

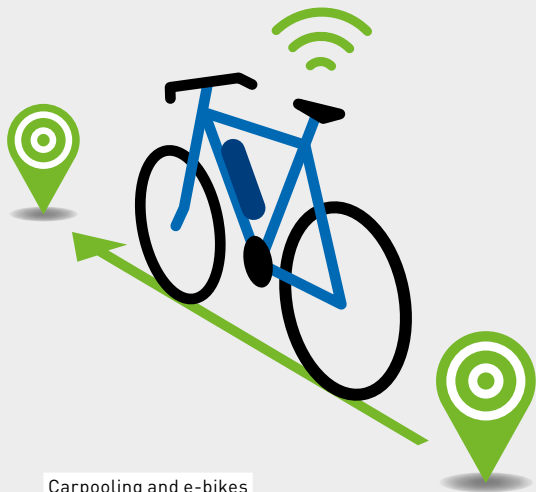
**ETH** zürich

# Life

ETH community magazine  
December 2021



**FAILED  
SUCCESSFULLY**



Carpooling and e-bikes

## Pedal power or power steering?

Since September, students and employees travelling between the Hönggerberg campus and the Paul Scherrer Institute have been able to offer and find carpooling opportunities for free – all thanks to a joint project with the company HitchHike. And bike enthusiasts now have access to 20 low-priced rental e-bikes from Urban Connect at the Hönggerberg campus and the ONA and OCT locations in Oerlikon.

[go.hitchhike.ch/en/eth-psi](http://go.hitchhike.ch/en/eth-psi) →  
[urban-connect.ch/eth](http://urban-connect.ch/eth) →

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Failing successfully  
 (Photo: Marco Rosasco)

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Photo: Rainer Spitzberger

Scientific integrity

## New guidelines

Scientific integrity is among the pillars of the outstanding teaching and research that takes place at ETH Zurich. The Executive Board has now brought into force the fully revised integrity guidelines that were the subject of a consultation during the summer. They are based on the code of conduct of the Swiss Academies of Arts and Sciences and reflect four fundamental principles: reliability, honesty, respect and accountability.

[www.ethz.ch/neue-integritaetsrichtlinien](http://www.ethz.ch/neue-integritaetsrichtlinien) →

ALEA Award

## Exemplary leadership

Isabel Günther, Professor of Development Economics and academic director of NADEL, has been presented with the ALEA Award for being the most exemplary leader at ETH Zurich. The award is conferred in recognition of leaders who facilitate modern and innovative working conditions and who actively encourage and support the reconciliation of work, family and part-time commitments. The award is conferred by AVETH in association with ETH Diversity and HR.

[www.ethz.ch/alea-award](http://www.ethz.ch/alea-award) →



Photo: Daniel Winkler

# Communicating research findings more effectively

Researchers are increasingly entering directly into dialogue with representatives from society, politics and industry, which places particular demands on their communication skills. To assist them, ETH has established a new programme called the Communication Academy. It offers a range of courses designed to teach researchers techniques for communicating their research findings to a lay audience in a clear and compelling way. Through this initiative, ETH is fostering constructive dialogue between the world of science and the general public.

[www.ethz.ch/communication-academy-en](http://www.ethz.ch/communication-academy-en) →



## Live chat

# A quick way to stay up to date

How do I call abroad from my ETH phone? Where do I get parking permits for visitors to ETH? The new live chat service created by Campus Info provides ETH members with quick and anonymous answers to important questions like these. The service contains numerous pre-programmed text blocks and links that are a highly efficient way of responding to internal and external enquiries. Plus, a live translation option allows users to chat in 24 languages.

[www.ethz.ch/campusinfo](http://www.ethz.ch/campusinfo) →

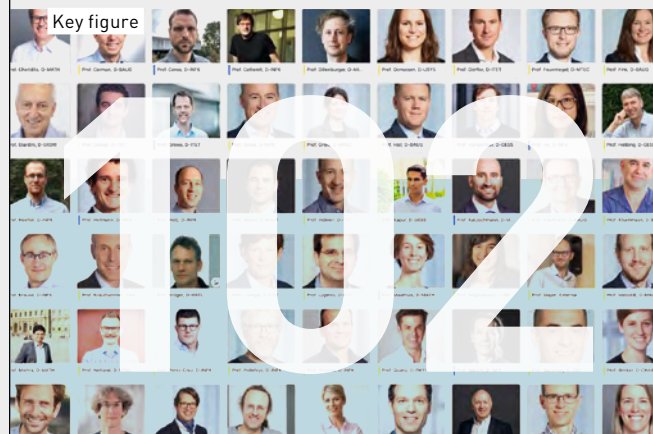


## Phone Control Center

# The easy way to divert your calls

If you have a personal ETH phone number with a VoIP connection, did you know that you can easily divert calls to another number, such as the ETH switchboard (reached on 111 from within ETH)? Thanks to the Phone Control Center, you can do this and even request call diverting from other numbers, including shared lines. The Phone Control Center can only be accessed from within the ETH Zurich network or via a VPN.

[go2phone.ethz.ch](http://go2phone.ethz.ch) →



This is the number of professors at ETH's AI Center, which creates practical applications for interdisciplinary AI research and transfer. The growth in the number of professors – from just 29 when the Center was launched a year ago – is testament to the major role that artificial intelligence is playing in all 16 ETH departments. The Center is also home to 25 ETH AI Center Fellows plus some 1,400 doctoral students and postdocs. These figures make it one of the largest centres for AI anywhere in the world.

[www.ethz.ch/ai](http://www.ethz.ch/ai) →

# Failing successfully

**life spoke to ETH members about their personal experiences of failure – and their stories show us how these low points can actually help us reach new heights. ETH researchers have investigated the formula for snatching victory from the jaws of defeat.**

**Text** Leo Herrmann **Photos** Marco Rosasco

We love hearing people's success stories – and here at ETH, our leading status has given us more than our fair share of them. What's often left out, however, is the road it took to get there. "We're interested in success, of course, but that tends to mean achieving goals rather than failing to reach them," says Theo Wehner. As an organisational psychologist, the ETH emeritus professor has explored the subject of failure in depth. "Ensuring success means being aware of the prospect of failure," he says – whether that

means failed research projects, deflated business dreams, or personal setbacks, doubt and pain.

## Flying too close to the sun

The pain that Ole Müller experienced almost two years ago still reverberates with him today. The 29-year-old completed his Master's degree in mechanical engineering at ETH this autumn, leaving with an excellent grade of 5.7, in-depth knowledge of machine learning and additive manufacturing – and a broken dream. Today, the last remaining physical traces of that dream are buried in his basement

in the form of a parabolic reflector and a poster with the words "Solas 3D" across a shining silver moon, itself a symbol of Müller's ambitious goal. As a Bachelor's student, his plan was to develop a 3D printer that would use clusters of solar rays, something he envisaged being used in space travel.

Prospects for the project were good, and Müller's team even won an Entrepreneur Club award. But by early 2020, the writing was on the wall. Looking back, Müller explains the reasons for the project's failure: "I had underestimated how much coordination was involved and didn't manage to create a sense of team spirit." It was a bitter pill for him to swallow: "All I could think about was how much time I'd supposedly wasted. I was full of self-doubt and just going around in circles."

That feeling is something that postdoc Liuba Belyaeva knows all too well. She is researching the properties of graphene with the aim of developing new applications for this unusual material. However, in the process of investigating samples during her doctorate at Leiden University in the Netherlands, she was unable to prove the hypothesis she had posed. "I didn't get the outcome I expected, no matter how many times I repeated the experiment," she explains. "The figures just kept diverging further and further away from each other." Belyaeva couldn't find an explanation and ultimately thought about terminating her experiment.



**"All I could think about was how much time I'd supposedly wasted. I was full of self doubt and just going around in circles," says ETH graduate Ole Müller, looking back at the time when he suffered his most bitter setback.**



**FAILED**

### **From failure to success in learning research**

It's clear from these examples that putting yourself to the test – in business or the world of research – means preparing yourself for setbacks. Someone who can speak from experience in both areas is Manu Kapur, Professor of Learning Sciences at ETH Zurich – although his most painful defeat happened well before he took up his current position. Raised in India, he discovered football as a teenager and ended up relocating to Singapore in order to pursue the sport. “I had what seemed like the good fortune

to be accepted into the senior league at a young age,” he says. However, the intense demands of the sport took their toll and Kapur sustained repeated injuries. Finally, an ailing knee shattered his dreams in abrupt fashion at just 21.

**“My twenties were marked by feelings of failure and aimlessness,” says Manu Kapur, Professor of Learning Sciences at ETH Zurich.**

“My twenties were marked by feelings of failure and aimlessness,” Kapur says. After completing a Bachelor's degree in mechanical engineering, he joined a start-up – but the business failed because, as Kapur explains, the technology had not matured. The next step in the search for meaning in his life led him to a career in education, in which he received an offer to teach mathematics to children from low-income families. However, it wasn't long before he started feeling helpless: “I didn't feel like I was really helping the children understand the subject. I just wasn't getting through to them.”

It was this new nadir in his life that ended up turning things around for Kapur. He observed that his colleagues were facing the same challenges and, refusing to accept that maths was simply too difficult a subject, he discerned that the issue lay in the teaching. The frustration he experienced was among the reasons that ultimately led him to embark on a doctorate in learning sciences. “The literature out there suggested to me that starting with the theory wasn't ideal – that



**ETH researcher Liuba Belyaeva ultimately thought about terminating the experiment during her doctorate.**

SUCCESSFUL



it would be better to start with a specifically designed task that pupils would fail,” says Kapur.

### **Bouncing back**

The next stage of Kapur’s life wasn’t all plain sailing either. “There was huge resistance in the research community,” he explains, “with some writing off my thesis as boring and others as implausible.” The more it became clear that his findings could not be falsified, however, the more traction they started to gain. Kapur reached an initial high point this summer when he conducted a meta-analysis of learning sciences studies from the past 15 years, finding support for his thesis. A team led by Eva Baumgartner, one of Kapur’s doctoral students, demonstrated the effect that was achieved by having ETH students work on specially designed exercises before attending lectures on linear algebra. The approach was based on the principle of productive failure. By dedicating an average of seven hours to the exercises over the whole academic year, they increased their chances of passing by 20 percent.

As a result of his experiences, productive failure is not just at the heart of Kapur’s research: it has also become a recurring theme in his own life. But can the findings from his study be applied to a wider context? “I think the difference between failure in Kapur’s experiment and failure in life lies in the emotions that the experience triggers,” says psychologist Theo Wehner. “We find failure frustrating and hard to take. Kapur’s experiment is surrounded by a protective barrier that is less subject to emotion – and that could be why it’s so effective.” However, Wehner believes that this insight holds the key to making positive use of failure: “The main thing that setbacks should teach us is how to manage negative feelings. When you feel less frustrated, you make more progress.” He also says that we should use this lesson to re-evaluate situations: “If I’ve had a setback, I stop what I’ve been trying to do up to that point and change course,” he explains.

Materials scientist Liuba Belyaeva applied this approach to her own situation, changing her perspective when she failed to prove her hypothesis. “I started looking at the deviation pattern instead of the pattern set by the absolute values. There was a physical reason for the divergence I was seeing.” Belyaeva observed that it was not a case of error: instead, the significant deviation was due to a property inherent in the graphene samples. This finding led her to embark on an entirely new research project that she is now pursuing at ETH. Her drive to

**“The best way of combating the pain of failure is to talk about it.”**

**Theo Werner,  
ETH Emeritus Professor of  
Organisational Psychology**

solve the puzzle was what kept her from being swallowed up by frustration: “My curiosity made me carry on,” she says. Although her setback was not of an existential nature, she still believes it was a valuable learning experience: “Letting go of your expectations and preconceptions of success and failure can really pay off,” she adds.

### **All that remains**

Ole Müller, too, was able to turn the pieces of his shattered dream into something positive. Today, he is part of the Swissloop Tunneling student project that is developing a transport solution for the future. The team scooped second place in Elon

Musk’s tunnel engineering competition held in the USA. As a result of his previous setback, he says that he has more appreciation for the things that do work and feels more motivated as a result. “I can see differences between other projects and mine, and can analyse them – with a sharper focus on the management side, for example,” he says. However, the most important lesson he has drawn from the experience is something quite different: “I’ve stopped worrying about failure. My dream project didn’t work out – so the only way from there was up,” says the engineer with a grin. And he no longer refers to the time spent on the project as wasted.

Despite all this, some pain remains. Still today, Müller feels some wistfulness when he visits his basement or the Student Project House, where he spent countless hours on his project. Manu Kapur has some similar thoughts: “I’m happy now and immensely grateful for where I am today. But I’d still give it all up tomorrow if it meant I could be a footballer again.” How do you handle feelings like this? “If you crumple up a piece of paper, you can always uncrumple it, but it will never be as smooth as it was before,” says Theo Wehner. “The question, however, is: does it really need to be?” He believes that the best way of combating the pain of failure is a time-honoured one: to talk about it. “We have to communicate how we feel in order to move on. Talking to another person can often bring a different perspective,” he says.

ETH members exist in a high-pressure environment, but Wehner believes that universities can and should be a place with room for failure. “That’s one reason why ETH receives public funding – to define failure differently from the way large sections of society see it,” he says, also pointing out that one of the keys to success in areas including research is not only measured by how quickly you’re able to achieve a result. “Our society often thinks that success is defined by something that’s sprung from seemingly nothing, but that’s just an illusion.” ■

# Saying goodbye to a much-loved Rector

Sarah Springman was a professor of geotechnical engineering at ETH Zurich for 18 years before taking up the office of Rector. In addition to improving teaching at all levels, she demonstrated a sense of passion that captivated everyone who encountered her.



Sarah Springman, ETH Professor of Geotechnical Engineering from 1997 to the end of 2021



**“We’re on the same page!” That’s the phrase I think of when I look back at almost five years of inspiring, fulfilling work with Sarah Springman. ETH Zurich made huge strides through her dedication and openness in lending support to doctoral students and her unwavering commitment to reforming doctoral studies. The institution as a whole and every one of its undergraduate, postgraduate and doctoral students have much to thank Sarah for.**

Antonio Togni, Vice Rector for Doctoral Studies between 2016 and 2021

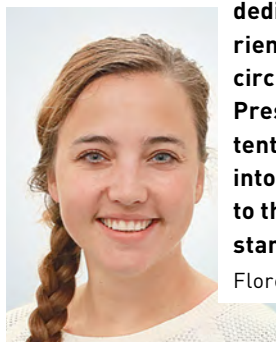


**“Doing the right things!” was always Sarah’s philosophy in setting priorities and shaping her vision for ETH Zurich – something she also did with the keen focus she showed in her successful sporting career. She demonstrated a clear sense of trust in Academic Services and her entire team, and tirelessly provided support and encouragement to all of us. The sense of appreciation we got from her motivated us to do the right things too. Thank you, Sarah!**

Dieter Wüest, long-time Head of Academic Services

**As an AVETH member, I found Sarah Springman to be a strong source of support – someone who was dedicated to helping people experiencing injustice or challenging circumstances. Later on, as AVETH President, I saw just how much attention to detail and energy she put into combating inequality. We want to thank her for setting such high standards in this respect.**

Florentine Strudwick, AVETH President







Sarah's impressive professional and sporting career makes her a real role model for many young scientists. Her immense dedication to ETH Zurich was evident in more than just the teaching side: she also made significant efforts in areas far beyond this, including, importantly, the role of women. She is a shining example of what we can all achieve through hard work, enthusiasm and courage. Thank you, Sarah – it was a huge honour to work so closely with you!

Ulrike Lohmann, President of the Lecturers' Conference

I was amazed by the sheer amount of levity and fun that Sarah's presence brought. Thanks to her, I also learned that we should always be asking ourselves: "Where are the women?" The more famous she became, the more fan mail she got – so much so that we even ended up sending autograph cards to China and Japan! We're both fans of Oscar Wilde, and she would sometimes recite a few passages – she was the best Lady Bracknell I'd ever heard! Sarah, I'll miss your sense of humour!

Marianne Mandrin, assistant to Sarah Springman



From the very beginning, I was struck by how much of her heart and soul Sarah poured into supporting ETH's students, its teaching and the university as a whole. She always took the concerns of students seriously and played a major role in getting ETH through the pandemic so smoothly. I learned so much from working with her – it was always a total joy.

Luca Dahle, former VSETH President




I deeply admire all of Sarah's impressive achievements as a scientist, mentor and leader, and I myself have benefited greatly from her presence. While I hold her significant contributions to the future of teaching in very high regard, most of all I appreciate her steadfast commitment to fostering more diversity. Our many discussions and her encouragement gave me the strength to take the steps that were needed to improve diversity at ETH Zurich. We've made great progress in this area, but we've still a long road ahead of us. From the bottom of my heart, thank you for everything you have done for ETH and Switzerland, Sarah, and for the humour and passion you have shared with us over so many years.

Joël Mesot, President of ETH Zurich

Sarah Springman was highly engaged in her role as ETH Rector – both as a leader with an open attitude and as a dedicated scientist. She was, and continues to be, a role model for women in the ETH community and throughout the STEM fields. Science needs women like Sarah Springman, as they do so much to ensure that today's education and training is appealing and will remain so in the future. I'd like to express my wholehearted thanks to Sarah Springman. What she has done for ETH – and for Zurich – means so much.

Corine Mauch, Mayor of Zurich





**“My goal is for us  
to no longer need  
the term *diversity*”**

Julia Dannath talks to us about her first year as Vice President for Personnel Development and Leadership (VPPL), the reasons for reorganising her domain in January 2022 and the projects she would like to put into action over the next year.

### Ms Dannath, what has surprised you over the course of your first year as Vice President?

The fact that the university has so many different ideas and ways of doing things. ETH Zurich is extremely complex. Yet at the same time, there are often short chains of command, meaning that many things can be implemented quickly. And in the past whenever I thought about diversity, it was usually to do with gender or international cultures. But at ETH Zurich, diversity also manifests itself in the different departments. Each research group is its own microcosm, and I'm really enjoying discovering and understanding the different cultures.

### Is this also what has pleased you the most?

Yes. Plus the fact that I received lots of support right from the start. We have had to deal with some difficult issues over the past year, and even though people didn't know me at first, they were all very open and supportive.

### Is there anything that has disappointed you?

Because everything was so new to me, I either didn't have any expectations or found that my expectations were exceeded. In that sense, I haven't been disappointed. One area that I do find difficult, however, is the question of how we at ETH deal with conflict.

### What type of conflict culture would you like to see?

One in which we can all say what's bothering us transparently and directly. I would also like conversations to take place when conflicts or difficult situations have been resolved – especially to hear how they have been settled. I think a campaign entitled something along the lines of "I spoke up and there was help" would prove beneficial.

### Which achievements are you most proud of?

The fact that I have been able to build a foundation of trust with my colleagues. I'm also very grateful to the other members of the Executive Board. I feel that I have settled in well and that we are all working brilliantly as a team.

### Which projects have you been able to put into action in your first year?

In the course of my first year, I've done a lot of listening and have taken in and learnt a lot. For me, one major success is

the fact that I now know what needs to be done. I believe that the reorganisation of our VPPL domain is on the right track.

### What made you decide that reorganisation was necessary?

This decision was made right at the outset because, as the new Vice President, I had taken over an assortment of teams and departments from various domains. The only person's remit that would have come fully under my own was that of Lukas Vonesch, the previous Head of HR. To better understand the teams and help them develop, I need to sit down with the people themselves.

### So the role of Head of HR no longer exists, meaning that you can work together with the departments in your domain more directly?

In our new domain structure, there isn't actually an HR department anymore, so we don't need a Head of HR. The or-

ganisation will be more broadly based, so there will be more opportunities for cooperation between the departments. Lukas has a huge wealth of knowledge from which both I and the entire domain are benefiting hugely; so I'm delighted that he is now responsible for Consulting, the heart of HR.

### Why was your domain ultimately split into five departments and one staff office?

There were strategic reasons for this. Together with my team, I defined the development objectives of ETH Zurich for the VPPL domain. These objectives should also be reflected in our organisation. The structure of our domain now serves the strategy of ETH.

### Can you provide an example of this?

A key strategic mission concerns the topic of diversity – and when it comes to this, I can't simply hide a team away within the organisation. We need to have a department named Diversity, and everyone needs to see which people are responsible for it. Another objective is the further development of our professors – this will now be driven forward in the new "Consulting for Professors and Executive Board Members" department.

### What are the most significant operational changes?

Personnel development will take up much more space. Where do I go when I need information to help me grow during my time at ETH? We are building an academy that is dedicated to questions like this and develops offerings for lifelong learning. This also includes compulsory programmes such as leadership seminars.

**"I'd like to see a conflict culture in which we can all say what's bothering us transparently and directly."**

Vice President for Personnel Development and Leadership (VPPL)

### **A future aim is to ensure that diversity is utilised as an opportunity. How do you intend to achieve this?**

We intend to establish the new “Diversity and Collaboration” department more firmly as a strategic team. What does diversity mean for ETH as a whole? And what strategies and measures are in place to ensure that the advantages of diverse teams are harnessed even more effectively? The department is to be the contact point for questions like these and will offer support from a single source rather than from various decentralised points.

### **But how can we utilise diversity as an opportunity?**

Diversity should not just be an end in itself because it fits with the political or social zeitgeist – it should be something that enables us to achieve new things. Interaction between different cultures can bring about entirely new creative solutions. And when people of different genders, with different backgrounds, origins or world views work together, they can develop a different vision of the future that can ultimately also change society. We intend to make even more use of such resources in the future.

### **Isn't this also a managerial responsibility?**

Of course, managers need to want to do this. What I can and will do is promote this and highlight the advantages.

### **How is the reorganisation process going so far?**

Most colleagues are happy that a lot of things will continue the way they want them to. HR Consulting were worried that the change to the way professors are supported would mean that they would lose an interesting aspect of their role. However, it is common in HR for senior managers to be supported by one unit and other members of staff by another. At ETH, this makes sense because the contracts for the professors are subject to the Professorial Ordinance, whereas the contracts for other employees are subject to the Personnel Ordinance.

### **What are your long-term goals?**

My dream is for lifelong learning to not just be a concept on paper but something that is embedded in the DNA of ETH. Another goal is for us to no longer need the term “diversity” because the advantages are obvious to everyone and are being put into practice.

### **Which projects are you planning to put into action next year?**

Setting up the academy is my top priority. I hope that the platform will be established by the end of 2022. Alongside that, we will also be presenting our diversity strategy. Another thing on the agenda next year is the “Report on the Status of Female Faculty”, which will see female staff compared with their male counterparts across a wide range of aspects in order to determine any potential for improvement. In the rETHink project, our domain will primarily be looking at how we support professors.



**“My dream is for lifelong learning to not just be a concept on paper but something that is embedded in the DNA of ETH.”**

Vice President for Personnel Development and Leadership (VPPL)

### **What are you most looking forward to?**

The fact that I won't be experiencing things for the first time and will have found my feet. And I'm also looking forward to experiencing lots of things in person that so far I've only seen on Zoom. On a personal note, I'm excited about the fact that my parents and my son will be running in the Berlin Half Marathon together in the spring. And after the coronavirus ruined our plan to go on a family trip to Africa two years ago, I'm hoping that we'll finally be able to get there!

### **How will you be spending Christmas?**

This year, there will probably be three Christmas celebrations: first at my in-laws in Hamburg, then with my parents in Saarland, and finally we'll be celebrating with our children in our new apartment in Switzerland for the first time.

### **Will you be making any New Year's resolutions?**

No. I have resolutions for my life and for each day, but I never make any at New Year. ■

[www.ethz.ch/new-organisation-vppl](http://www.ethz.ch/new-organisation-vppl) →

# 50 years of success and milestones on the Staff Commission

This year, the Staff Commission (PeKo) of ETH Zurich is celebrating a major anniversary: for 50 years, it has been attending to the concerns of administrative and technical staff at our university.

Text Mona Blum Photo provided

## 2005 First togETher staff party

In 2005, the 150-year anniversary of ETH Zurich was celebrated with the very first staff party – following a suggestion from the Staff Commission.

## 1991 The new ETH Act comes into force

Accompanying the introduction of the new ETH Act in 1991, a University Assembly was established with delegates representing four bodies: the Staff Commission, the Lecturers' Conference, VSETH and AVETH. Since its formation, the University Assembly has provided advice to the university President (calling itself UA for short at ETH Zurich and AE at EPF Lausanne).

## 2011 Permanent contracts

Following several proposals from the Staff Commission, in 2011 the Personnel Ordinance finally made employment contracts permanent.

## 2009 Introduction of employee sabbaticals

At the Staff Commission's initiative, the Executive Board introduced sabbaticals for administrative and technical staff.

## 2002 A change of name

A new Personnel Ordinance came into effect on 1 January 2002, repealing the Swiss federal ordinance on staff commissions that had been in force until then. As a consequence, ETH Zurich changed the name of its "Personalaus-schuss" to "Personalkommission", or Staff Commission. The new voting regulations introduced a radical change by making Staff Commission members official delegates of administrative and technical staff, providing their representation in dealings with the Executive Board.

## 1970 Official launch of the Staff Commission

On 20 August 1970, the ETH Zurich members with voting rights took a vote on whether to set up a body working on behalf of staff at ETH Zurich. At that time, the German name given to it was "Personalaus-schuss" rather than "Personalkommission" as it is today. An overwhelming majority of 419 voted in favour of the proposal, with just 61 against. The seven members nominated to serve on the Commission took up their roles at the start of the new year.

[www.ethz.ch/peko](http://www.ethz.ch/peko) →



**Join the Staff Commission:** The next round of elections for Staff Commission members is set to take place in spring 2022. Are you interested in representing administrative and technical staff in ETH's internal dealings? If so, from early 2022 you'll have the chance to put yourself forward as a candidate for the Staff Commission. If you have any questions about the application process, contact [info@peko.ethz.ch](mailto:info@peko.ethz.ch), and the Staff Commission will be happy to respond.

# Sustainable catering at ETH

**The approach we take to nutrition has an impact on the environment, animal welfare and our own health. Now, a joint project with the university catering services intends to make sure that the on-campus restaurants are working in the interests of healthy eating, ecological concerns, plus social and ethical values.**

**Text** Michael Keller **Illustration** Oculus Illustration

There are few areas of the consumer world whose consequences are quite as sweeping as those of our diet. What we eat doesn't just dictate our own state of health: it also has a direct impact on climate, biodiversity and natural resources. Beyond that, the way in which we fill our plates has repercussions for animal welfare and the working conditions of those at the source points of supply chains in far-flung nations.

ETH Zurich is aiming towards a net zero target for its greenhouse gas emissions by 2030, a project that makes nutrition one of the pillars of the university's sustainability strategy. "Making conscious choices about the food we eat every day is one of the most effective ways of preserving fundamental resources, being socially responsible and preventing health issues," says Isabelle Castagna, who oversees catering in her role on the ETH Sustainability team. Castagna is getting researchers and practitioners involved.

For some time now, ETH Sustainability has been working with catering companies SV Group and Compass Group, and with ETH's Partner Organisation Coordination with the aim of making on-campus restaurants more environmentally friendly. Since 2018, this initiative has been part of ETH's Climate Programme, in which the two catering companies have committed themselves to reducing their carbon emissions by ten percent over three years.

This year sees the end of the programme – and Castagna is delighted with the outcome: "It's looking very likely that the catering companies will achieve what they set out to do." Her ambitions don't end there, however. "For quite a while now, we've been discussing approaches we can take to improve sustainability even more," she says.

## **From Climate Programme to Sustainable Catering**

Working together with ETH spin-off Eaternity and in close dialogue with Marcel Zurbuchen, Head of Partner Organisation section, Castagna has in recent months established a

follow-up project. The Sustainable Catering project will pick up seamlessly from where the Climate Programme leaves off in January 2022 and then widen the scope, with the aim of making ETH catering services fully sustainable over the long term.

As Castagna explains, the new project will open up a broader perspective that extends beyond the footprint created by what the catering companies buy. Achieving this has involved analysing the value chain in full and classifying the relevant aspects as performance criteria in various categories: the environment, health and ethical/social concerns.

## **Working closely with the caterers**

However, sustainability is not something that can be simply decreed – and that's why Castagna and Zurbuchen have been working in tandem with the catering companies since the very start of the initiative. "We didn't just impose a ready-made package of measures on them – instead, we got them involved in every stage of development," says Castagna.

This approach allowed the contents of the project to emerge in a collaborative manner, with concrete action being developed in three joint workshops that received expert support from numerous ETH researchers. A steering group led by Michael Siegrist, Professor of Consumer Behavior at ETH, monitored the entire development process.

## **A science-based tool**

The outcome of all this work is a catalogue of 16 sustainability criteria with a solid scientific foundation and specific goals that the catering companies can aim for. As Michael Siegrist explains, "Each criterion represents a project that the catering companies can engage with. There is a points system that weights the criteria according to their scientific relevance." Four of the criteria must be met, with the remaining twelve free for the catering companies to choose from, an approach that allows them to decide how to achieve the total number of points they need.

To take one example, the catalogue now includes not only climate protection, but other environmental considerations such as sustainable fishing, certified soya and ecological production. The ethical and social aspects include fairly traded imports and meat from sources with high animal welfare standards. To ensure healthy choices, the nutrition options include large amounts of nuts, wholegrain products, vegetables and unsaturated fats.

Some of the goals require certified products and entail higher costs for the catering companies. The price increases introduced this autumn, affecting the meat-based menus in particular, reflect not only the rising costs of goods but also the drive towards sustainability. "We believe that the price increases at different levels will lead visitors to choose vegetarian options more often in future," explains Zurbuchen.

### The role of meat in climate concerns

Picking up directly from the Climate Programme's efforts to achieve a ten-percent reduction in carbon emissions, the

catalogue of criteria is going one step further by aiming to reduce emissions by yet another ten percent over the next three years. As part of this, the initiative has set its sights on a specific goal in reducing meat consumption. "Cutting back on meat is a crucial element of the project. It's still possible to create a high-quality menu with just a small amount of meat – or none at all," says Siegrist.

The sustainability project will be no walk in the park for the catering companies, but – as Siegrist points out – consumers also have to play their part: "Their choice of menu on a daily basis will have a significant impact on what is put on offer."

SV Group and Compass Group are both participating in the new project voluntarily – a fact that isn't being taken for granted. "For almost two years now, both companies have been facing significant challenges and have suffered financially due to the coronavirus. Given those circumstances, it's a real credit to them that they have agreed to get take part in the project," acknowledges Zurbuchen. ■

[www.ethz.ch/sustainable-gastronomy](http://www.ethz.ch/sustainable-gastronomy) →





# The vital need for animal testing

**ETH Zurich and the other Swiss universities are committed to reducing the stress and suffering experienced by laboratory animals. However, an outright ban on animal testing – being put to the vote in a popular initiative this coming February – would bring an end to progress in medical research.**

**Text** Fabio Bergamin **Photo** Alessandro Della Bella

Johannes Bohacek is carefully attempting to nudge a mouse into a plexiglass tube. As a researcher into stress, the ETH professor uses mice in his work. In addition to his main research activity, he is participating in a small ETH study involving plexiglass tubes of the kind he is using. Normally, researchers conducting animal experiments pick up mice by the tail in order to transfer them from one cage to another – but, as is now known, this can easily induce high anxiety. That is why the ETH study is exploring the practicability of lifting mice using tubes instead.

This is just one small example of the efforts that researchers are making to

reduce the anxiety and distress to which laboratory animals are exposed. “The way in which we work with animals in research activities has changed significantly in recent decades,” says Annamari Alitalo, the lead Animal Welfare Officer at ETH Zurich. Nowadays, experiments are planned with a greater deal of care, regulatory practices have become stricter, and laboratory animal science is a dedicated research field that has developed in leaps and bounds in recent years.

As Alitalo emphasises, analgesia is one example of today’s practices and is considered an important part of animal testing. If surgery is being performed as part of animal testing, the anaesthesia process is professionally planned,

and testing that involves pain or other sources of distress is subject from the outset to strict regulations with regard to the point at which an experiment needs to stop. Anyone conducting animal testing in Switzerland requires training and must take regular continuing professional development courses that cover subjects including how to recognise when a laboratory animal is in pain.

## **New methods designed to replace animal testing**

Using the principle of the three Rs (replace, reduce and refine), researchers at ETH and other institutions are developing new approaches that hope to replace animal testing with other methods, use fewer



## Animal testing at ETH Zurich<sup>1,2</sup>

	2015	2016	2017	2018	2019	2020
Mice	34,633	31,795	28,865	30,571	29,394	28,055
Rats	1,112	1,531	1,395	1,919	1,201	1,740
Hamsters	65	59	59	1	0	0
Rabbits	0	4	4	0	0	0
Pigs	10	24	7	3	614	1,448 <sup>3</sup>
Cows	270	4	66	74	111	78
Horses	22	0	0	0	0	0
Goats	0	0	24	0	0	0
Sheep	0	6	34	32	32	0
Deer	0	0	0	0	0	7
Chickens	152	39	0	390	132	94
Songbirds	337	281	112	70	36	39
Frogs	54	25	16	0	0	0
Fish	36	6	0	198	137	310
<b>Total</b>	<b>36,691</b>	<b>33,774</b>	<b>30,582</b>	<b>33,258</b>	<b>31,657</b>	<b>31,771</b>

- 1 Number of animals used in experiments. If an animal is used in multiple experiments in succession, it is counted multiple times.
- 2 ETH Zurich is working with other universities to conduct several dedicated research projects involving animal testing. Some of these are attributed to ETH Zurich and appear in the table. Others are attributed to one of the partner universities and are not included in the figures. This includes experiments involving primates, which ETH conducts jointly with the University of Zurich.
- 3 2019 and 2020: Feeding experiments (lowest level of severity). The pigs involved underwent standard agricultural-style fattening.

animals in the testing that does take place, or subject the animals involved to as little distress as possible. Wherever feasible, researchers find answers to their questions by using alternative methods – such as cells or organoids, which are three-dimensional cell structures in petri dishes.

As Professor Bohacek states, however, it is still very difficult to find alternative methods that can replace animal testing. In many cases, researchers are still reliant on animals when investigating complex organs such as the brain or the way in which various organs interact. Metabolic disorders, infectious diseases and the body's relationship with intestinal flora, for example, need to be studied in a living organism.

"I often hear the argument that it's possible to conduct neurological research on computers using brain models," says Bohacek. "We're still miles away from achieving that, however." The complexity inherent in the brain still far surpasses anything that a computer can do. "If it's not possible to answer vital research questions using alternative methods, then animal testing is our only option," agrees Detlef Günther, Vice President for Research at ETH Zurich. His belief is that this is unlikely to change in the long term.

While today's research does everything feasible to reduce the number of animal experiments that are conducted and reduce suffering as much as possible, there are some cases in which this is unavoidable. "If I'm researching stress-related illnesses using animal models, then it's an unfortunate but inevitable fact that I have to subject the animals to stress," explains Bohacek. Animal testing is not an enjoyable part of the job for either Bohacek or any of the researchers he knows, but they believe it to be necessary.

On 13 February 2022, Switzerland will vote on a popular initiative calling for a ban on animal and human testing – a move that would thwart progress in biomedical research. The initiative would not only ban research and clinical studies involving animal testing, but also the introduction of new products that have been developed using animal testing. This would prevent new drugs and vaccines from being imported into Switzerland.

### Three-and-a-half percent at the maximum severity level

One example of the stress factors involved in Bohacek's work requires mice to swim in cold water for six minutes. The mice are able to do this, but do not enjoy it and release the same hormones and neurotransmitters as humans do in stressful situations.

In Switzerland, animal experiments are categorised into four severity levels. Of the 30,000 or so animals used in testing every year at ETH (see table), 3.5 percent fall into the highest level – and these include the mice undergoing swim stress tests.

As Bohacek is keen to emphasise, stress is a highly relevant subject in today's research. "Persistent stress is one of the key triggers of psychological disorders in people," he says. "It's essential that we understand the molecular mechanisms underpinning it." Biomedical research will also need to continue relying on animal testing if it is to make progress in understanding and treating illnesses such as depression, anxiety, Alzheimer's disease, cancer or cardiovascular diseases. ■

[www.ethz.ch/animal-experiments](http://www.ethz.ch/animal-experiments) →

**Nienke Brinkman**

Doctoral student in the Department of Earth Sciences (D-ERDW)

# From casual jogger to professional runner

**Text** Rahel Künzler **Photo** Florian Bachmann

"I still can't get my head around it," says Nienke Brinkman, looking back at her recent run of success. The doctoral student at the Institute of Geophysics had been running professionally for just 18 months this summer when she won the Zermatt Marathon and scooped second place in the Sierre-Zinal mountain race. In fact, back in 2019, she only entered the Zermatt Marathon through much persuasion from her research colleagues. That event marked the first time she had ever run 42.1 kilometres – and she came in sixth. The experience fired up a passion for running inside the Netherlands native: "I wanted to find out what I could achieve if I really ramped up my training."

Brinkman comes from a sporty family – but, as she explains: "Sport was never the be-all and end-all, though we're all really competitive." Before embarking on her doctorate in Zurich, Brinkman played field hockey, a sport that is highly popular in the Netherlands. As it only enjoys niche appeal in Switzerland, however, Brinkman turned to running instead and began pushing her limits there. In winter 2019, she joined the ASVZ running club and repeatedly picked up tips from the instructor to use in her own training. He became her personal coach and drew up a professional training plan for her. Now, the 28-year-old runs at least 120 kilometres per week.

"Run, work, repeat" has been Brinkman's philosophy during the pandemic as her training has become increasingly intensive. In her doctoral work, which uses seismic data to research the surface structure of Mars, she began noticing that she was finding it more and more difficult to concentrate when working at her computer – so she made the decision to reduce her workload to 60%. The move has taken some effort to get used to, but she has no regrets about her decision. "Running helps me clear my head after work, and vice versa," she says. While a professional running career is firmly in the picture, Brinkman's top priority for now remains her doctoral title. ■



# Should we abolish gift-giving at Christmas?



## For

**Dr Andreas Steingötter**  
Managing Director  
of the EXCITE Zurich Center

With Christmas just around the corner, I can't wait to see my extended family again and enjoy lots of time cooking and eating together. Christmas is a wonderful family tradition for us. But I also know that the tiresome question of presents will rear its ugly head again no sooner than the first Christmas markets open their glühwein stands for business.

Wherever you turn these days, the media is telling you that you have to give gifts and have to want something in return. Turning up as a visitor at Christmas without a suitcase full of presents is simply not socially acceptable – it is as bad as not receiving any presents yourself. For me, however, this attitude is reducing the wonderful time spent being together and giving gifts to simply a social requirement – an artificial, consumerism-driven expectation that is difficult to extricate yourself from without much effort and excuse-making. Online shops and department stores alike become colourful shrines to excess. But all this erodes the love of gift-giving for me.

The spirit of giving as a token of our appreciation and a surprise that will put a smile on someone's face seems to have been entirely turned on its head. But why are we allowing ourselves to restrict these lovely, personal gestures to just certain days of the year?

I've often caught myself looking at an item and thinking, "Oh, that would be a good Christmas present." But there are so many other – and more suitable – days and moments throughout the year when you can surprise someone with a gift, either as a little treat or as a huge source of delight.

Ending the madness surrounding gift-giving at Christmas would also have the advantage of finally reducing all that pointless plastic waste that accumulates during Advent and the festive period.

I'm looking forward to Christmas. I can't wait to pack a small case and head off to see my parents and siblings. But I can't yet say whether I'll be taking Christmas presents with me this year. I'll continue to give gifts in the future, of course, but only if they're what my loved ones really want – or if a gift feels like the right thing for a certain moment. I hope your Christmas isn't overwhelmed by thoughts of presents!



## Against

**Professor Anthony Patt**  
Full Professor at the Department of  
Environmental Systems Science

Christmas and most of the rituals surrounding it stem from its historical roots as a European pagan festival centred around the winter solstice. It was co-opted by Christianity as a good landing place for the celebration of Christ's birth. Whether good or bad, this ensured the continuation of a number of its traditions, such as putting up trees indoors and giving gifts. Celebrating Christmas today and following its traditions demands a belief neither in pagan spirits nor in the Christian deity. All it needs is the willingness to make time and effort to bring life and light to the world – at a time when life and light are in short supply.

Thinking of others, not only giving gifts to our loved ones but also making charitable contributions, is a way to feel good at a time of year when depression comes most easily. Psychological literature is clear about this paradox; namely, that reflecting and working to make others happy, rather than indulging our own desires, is the best way to lift our own spirits. The Harvard Study of Adult Development – tracking individuals since 1938 – identifies attention to close personal relationships as the single greatest driver of life satisfaction and happiness as we grow older.

The value of gifts lies in their planning and exchange, not in their later consumption and use. The best gifts are those with the most reflection behind them and those we make by hand, rather than those with the highest price tags. Of those I receive from my wife, it is the books – with her thoughts as to why she thinks that book will enrich my life inscribed in the front cover – that stay with me throughout the year. When I pull these books off the shelf years later, her inscriptions trace our growing old together.

Some see gift-giving as consumerism. I see it as offering the chance to engage in mindfulness, consumerism's opposite. We are mindful of our relationships to others, not of our own desires. Gift-giving at the winter solstice is one of those human traditions that enriches our lives. We would be fools to give it up. ■

What do you think? Join in the discussion on Internal news: [www.ethz.ch/gift-giving](http://www.ethz.ch/gift-giving) →



**COZONAC**  
by Silvana Albert, research  
software engineer, D-HEST



**Beehives**  
by Kristýna Kantnerová,  
postdoctoral researcher, D-USYS



**Nanny's ricotta cookies**  
by Nicholas Cardo,  
Chief Operations Officer, CSCS

## Baking tips for the festive season

When we sent out an appeal for your favourite baking recipes from countries across the globe, we received a whole host of deliciousness. We've chosen three of them as our favourites: beehives, a Czech treat that resembles its name; Nanny's ricotta cookies, which (presumably) originate in Italy; and cozonac,



traditional Romanian Christmas sweet bread. Check out "Internal news" for the full recipes and personal anecdotes from their submitters. Happy Christmas and, as we say here in Zurich, "en Guete"!

[www.ethz.ch/baking-tips](http://www.ethz.ch/baking-tips) →