trials is enormously costly: the amount of AAV needed to treat a single patient costs several hundred thousand Swiss francs. We estimate that around ten million francs are needed to launch clinical trials.

A one-off treatment – that sounds ideal.
It is, but from a business perspective, it’s less attractive. A drug sold only once generates far less revenue than a long-term treatment. Scientifically, we have made great progress, but the market follows its own rules, something we have learned over the past few years.

To drive development forward, you founded the spin-off SEAL Therapeutics. What is the role of this start-up?
As a company, we hold the patents, which is essential for developing a therapy and bringing it into clinical testing. It also makes it easier to find industry partners who can support us with the next steps, such as large-scale AAV production; something we cannot manage on our own as SEAL Therapeutics.

Such a promising therapy raises hopes. How do you deal with that?
We are in close contact with many patients and their families, some of whom we have known for several years. Shortly after diagnosis, families often search online for information and possible therapies, and many of them find us. I regularly receive emails from parents asking whether they can already register for a clinical study. They place great hopes in our work.

Markus Rüegg and his team member Judith Reinhard are going public with their story. On March 20, they joined Telebasel’s “Punkt 6 Thema” to talk about their gene therapy.

Why is it so hard to get investors or pharmaceutical companies on board?
Mainly because the disease is so rare. In Switzerland, only nineteen families are affected and the numbers are also relatively small globally – about eight in one million children are affected. The situation is further complicated by the fact that, in the best case, a single treatment is sufficient to provide long-term relief from the disease, and that gene therapies are still considered high-risk.

How do you personally handle these expectations?
It is both motivating and a huge responsibility. Despite the hurdles, we have to keep going – because, honestly, I believe our gene therapy can succeed. Our approach is currently one of the most promising in the field. Behind the clinical facts, there are personal stories. For years now, I have received an email every Christmas from the grandfather of an affected child in Germany. Each time, he asks how far we have come and writes that he refuses to give up hope as he is convinced

that "the Swiss" will make it happen. Some families are also extraordinarily committed: they manage a difficult daily life, organize fundraising campaigns, establish patient organizations, and build networks with one another. We cannot yet offer a therapy, but every day we see how urgently it is needed.

A significant part of your findings comes from animal models. Why are animal experiments indispensable for your research?
Without animal models, our research would simply not be possible. The complex pathology of LAMA2-related muscular dystrophy cannot currently be reproduced in cell cultures or organoids. Only in animal models can we determine whether our treatment works and how safe it is. This is essential, particularly for novel therapies, before they can even be considered for use in humans.

> "Despite all the obstacles, we will keep going with determination because we want to bring our therapy to the children."

You are also personally involved in animal research. How do you deal with ethical issues?
This is a topic close to my heart. As a former chair of the animal experimentation commission of the cantons of Basel-Stadt, Basel-Landschaft, and Aargau, I have dealt with it in detail. For me, it is essential that animal experiments are conducted only when truly necessary, and that they meet the highest ethical and scientific standards. At the same time, we must not forget that many medical advances, including our own work, would not be possible without animal models. It is therefore always a matter of carefully balancing scientific benefit, medical necessity, and animal welfare.

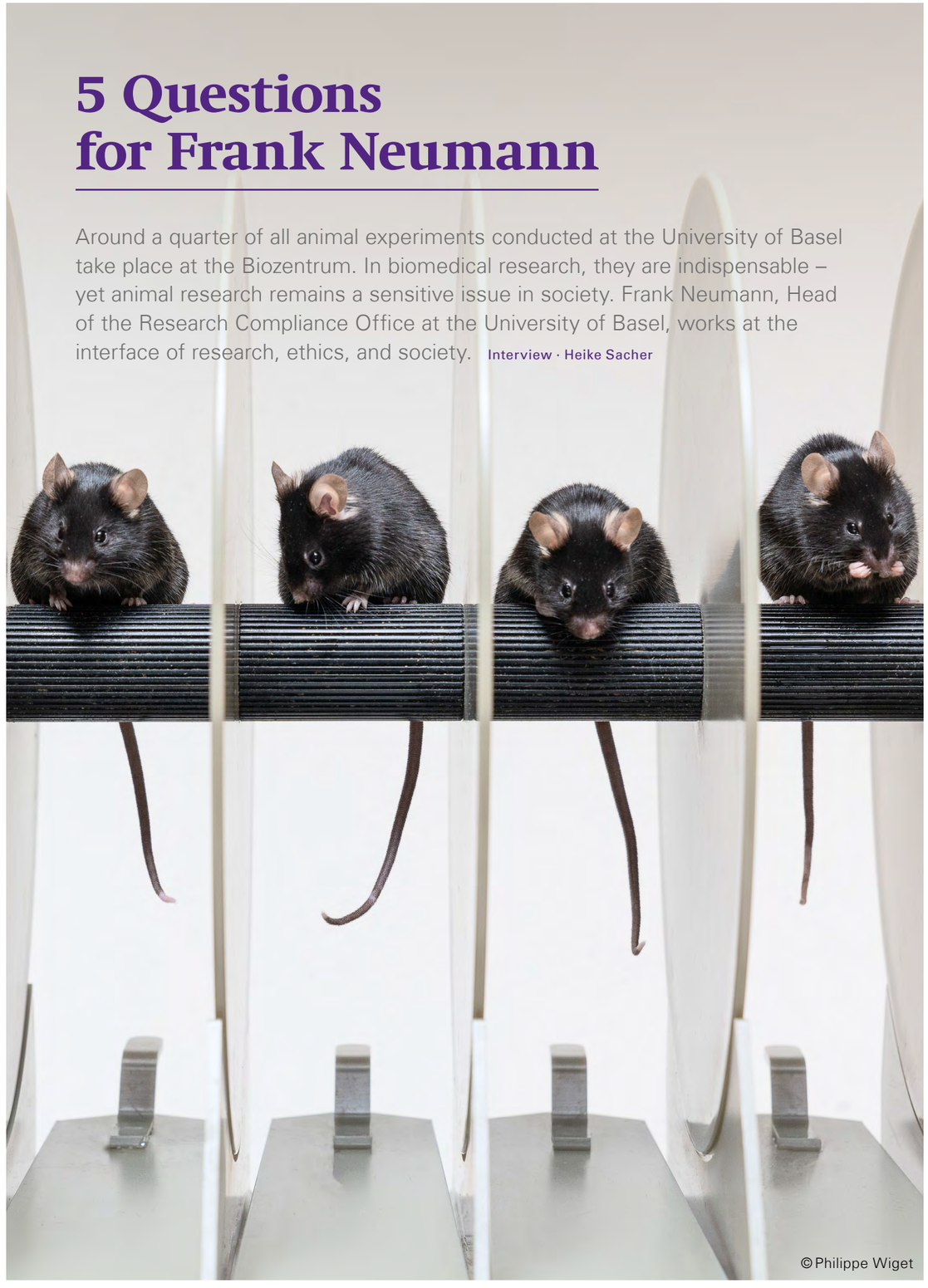
How would you assess Switzerland's overall approach to animal experimentation?
Switzerland handles the issue very responsibly. We have strict, well-designed regulations that clearly prioritize animal welfare and I believe this is absolutely right. In biomedical research, such as our gene therapy work, animal studies are indispensable for evaluating new approaches safely. Conducting them under clearly defined ethical conditions is a real strength of Switzerland as a research location.

Where do you still see challenges in the current system?
We are increasingly observing a degree of overregulation. For researchers, this translates into a very high administrative burden. Applications for animal experiments are extremely complex, and the entire approval process currently takes between six and twelve months. This can significantly delay projects. Given that my team members typically work on a project for three to four years, such a delay can mean that a project cannot be completed within that timeframe. The goal should be to strike a balance between maintaining high standards of animal welfare and making processes more efficient, so that innovation is not unnecessarily slowed.

What is your wish for your project?
I would like to see the gap between research and clinical application closed. We have a therapy that shows excellent results in animal models. Now we need to take the next steps and test its effectiveness in patients. It would be deeply frustrating if this approach could not be pursued simply for lack of funding. But despite all the obstacles, we will keep going with determination, because our goal is clear: we want to bring this therapy to the children who need it. ■

5 Questions for Frank Neumann

Around a quarter of all animal experiments conducted at the University of Basel take place at the Biozentrum. In biomedical research, they are indispensable – yet animal research remains a sensitive issue in society. Frank Neumann, Head of the Research Compliance Office at the University of Basel, works at the interface of research, ethics, and society. Interview · Heike Sacher



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What exactly does your team do?
The Research Compliance Office focuses on three main areas: Research Integrity, in other words, good scientific practice. Knowledge Security, an area where universities are currently redefining their approach to responsible internationalization, and animal welfare and the 3Rs. The latter topic is primarily the responsibility of the Animal Welfare Officers, who work closely with researchers, animal facility staff and the authorities. Across all three areas, the goal is to create optimal conditions for research and to support researchers in complying with legal requirements and university regulations, so that they can carry out their projects as planned.

What role do animal experiments actually play at the University of Basel?
At the University of Basel, around 65 research groups conduct animal-based research, mainly in the life sciences, a strategic priority of our university. Looking at the distribution, approximately 65 percent of all animal experiments are conducted at the Department of Biomedicine, a 30 percent at the Biozentrum, and 5 percent are spread across other departments such as Environmental Sciences, Pharmaceutical Sciences, and Chemistry. Overall, animal experiments are an important part of basic research at the university. However, scientific progress in the life sciences does not rely solely on animal experiments, most studies are preceded by non-animal methods. Nevertheless, a large proportion of medical progress would simply not be possible without animal experiments.

Your team is also responsible for the 3R strategy in animal welfare. What does that mean in practice?
It is important to note that we always speak of animal welfare and the 3Rs together, they are inseparable. The 3Rs stand for Reduce, Refine, and Replace. In general, all researchers have an interest in applying these principles: to use only the necessary number of animals, to make experiments as animal-friendly as possible, and, when scientifically appropriate, switching to alternative, animal-free methods. The main task of the Animal Welfare Officers is to advise researchers during the application process. We help ensure that applications are of high quality and that ethical principles are upheld.

Animal experiments are often criticized in public discourse. What are the most common concerns you encounter?
There are very different perspectives. A small part of society rejects animal experiments, and often the use of animals in general. It can be difficult to engage in dialogue with these people. However, the results of past public votes on animal experimentation show broad support among the population, as long as such experiments are clearly regulated. And that is indeed the case in Switzerland: animal experiments are well regulated and strictly controlled. A frequently mentioned criticism concerns transferability: can results from animal models really be applied to humans? In many cases, they can, but not always. More central, however, is another question: what medical advances would have been possible without animal experiments? And the answer is: hardly any.

Where do you currently see the biggest challenges in your field?
Major challenges include increasing bureaucracy and multiple layers of responsibility. A proposal is drafted by the research group, supervised by the Animal Welfare Officers, reviewed by the cantonal veterinary office, assessed by the animal experimentation commission, and finally controlled by the Federal Food Safety and Veterinary Office. This multi-step process can take up to a year before the actual research begins. Many of these measures are well-intentioned, yet more and more time is being spent on administration rather than on animal welfare and research. In the end, this benefits neither the animals nor science. ■

Event Notice as a part of the 3Rs Day 2026:
Symposium: 3Rs in Immunology and Infectious Disease
June 11, 2026, at the Biozentrum

Further information:
www.unibas.ch/en/Research/Values-Ethics/Animal-Research

Since 2025, Frank Neumann is Head of the Research Compliance Office at the University of Basel. He studied Biology II in Basel and completed his diploma thesis at the Biozentrum in the research group of Markus Rüegg. He subsequently earned his PhD at the University of Geneva in the group of Susan M. Gasser. This was followed by several years of postdoctoral research in Paul Nurse's laboratory at Rockefeller University. Since 2012, he has held various positions at the University of Basel.

Publish or Perish

A life sciences career is anything but linear. Between breakthroughs and setbacks, it's not just skill and timing that determine success – chance and luck often play their own decisive role. Along the way, researchers collect awards, chase grants, and perhaps dream of that famous call from Stockholm. To complicate things: the world of scientific prizes is vast. More than a thousand awards exist, ranging from global top honors to highly specialized recognitions for niche fields. In our take on Snakes & Ladders on the next page, you'll encounter some of them – along with sometimes intriguing and surprising facts. Text · Livio Stöckli

Balzan Prize This Swiss-Italian award comes with a built-in obligation to give back: around half of the CHF 750,000 prize money must be invested directly in supporting young researchers. Biozentrum laureates: Michael N. Hall (2024), Walter J. Gehring (2002)

Brain Prize The world's largest neuroscience prize, awarded by a Danish foundation and philanthropy ecosystem in which the LEGO founding family, the Christiansens, plays a major role. Biozentrum laureate: Silvia Arber (2022)

Breakthrough Prize The "Oscars of Science," founded by Silicon Valley billionaires (including Mark Zuckerberg and Sergey Brin). Endowed with USD 3 million and celebrated in a ceremony that feels more like Hollywood than academia. Biozentrum laureate: Michael N. Hall (2014)

Canada Gairdner Award Canada's premier biomedical prize. Known as "Gairdnerians," recipients embark on a lecture tour across the country – almost like a scientific rock band. Biozentrum laureates: Michael N. Hall (2015), Gottfried Schatz (1998), Walter J. Gehring (1987)

Copley Medal The grand old institution among scientific prizes, awarded since 1731. Its recipients read like a who's who of science: Charles Darwin, Benjamin Franklin, Stephen Hawking, Max Planck, and many more.

EMBO Gold Medal The "young investigator" prize: recipients must be under 40. Biozentrum laureate: Marek Basler (2018)

Louisa Gross Horwitz Prize Awarded by Columbia University and considered one of the strongest predictors of a Nobel Prize. By 2025, 55 out of 118 recipients had later received a Nobel Prize.

Kavli Prize Having made his fortune with aerospace sensors, founder Fred Kavli created a prize for the "largest" (astrophysics), the "smallest" (nanotechnology), and the "most complex" (neuroscience).

Kyoto Prize Founded by Buddhist entrepreneur Kazuo Inamori, the Kyoto Prize seeks to connect science with spirituality. Laureates deliver personal and philosophical lectures known as the "Kyoto Prize Commemorative Lectures." Biozentrum laureate: Walter J. Gehring (2000)

Lasker Award A strategic prize: Mary Lasker used it to draw political attention – and funding – to medicine, particularly in the context of the "War on Cancer." The trophy itself? A miniature version of the ancient Greek sculpture Winged Victory of Samothrace. Biozentrum laureate: Michael N. Hall (2017)

Leibniz Prize Worth EUR 2.5 million – but not for a private yacht. Germany's most prestigious research prize requires that all funds be reinvested into research.

Nobel Prize The ultimate accolade is often awarded decades after the original discovery. Those who receive it have made scientific history, but must still be alive to be nominated. Contrary to popular belief, there is no evidence that Alfred Nobel founded the prize out of guilt over his role in the arms industry. Biozentrum laureate: Werner Arber (1978)

Robert Koch Award Robert Koch treated patients in what are now Tanzania and Uganda with Atoxyl against sleeping sickness. The drug contained the highly toxic arsenic, and many patients went blind or died. As a result, the prize remains controversial today.

Shaw Prize Often referred to as the "Nobel Prize of the East," it was founded by Run Run Shaw, a Hong Kong producer of kung fu and martial arts films. He was a descendant of the Chinese philosopher Shao Yong and lived to the ripe age of 106.

Wolf Prize A major Israeli prize and Nobel predictor with a political dimension: the award ceremony takes place in the Israeli parliament (the Knesset) in Jerusalem.

The Race to Stockholm

The classic game of Snakes and Ladders gets a high-stakes scientific makeover. Start with your dissertation in the bottom right corner and navigate your way through the treacherous life sciences labyrinth. But be warned: the line between a meteoric rise fueled by breakthrough discoveries and a freefall triggered by rejected grants is often determined by a single roll of the dice. Grab your lab colleagues and some game pieces – we suggest using pipette tips – download a dice app, and follow in the footsteps of Biozentrum's own Nobel Laureate, Werner Arber.

Text and Illustration · Livio Stöckli und Annette Roulier

Start

Copley Medal
You are finally playing in the big leagues. But as most laureates, you're probably very old by now and exhausted. Pause for one round.

Marcel Benoist Swiss Science Prize
No publication in Nature, Cell, or Science. Move back 6 squares.

Robert Koch Award
You tried running clinical trials on your circle of friends. The Research Ethics Committee wants a word with you. Return to square 15.

Otto Naegeli Award
Pulling late nights in the lab pays off. Move forward to square 34.

Louis-Jeantet Prize
The most-won major award at the Biozentrum. You are in good company. Advance to square 48.

EMBO Gold Medal
Young, brilliant, and under 40. The future belongs to you. Advance to square 71.

Leibniz Prize
2.5 million Euros for your lab. Postdocs are lining up at your door. Roll again.

Swiss Science Prize Latsis
You applied for research funding but filled out the form incorrectly. Skip a turn.

Brain Prize
You've been immortalized as a Lego set. Now you're hooked. Move back to square 26.

Friedrich Miescher Award
Hometown glory: Your career gets its first boost from Basel's local honor. Roll again.

Tang Prize
$p < 0.05$ – it's tight, but enough. Move forward to square 65.

Kavli Prize
Your ambitions are "Astro," but your research techniques are "Nano". Go back to square 1.

Körber Prize
The European scientific community is cheering you on. Roll again.

Louisa Gross Horwitz Prize
You're being touted as a hot tip for the Nobel. Stockholm is one phone call away. Move forward 10 squares.

Wolf Prize
A hidden political message in your paper backfires. Peer reviewers send you back to the desk. Move back 7 squares.

Shaw Prize
Powered by Kung Fu movies, you fight your way forward. Advance to square 83.

Balzan Prize
Parental leave requested. Skip two turns.

Kyoto Prize
During the spiritual award ceremony, you question your life and reach enlightenment. Move forward 4 squares.

Breakthrough Prize
You got a photo with Elon Musk, and now everyone in the lab is ignoring you. Skip a turn.

Lasker Award
You dropped Michael N. Hall's Lasker trophy. Go back to square 60.

Canada Gairdner International Award
Like a rockstar, you're sent on a (lecture) tour across Canada. Move back to square 69.

Nobel Prize

“Out of hundreds of start-ups, we invest in just a handful.”

Anne Grahl took a leap into the unknown, moving from a post-doc at the Biozentrum into the world of venture capital. She has now been working for over four years at Pureos Bioventures, a venture capital company that invests in promising start-ups. In this interview, the alumna talks about trusting your own abilities and how she experienced the step into a completely different world. Text · Katrin Bühler

You were working in structural biology at the Biozentrum with Stephan Grzesiek, so you had basically no experience in venture capital. How did you feel at the beginning?
Directly after leaving the Biozentrum, I went to the venture capital arm of the German Merck in Amsterdam. It really felt like a completely different world. For the first month or two, I thought: Why on earth did they hire me? Even the language was completely different. There were so many terms and abbreviations I didn’t understand. I came from structural biology and had never really worked with animal models. But that’s exactly what a lot of preclinical start-ups are about.

What did that mean for you personally?
I had to learn a new way of looking at things and how to evaluate them: What is good? What should I expect? What are the relevant questions to ask?

And what did it take to get there?
The most important skill at the beginning is listening. I paid close attention to my colleagues – what questions they asked, what points they raised, to understand what really matters. I remember one colleague asking a critical question about a mouse model and I still ask that question today. In general, analytical and critical thinking are incredibly important. That’s exactly what I learnt during my PhD.

So you’re not on your own?
Not at all. The job is very collaborative, which I liked right away. Usually, two or three people work on a project internally. But we also collaborate with other investors, key opinion leaders, and of course, the start-ups themselves. It’s a balance between building trust and staying close, while still being critical. When you’re really passionate about a project, it becomes harder to make tough decisions. Sometimes I have to reject scientifically strong projects simply because they don’t fit our investment strategy.

How many start-ups do you evaluate?
We see a huge number – out of hundreds of companies a year, we invest in just a handful. Not because only a few are good, but because decisions depend on strategy, capacity, and timing. First, we look at the data. Then the indication: how competitive is the field? What unmet medical need are they addressing? And finally, the team: can the management actually deliver? Can we work well together? After that, we look at more formal aspects such as financial expectations or the patent situation.

It sounds crazy – only a few out of hundreds get selected.
Yes. We’re accountable to our investors. The capital is limited and has to be used responsibly. We also need to generate a return on investment so that we can reinvest – it has to pay off in a few years. I’m very aware that if I don’t do a good job, I will eventually lose my job.

So you have to say “No” a lot, that’s not easy.
You definitely can’t avoid difficult conversations. That’s something I had to learn. It gets a bit easier with time, but it’s still not easy. What I find particularly hard is turning down companies that are actually good, but just don’t fit our current strategy. You can quickly learn the ins and outs of data and numbers – the bigger challenge is the human aspect.

What do you find rewarding about your work?
Two things. Firstly: a love for science. Projects that challenge established thinking, where suddenly processes seem reversible or work in completely new ways. That’s incredibly exciting. Secondly: working with the companies after an investment and seeing how start-ups develop.

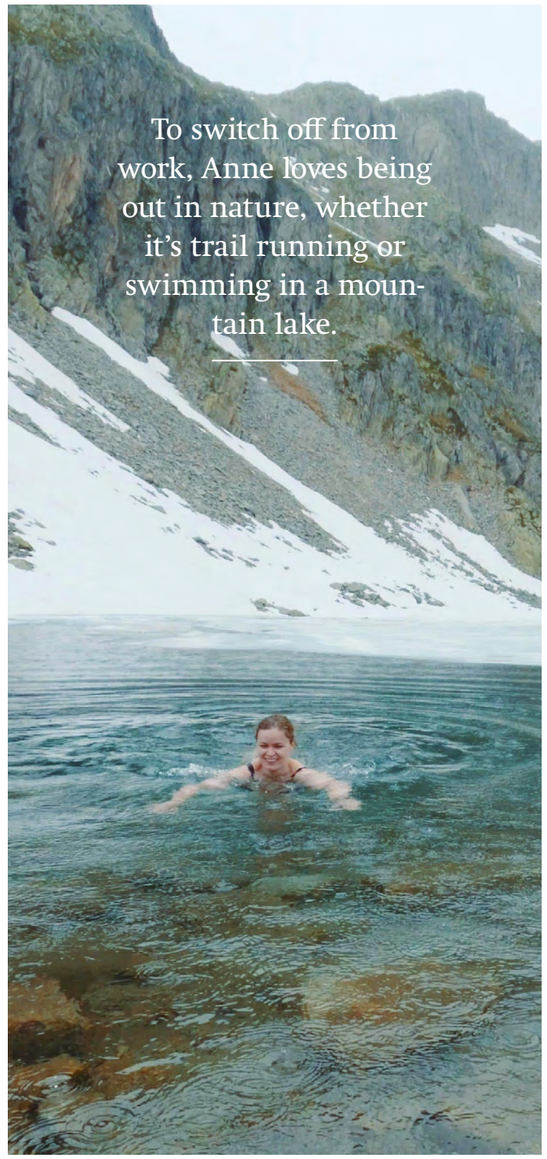
Speaking of developing further: did you never consider a classical academic career?
I really enjoyed doing research, but I always wondered what would come next. During my PhD, I took part in the university’s mentoring program, today it’s called ZOOM@Novartis. I met a lot of people who loved their jobs, but I never had that feeling of that’s exactly what I want to do. I also sat on a hiring committee for a professorship, and when I saw what was required, I realized: I don’t see myself in that position. I’m missing that last ten percent you need to really want it.

What would you say it takes to make such a big career change?
I think it’s a mix of chance and openness – having the right conversations at the right time. For me, it has always been important to talk to people, open doors, ask questions, and listen. I never had a set path; it was okay to explore different options and be prepared when opportunities came along.

Was it the same during your PhD?
Yes, actually. I studied in Jena and then did an Erasmus year in York. That’s where I first came across crystallography. Someone there once told me that NMR is like solving a puzzle, and I love puzzles. It’s a funny connection, but that’s how I got into NMR.

And how did you end up at the Biozentrum?
After my master’s in structural biology, I asked my supervisor for a recommendation for my PhD. He told me: “If you really want to do NMR, go to Stephan Grzesiek – he’s one of the few people who truly understand what NMR is all about.” I googled him and saw that the Biozentrum had just opened its fellowship call. I applied and ended up in his group. In hindsight, I can really see how much that time at the Biozentrum and with Stephan has given me.

Looking back, what helped you most along the way?
I was very lucky to have met people who believed in me, sometimes more than I believed in myself. People who saw my potential and supported me. You need to have confidence in your own abilities, otherwise you stick to what you already know. For me, those people were crucial – plus a certain spirit of adventure. ■



Indispensable: our MLP

For experiments to succeed, a great deal has to happen behind the scenes: clean glassware, sterilize materials, and prepare culture media precisely. At the Biozentrum, all this is ensured by the Media and Lab Ware Preparation (MLP). Cristela Oliveira, Susanne Bürgi and Patrick Groelly offer insight into their work – and explain why research would not be possible without them.

Text · Katrin Bühler and Livio Stöckli

Cristela Oliveira – Cleaning and Sterilization

Cristela Oliveira originally comes from Portugal but moved to Switzerland many years ago. She has been working at the Biozentrum for 23 years, the last ten in the media and lab ware preparation facility. "My day starts at 6 a.m. by unloading the autoclaves and emptying clean glassware from the dishwashers," she says. "Then we do our rounds through the building and return materials to the different floors." By the time she and her colleagues return, used materials are already waiting for them – delivered directly from the labs to the fourth floor via the MTS system, a type of paternoster lift.

Later, they make two more rounds to collect waste. "I really like that, because we get to interact with people in the labs – we know them, and they know us," she says. "I also enjoy being close to research. What people do here fascinates me. Even though parts of my job are routine, it never gets boring."

Her colleagues also play a big role. Some of them meet every Friday morning for a traditional Swiss "Znüni" with braided bread and jam. There is also a team pizza day every two weeks. Cristela finds her work highly meaningful: "We give researchers the freedom to fully focus on their work without having to worry about routine tasks."

"We give researchers the freedom to fully focus on their work."

"Quality is our top priority."

Susanne Bürgi – Culture Media Production

No culture media, no research: Susanne Bürgi works in the culture media facility, supplying researchers with everything they need for their experiments: essentially this is "food" for bacteria, both liquid and solid on agar plates. "At first glance, it may sound simple, but the work is highly complex," says Susanne, a trained chemical laboratory technician who previously spent many years in Basel's pharmaceutical industry.

Her team follows strict SOPs (standard operating procedures) to ensure that all processes are standardized and reproducible. As part of the research infrastructure, the MLP carries significant responsibility: reproducibility begins with something as basic as clean and sterile glassware. "If something isn't right on our end – for example, if a medium looks different than expected – we investigate immediately. That's what makes the job exciting," she explains. The mix of routine and new challenges, with clearly defined workflows, is what she enjoys most.

"Quality is our top priority. Since moving from the old to the new Biozentrum, the MLP has become far more professional," she says. Washing and media preparation are now centralized, and quality control is one of the team's core tasks. "We order and test raw materials, analyze problems, and ensure everything is sterile."

Close contact with researchers is equally important. "Many are surprised when they see what we actually do, because much of our work happens in the background." Susanne's day starts early. Orders are reviewed, prioritized and executed: "Most requests are delivered within two to three days." In addition to standard media, the MLP also develops customized "recipes" where possible. "Some are highly specialized mixtures with vitamins, minerals or amino acids that aren't readily available," Susanne says with a smile. "This allows more experimental research to take place."

Facilities like the MLP are not a given everywhere, she notes. In many institutes, individual research groups must dedicate staff and funds to these tasks. "For our researchers, it's reassuring to know that we save them time and allow them to focus entirely on their projects."

Patrick Groelly – Fly Food Production and Block Course Preparation

"Before joining the Biozentrum three years ago, I had nothing to do with science – but I've always been curious and I enjoy learning new things," says Patrick Groelly. His work at the MLP is remarkably diverse. A major part of his job is producing fly food (polenta), a nutrient medium for fruit flies.

"The MLP ensures that everything runs smoothly behind the scenes."

At the same time, he is responsible for revalidating processes, particularly autoclaves. “We regularly check whether decontamination works properly. That’s crucial to ensure that no contaminated materials make their way back into research or the environment,” he explains.

Another key responsibility is preparing block courses. Patrick sets up entire course environments: from equipment and materials to workstations. “The goal is for researchers and students to fully concentrate on the course. I remain on call throughout. If something doesn’t work, I respond immediately – whether it is a broken microscope or missing materials.”

Originally coming from the food and hospitality sector, Patrick also trained in accounting. What makes his work at the MLP particularly rewarding is the opportunity to improve processes, he says. “I often ask myself: why do we do things this way? And if there are bottlenecks, I try to find solutions – by experimenting, thinking ahead, and working closely with the team and research groups.” He particularly values the cooperative atmosphere at the Biozentrum, where ideas are welcomed and supported.

One example is a project to reduce condensation in fly food production after switching to plastic tubes. High humidity in summer caused quality issues. “Together with the workshop and David Ruel from the Kempf research group, we developed a system to remove moisture from the tubes. It took several months, but it now works reliably,” he says.

Patrick sees the MLP as a vital backbone of research. “We make sure everything runs smoothly behind the scenes, from decontamination to providing materials.” If his work is not done correctly, it directly affects experiments and results. But when everything runs smoothly, he knows he has contributed – at least in a small way – to scientific progress. ■

Up in the sky

Ferdinand Weidner, PhD student, goup Maria Hondele

Ferdinand grew up near Starnberg, in Bavaria. At the age of 16, he took his first tandem flight and ever since, it has been clear: he wants to learn paragliding. However, this hobby is not cheap. The equipment alone costs around CHF 4,000. So first, he saved money and finally got started in 2024, with one week of basic training with theory lessons and first flights on a training slope. Shortly after, he was already doing flights at about 400 meters altitude – not as a tandem, but on his own. “You immediately get that feeling of flying,” he recalls.

By now, Ferdinand has already completed around 100 flights, real high-altitude ones, sometimes reaching up to 1,000 meters in height and lasting for more than two hours. The practical exam was just around the corner. But in autumn last year, he was injured playing football. Torn cruciate ligament (ACL). Surgery. And more than half a year of recovery. “I couldn’t believe it. I ride a motorcycle and do paragliding, and then I get injured playing football…”

But most recently, in March this year, Ferdinand unpacked his paraglider again for the first time to practice on the ground. His most memorable experience? “The long flights are the best, when you feel that you’re not just gliding down, but rising higher with the thermals.” At the same time, these moments can also be risky. That’s why, during training, you also learn descent maneuvers early on to avoid climbing too high into the clouds.

Otherwise, Ferdinand doesn’t feel much fear when flying. Of course, you have to keep an eye on the weather: rain, thunderstorms, and especially strong winds are a no-go. Still, he considers the risk manageable. Ferdinand has landed in a bush once, but he hasn’t had any serious accidents so far, at least not while paragliding.

And in winter? It can get quite cold. Ferdinand remembers a flight where he took off at -10°C and felt like his fingers were freezing in mid-air. This summer, he plans to get fully back into it:

“Just getting up into the air, switching off, and recharging your batteries.” And soon, he wants to complete his practical final paragliding exam. Football, however, is off the table for now.

New Employees

Sara Attianese
Admin. Assistant
group Mango/Spang

Noëlle Bakker-van Bugnum Postdoc
group Bumann

Valentina Barletta
PhD Student
PhD Fellow

Pol Bech Vilaseca
Postdoc
group Arber

Jana Brunner
Postdoc
group Keller Valsecchi

Azzurra Colautti
Technical Associate
group Keller Valsecchi

Gabriele D'Alessandro
PhD Student
group Li/Engel

Julius Dangelmaier
PhD Student
group Hiller/SNI

Lisa Diner
Technical Associate
group Diard

Imre Gonda
Engineer
BioEM Lab

Aleksandra Greshnova
PhD Student, PhD Fellow

Alkiviadis Georgios Grivas PhD Student
PhD Fellow

Amrei Grund
PhD Student
PhD Fellow

Loris Grunder
Staff Member
Mech. Workshop

Marie Helmke
PhD Student
group Engel

Veronika Herzog
Scientific Officer
NCCR AntiResist

Noor Hidayatallah
PhD Student
PhD Fellow

Dominik Hügli
Technical Associate
group Hondele

Saskia Hurst
Postdoc
group Bumann

Jacek Kedzierski
Bioinformatician
group Schwede

Tereza Kubátová
PhD Student
group Schwede

Julien Lambert
Postdoc
group Mango

Rosalba Lepore
Project Leader
group Schwede

Tahnee Mackensen
Postdoc
group Schier

Tamara Maric
Postdoc
group Jenal

Veerle Maslowski
PhD Student
group Donato

Roxanne Mouchet
Technical Associate
group Diard

Ieva Pudziuvelyte
PhD Student
group Schwede

Dominik Schläpfer
Web Developer
Communications/
Research IT

Merle Skribbe
Postdoc
group Hiller

Regula Sommer-Lutz
Staff Member
Reception

Selene Stacchi
PhD Student
group Zavolan

Anna Szczepinska
Postdoc group
Keller Valsecchi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