

Alumni Magazine

KontakTUM

FLYING HIGH

The President is visiting the TUM Start-up Isar Aerospace

ALUMNA IN SPACE

Samantha Cristoforetti is preparing for her ISS mission

PIONEER IN THE RAINFOREST

David Lapola is doing research to protect this vital ecosystem

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We Love
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TUM Solidarity

Aid Programs at TUM

The war in the Ukraine has plunged countless numbers of people into adversity. We at the Technical University of Munich (TUM) stand in solidarity with those affected and are thus launching two aid programs of our own. These programs are intended for researchers from the Ukraine and affected TUM students.

More information and the account for donations can be found at: go.tum.de/934000



TUM PRESIDENT PROF. DR. THOMAS F. HOFMANN

“We want students to experience solidarity and transnational friendship and thereby do our part to ensure that they themselves can stand up for a better future without war and hatred.”

In solidarity with the people of Ukraine, our Thiersch tower is lit up in the Ukrainian national colors.

EDITORIAL

Dr. Sabrina Eisele (r.)
and
Dr. Verena Schmöller
from the
KontaktTUM editorial team



Dear Readers,

Both of us really like it when everything goes to plan. When the kids can go to kindergarten and school instead of being sick or in quarantine, when sports training can take place as scheduled and when the Alumni Magazine we hold in our hands at the end, is exactly as we imagined it at the start of production.

But in all honesty, things almost never go as planned. The last few years especially have been quite challenging for us, as they probably have been for you as well. Fortunately, however, it is precisely these challenges that new and unexpected things present us with, that we find increasingly appealing. They open up possibilities that we hadn't even thought of at first, that help us grow and that ultimately make us the people we are.

For this reason, we have paid extra close attention in the interviews we conducted for this issue of the Alumni Magazine. To find out why three young entrepreneurs are not afraid to compete with their rivals in the race to build a small rocket. Why astronaut Samantha Cristoforetti is willing to be shot into space and even looks forward to it. And why nothing can stop researcher David Lapola from working to preserve the rainforest. The TUM Community is bursting with people who go above and beyond every day and who, just like us, have grown to love their every-day and extraordinary challenges

We hope you enjoy reading this issue.

Your
KontaktTUM editorial team

PS: If you too have recently overcome an important challenge and would like to tell us about it, get in touch with us at **alumniundcareer@tum.de**



TUM Mentoring brings the network to life.

DID YOU?
KNOW

About a **third of our mentoring tandems** at TUM unite people of different nationalities.

TUM Alumni Heinz Höreth (Diploma Electrical and Computer Engineering 1982) **is the mentor with the most mentees:** He has been involved from the very beginning and has so far volunteered as a mentor 16 times.

By now, **hundreds of former mentees** have become mentors themselves and pass on their experiences to people in the TUM Community.

Many tandems evolve into **lifelong friendships:** TUM Alumna Tatjana Diebold (Bachelor Management & Technology 2014, Master 2016) and TUM Alumna Daniela Krahmer (Diploma Mathematics 1990) have now been meeting **for over eight years.**

TUM Mentoring for Students by Alumni
www.community.tum.de/en/mentoring

Why We Love Challenges

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The President is visiting the TUM start-up Isar Aerospace.

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Researcher David Lapola narrates the most intense 30 minutes of his life.

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Astronaut Samantha Cristoforetti is looking forward to her second space mission.

Excelling Oneself

Playing professional sports while studying is a big challenge. But how do you write a master's thesis and prepare for the Olympics at the same time? For TUM Alumni Johannes Lochner (Bachelor Electrical and Computer Engineering 2015, Master 2021), the biggest challenge last year was time management to combine university and professional sports.

And he did it!

He was rewarded for his discipline, perseverance and willpower with two silver medals in the two-man and four-man bobsleds together with Florian Bauer (enrolled in Civil Engineering): "It was such an indescribable moment, and I'm just overjoyed that we were able to earn the silver medal."

Read how to become an Olympic champion at:
www.community.tum.de/en/johannes-lochner



TUM Alumni Johannes Lochner

TUM Student Florian Bauer





OUT OF UNIV STRAIGHT I

The President is visiting





DIVERSITY AND INTO ORBIT

the TUM start-up Isar Aerospace.





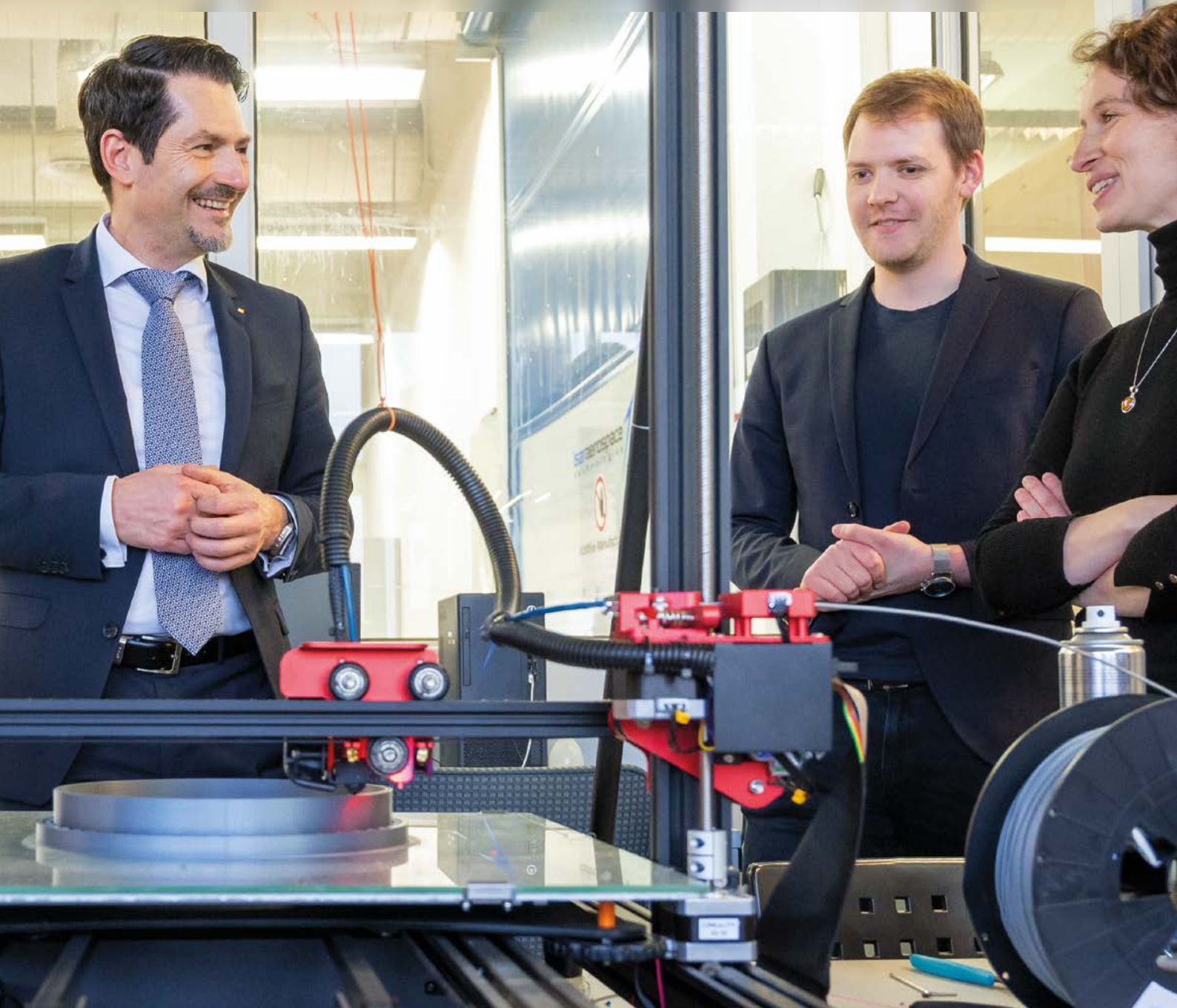
The President is visiting the TUM start-up Isar Aerospace.

They are young, motivated and full of groundbreaking ideas: While still students at TUM, they launched their company, which now is considered one of the best-funded space start-ups in Europe. On a tour of the company's premises with TUM President Prof. Thomas F. Hofmann, CEO Daniel Metzler and COO Josef Fleischmann discuss the day-to-day challenges they face, what motivates them to make their vision a reality, and how TUM has contributed to it.



When entering the production halls of Isar Aerospace, TUM President Thomas F. Hofmann is amazed at how much the company has grown since his last visit in the fall of 2020. COO Josef Fleischmann is taking him on a tour.

The start-up is using 3-D printers and high-performance metals to produce the most complex parts of its rocket engines. CEO Daniel Metzler and engineer Lucrezia Veggi describe their process to Thomas F. Hofmann.



Since fall 2020, the production halls of Isar Aerospace have been located in Ottobrunn in the direct vicinity of the new building of TUM's Department of Aerospace & Geodesy. President Thomas F. Hofmann is meeting the two entrepreneurs Daniel Metzler and Josef Fleischmann in front of the entrance to the hall, which boasts a towering rocket on its outer façade, emblazoned with the words 'Isar Aerospace'.

After a short safety briefing and being fitted with safety shoes, the group enters the factory hall through a heavy steel door. The many machines here produce a steady droning noise. Around 70 people work in manufacturing at Isar Aerospace. Some sit focused intently at their workstations, filing workpieces or soldering parts. Elsewhere, groups of employees stand together, either discussing a shipment of parts or engrossed in a construction design.

PRÄSIDENT THOMAS F. HOFMANN: I am stunned. Last time I was here was a year and a half ago. Back then, at the official opening, the hall was still almost empty. And now this young company is up and running at full speed.

DANIEL METZLER: Yes, we have grown quite a bit. We opened the hall with just one machine in September 2020, and within just one year we have built a complete, highly automated production facility to produce our rocket 'Spectrum'. Back then we had 90 employees, now we have almost 250.

The group proceeds to an area of the factory floor where parts of the rocket engine are being made on several giant 3D printers. It is a little quieter here, with only the occasional employee stopping by to check on the printing progress. Josef Fleischmann explains to the president the various stages in creating the drive components.

THOMAS F. HOFMANN: Fascinating technology! Why did you choose additive manufacturing?

JOSEF FLEISCHMANN: From the very beginning, it was important to us to be more cost-efficient than the established industry by using new materials and technologies. Our manufacturing process is based on a high level of automation and state-of-the-art technologies such as additive manufacturing and the use of carbon fiber composites. The most complex parts of our rocket

engines are 3D printed using high-performance metals. This gives us great flexibility in design and the shortest possible lead times.

THOMAS F. HOFMANN: Your entire setup really is tremendously innovative. You are trying out new materials, use new production methods, and come up with excellent test results.

DANIEL METZLER: That is our great advantage as a start-up. We are able to react quickly and flexibly. We can be bold enough to take risks, just try something out and then change our course again. We have set ourselves the goal of pushing the limits of what is possible and at the same time being second to none in terms of development speed.

JOSEF FLEISCHMANN: Here in our facilities and at our company-owned sites, we are able to test our designs and include many iterative loops. This lets us know very early on whether things really work, and we are able to eliminate many mistakes in a better way than if we developed only on paper.

THOMAS F. HOFMANN: I still remember that you were among the students involved in the Scientific Working Group for Rocketry and Space Flight (Wissenschaftliche Arbeitsgemeinschaft für Raketentechnik und Raumfahrt - WARR) back then. The initiative has been around for 60 years. How did this student project spark the creation of your own company?

JOSEF FLEISCHMANN: Yes, that is true. We met at WARR. We built rocket engines and used them to launch small test rockets. At some point, we were approached by companies that wanted to buy our engines. We then asked ourselves: Why are industrial companies interested in buying rocket engines from students, can't they make their own? And it occurred to us that if there is a need for rocket engines, then there certainly is a need for an entire launch vehicle. It quickly became clear to us that in the decades to come, a competitive and diversified space ecosystem would be critical for industry and humanity alike. And on the other hand, we realized that Europe did not yet have affordable and flexible access to space. Thus, the idea for Isar Aerospace was born.

DANIEL METZLER: My time at WARR was absolutely formative, I keep emphasizing that. Here, I was able to pursue my interest in space technology in a business-related setting and put ideas into practice right away. Especially the exchange with the other members of the working group, the trial and error and just going for it, have further strengthened my belief in the possibilities of space technology and also my belief in our abilities to pull it off. When we first started Isar Aerospace, we were able to get some of our former fellow students at WARR interested in the company, and they have been on board since day one. We still recruit from the WARR working group and TUM's Aerospace Engineering department – because they provide top-notch education.

THOMAS F. HOFMANN: At TUM, student initiatives are a natural part of the education, even if they are not part of the curriculum. Many of the more than 50 student initiatives at TUM are very active and highly successful, among them the TUM Hyperloop or the TUM Boring Team, which have broken numerous records in the last few years. We are proud of all these impressive student projects that are being created at our university. This is what sets us apart. We need to promote the process of testing ideas without constraints and working together on such challenges, and that's where I see my duty as president. Students have to be given the courage to break new ground, to think beyond the well-trodden paths, so that they can become pioneers like you.

The group continues to follow the path of the printed rocket parts and stops in front of a small separated room in which a robotic arm continues to process the workpiece. With great enthusiasm, Lucrezia Veggi explains the process to the president. She is heading Isar Aerospace's team responsible for integrating the rocket engine and is currently completing her doctorate in Aerospace Engineering at TUM. The group observes how the robot is working from the outside via a small camera and inspects the before and after of the part.

THOMAS F. HOFMANN: Talking to you, it is immediately noticeable how highly motivated everyone here is and how much everybody believes in the idea. How long have you been with Isar Aerospace?

TUM President Thomas F. Hofmann is showing great interest in Isar Aerospace's innovative production setup and COO Josef Fleischmann explains the production process using robotic arms.





Space is a highly competitive terrain, Thomas F. Hofmann says. But the founders of Isar Aerospace are confident that with their rocket, they have a decisive edge over the competition





CEO Daniel Metzler explains to Thomas F. Hofmann how Isar Aerospace handles quality control.

LUCREZIA VEGGI: Pretty much from day one. I was one of Isar Aerospace's first employees. I met Daniel and Josef while still at TUM and when I heard about the start-up idea, I was instantly thrilled. And of course I recognized the opportunities that are available here – namely, that I can be at the forefront of groundbreaking innovations.

THOMAS F. HOFMANN: As young entrepreneurs you are also an example for a certain attitude to your employees and show that you are fearless enough to try out things that may seem impossible at first. If we want to remain competitive and agile in the future, we need more people in Germany and Europe with this kind of attitude. How did you manage to put together such a great team in such a short time?

JOSEF FLEISCHMANN: Without the passion and motivation that we as a team put into working hard every day to achieve our ambitious goal – the first test flight of our rocket 'Spectrum' – we would, no doubt, not be where we are today. The founding team and many of our engineers already know each other from their student days at TUM and their work at WARR, and have been with us since the beginning. Working together to build up such a large project is a bonding experience. And the many new employees who have joined the team over the past years have chosen us primarily because our vision has convinced them and they can actually make European space history here. We are very happy to recruit TUM graduates because they come with the right mindset, are eager to get to work, and don't let setbacks get them down. You are more than welcome to send us more TUM Alumni (laughs).

THOMAS F. HOFMANN: It's part of the game that things sometimes don't work out and you have to start all over again. Every pioneer and every innovator, whether at university,

in business or elsewhere, needs to be able to tolerate a certain amount of frustration.

DANIEL METZLER: Indeed. Even in the student project, mistakes were not only part of the learning process, but an essential component for our technical developments. And that is still the case here at Isar Aerospace!

The group now has arrived at the true highlight of the tour. The president and the founders enter an area of the hall separated by slats of plastic, where the individual rocket components are being assembled. Several elements can be seen here, the tip of the rocket as well as part of the propulsion system. You get an impression of the final dimensions of Spectrum, which has a final length of 28 meters.

THOMAS F. HOFMANN: Wow, standing here, you begin to understand the scale of the rocket. Space is a highly competitive terrain that presents many challenges. Not just technically, but the competition is huge, established, and has a lot more funds at their disposal. You have to constantly prove yourself and hold your ground.

JOSEF FLEISCHMANN: There is a lot of competition and some of them are very renowned companies, but as a start-up we have the advantage that we can experiment a lot more. We have other challenges, we have to build our reputation first, but we are nimble and not afraid to explore a completely new avenue if the first one doesn't work. Our finished rocket, part of which you see here, will end up being only two meters wide in diameter.

DANIEL METZLER: We are incredibly proud of how far we have come. However, it's still a huge task. One is the challenge of building something as complex as a rocket in the first place and making it work. But also at a market level, companies like us in the space and satellite



At the end of the tour, TUM President Thomas F. Hofmann expressed his best wishes to the entrepreneurs and for the success of their upcoming rocket launch.

industry still have to overcome many obstacles. In the area of financing but also in terms of the legal framework. A lot still needs to happen here to create a competitive market in Europe that can make a sustainable contribution to technological innovation and progress.

JOSEF FLEISCHMANN: Josef Fleischmann: I don't think many people are aware of how much satellite technology already defines our everyday lives. Be it in the field of Earth Observation, in climate protection or for communication. Just recently, we were all reminded of its immense importance when Starlink, SpaceX's satellite Internet, made its technology available after the Russian invasion of Ukraine, thus ensuring that the people in Ukraine remain able to communicate and can continue to take action. Conversely, of course, this carries great risks of being dependent on other companies and states. It is therefore essential that we in Europe have the necessary resources to be able to launch satellites into space on our own and to set up satellite systems – not only, but also for defense purposes.

THOMAS F. HOFMANN: You have already mentioned environmental protection. One of the first satellites that will go into space with you will be from OroraTech, also a start-up by TUM Alumni. This company is dedicated to using satellite technology to detect forest fires and bushfires as early as possible. I found it remarkable that two companies founded by TUM Alumni are working together on this venture.

DANIEL METZLER: We have known Thomas Grüber from OroraTech for many years and we have been in close contact all this time. The fact that this cooperation came about in the end has, I think, mainly to do with our convincing concept and progress as a company and is a strong sign of the interest and trust in Isar Aerospace's technology and expertise. Of course, this cooperation also stands for what we collectively embody: innovation and know-how for satellite-based applications from Europe that improve life on earth. The fact that with OroraTech we were able to win a company which was founded by TUM Alumni, as well is something very special to us and signifies the potential and innovative power of the TUM ecosystem.

THOMAS F. HOFMANN: In any case, I think it is very important that we in Europe take on a new leadership role in aerospace technology. This is the only way we can make a difference and protect the world as a whole even better. In July, we opened the first dedicated building of the Department of Aerospace & Geodesy in the TUM School of Engineering and Design here next door to you in Otto-brunn. Over the next few years, the department is set to become the largest and best of its kind in Europe. What are your next steps?

DANIEL METZLER: We are currently in a critical phase, with further tests of our internally designed and developed drive pending. Between now and the launch, we are facing a lot of challenges – whether it's adjusting things during development on the basis of the test results or whether a certain approval for the infrastructure we need is once again taking longer than expected. But that's nothing that will throw us off track.

The tour ends in a small room on the upper level of the factory hall. Here, Isar Aerospace has set up a Mission Control Center. Several desks and computer screens are eagerly awaiting their big assignment in the context of the first rocket launch.

DANIEL METZLER: This is where we will monitor our first launch. We will launch the rocket from Andøya in Norway. We will be able to set up and exclusively use a launch pad there. This will be a huge day for all of us. In the long term, we are aiming for 25 to 30 launches per year.

THOMAS F. HOFMANN: You are all highly ambitious and have great aspirations. But from what I've seen of you today, I'm convinced you will succeed. Do you sometimes worry that you might not make it?

JOSEF FLEISCHMANN: It takes a healthy dose of respect. Otherwise we would be foolish. Also in everyday life there are times when we experience some frustration, when something doesn't work out the way we imagined or mistakes happen. But I am always encouraged by the fact that many people here are putting their heart

and soul into achieving one common goal. Together, we have developed an outstanding product.

THOMAS F. HOFMANN: Would you fly into space yourself if you could? Personally, I wouldn't rule it out. It must be very touching to look back at our planet from above.

DANIEL METZLER: Space intrigues me. The vastness, the many unexplored things out there – and the many opportunities that easier access to space opens up for us. I would like to make my contribution to this. But my skills are more in the area of engineering here on Earth. That's why for the time being, a space flight is not on my list of priorities (laughs).



The History of Isar Aerospace

How a Student Project grew into a Start-Up with Potential



TUM Alumni Josef Fleischmann (center) and Daniel Metzler (right) teamed up with Markus Brandl and created the company Isar Aerospace. Lucrezia Veggi (left) has been with the company virtually since day one: She is heading the team responsible for integrating the rocket engine and is at the same time completing her doctorate in Aerospace Engineering at TUM.

Daniel Metzler, Josef Fleischmann and Markus Brandl were already working on a new type of rocket as part of a TUM student research group. The project evolved into the start-up Isar Aerospace, which is working on Germany's first small rocket.

Thousands of satellites are orbiting the earth. They are the reason billions of people are able to get the latest weather report, determine their location via GPS, navigate with Galileo, watch TV and use the Internet every day. Satellite images show when a field is due to be harvested, how quickly the polar ice caps are melting, and that the sea levels are rising.

Lots of Satellites

In order to transport satellites into space, rockets need to be launched. The three TUM Alumni Daniel Metzler (Master Aerospace Engineering 2019), Josef Fleischmann (Bachelor Mechanical Engineering 2013, Master 2017) and Markus Brandl (Bachelor Mechanical Engineering 2016, Master Aerospace Engineering 2019) developed a launch vehicle that is smaller and cheaper than others. With a length of 28 meters and a diameter of 2 meters, the 'minilauncher' is only half the size of a current ESA Ariane 5 rocket. Nevertheless, it easily accelerates small satellites and satellite constellations to just under 28,000 kilometers per hour.

Because this small rocket brings the loads into space at a lower cost, satellite systems as a whole can become more affordable. Instead of individual expensive projects, entire groups of satellites can now be brought into space. "This is significant for the entire population," says Daniel Metzler. "Many people think space travel is just about exploring the moon and Mars. But it's primarily about improving life on Earth."

Rocket Engines Built by Students

For Daniel Metzler, Josef Fleischmann and Markus Brandl, the research opportunities at TUM and the entrepreneurial spirit that prevails here were the incubator for the start-up they founded in 2018. In the student working group WARR (Wissenschaftliche Arbeitsgemeinschaft für Raketentechnik und Raumfahrt) at TUM, they were given all the freedom they needed to tinker with rocket engines.

This drew the attention of the European Space Agency (ESA) even before a start-up had been launched, and attracted the first commercial buyers from the industry. "This interest was in no small part due to TUM's good reputation," says Daniel Metzler. "After all, why else would anyone want to buy rocket engines built by students?"

The first engine parts were created in the high-tech MakerSpace workshop on Campus Garching. Now production has moved to the alumni's own manufacturing facility in Ottobrunn, which was opened in September 2020 in the presence of Minister President Markus Söder and TUM President Thomas F. Hofmann. In close proximity to TUM's Faculty of Aeronautics, Astronautics and Geodesy and in the vicinity of other aerospace start-ups as well as established companies, they now employ around 250 people, including quite a few TUM Alumni.

The European Rocket Start-up With the Best Funding

Isar Aerospace is now considered one of the best-funded space start-ups in Europe and has secured more than 150 million euros from private investors over the years. In 2021, it won the German Aerospace Center's first German microlauncher competition, launched and commissioned by the German Federal Ministry of Economics as part of the BOOST! initiative of ESA's Commercial Space Transportation Services and Support (C-STS) program. The top prize earned the founders a launch contract for small satellites worth eleven million euros. The company won another ten million this year when it was awarded the European Union's EIC Horizon 'Low Cost Space Launch' prize.

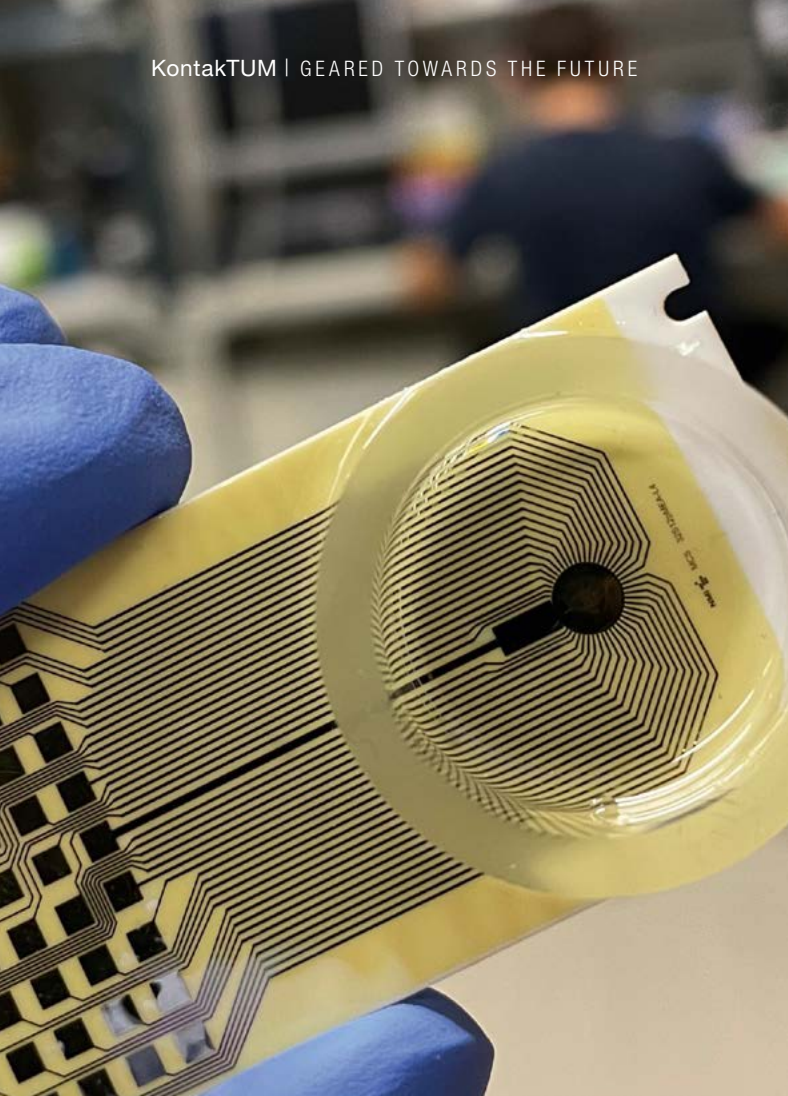
As early as next year, Daniel Metzler, Josef Fleischmann and Markus Brandl plan to send their launch vehicle 'Spectrum' into space. In the long term, they are aiming for 25 to 30 launches per year. The first commercial customers are already waiting, such as the satellite company OroraTech, which was also founded by TUM Alumni. "With TUM, you can fly high," Daniel Metzler says.

Face to Face With Young Entrepreneurs

TUM Entrepreneurship Day on the 30.06.2022

Experience TUM start-ups up close: Anyone interested is welcome to attend this already traditional event and get to know entrepreneurs and their business concepts. In addition, each year the Presidential Entrepreneurship Award is presented to an outstanding spin-off whose business idea is largely based on the results of research conducted at TUM.

www.tum.de/en/tum-entrepreneurship-day



This is How Students at TUM



They sacrifice their free time, puzzle over their projects together in workshops until late at night, and do pioneering work time and time again: Numerous students at TUM are involved in student initiatives that are not part of their curriculum. They turn TUM into a space to experiment, try things out, innovate, and gain valuable experience that will later become priceless in their careers. TUM supports its students in various ways: for example, by allowing them to use special work spaces or by offering TUM funding, or by providing mentors. Here we would like to introduce you to a selection of our students' projects.

Innovate

WARR Exploration

Rover, Which Converts Lunar Dust Into Building Material

A team from the TUM student group WARR – short for Scientific Workgroup for Rocketry and Spaceflight (Wissenschaftliche Arbeitsgemeinschaft für Raketentechnik und Raumfahrt) – has developed a remote-controlled rover that can convert dust and sand into solid building material. The students hope to contribute to the construction of the first human settlement off Earth. They were inspired by

an ESA video showing what a settlement on the moon could look like. Since buildings on the moon have to be protected from being hit by meteorites, the students contemplated covering them with lunar dust and then hardening it. ESA had already demonstrated that it is possible to produce a workpiece from fine-grained materials such as lunar dust, a process known as sintering. Never before, however, had an attempt been made to connect the optics for sintering with a mobile platform to remotely scan and solidify surfaces.

“Being part of a team that develops a completely new technology is obviously very cool,” Master’s student Laura Bauer explains. What really matters, she says, is not so much the result, but the journey: “In my Physics studies, I learned a lot about material properties. It was all very theoretical. Here, however, it’s all about application: you see how things are working. That’s incredibly motivating.”

Part of the WARR Exploration team with their remotely operated rover.





Members of TUM HORYZN are checking the drone before a test flight.

A Drone That Potentially Saves Lives

TUM HORYZN

In the event of a heart attack, fast help is crucial. But outside of heavily populated areas, such as villages or hiking regions, it can take longer for professional rescue teams to arrive. The TUM student initiative HORYZN has therefore developed a life-saving drone: it has a defibrillator on board, is able to fly autonomously, it is electrically powered and controlled with the help of AI. As a result, the 3-by-2-meter drone can reach places that are difficult or impossible to get to for ambulances. Once the drone arrives at the coordinates of the reported medical emergency, it goes into hover and lowers a defibrillator on ropes.

The defibrillator can then be easily operated by non-professionals and significantly increase the affected person's chances of survival.

Project leader Balázs Nagy has just completed his Master's degree in Aerospace Engineering and is currently working at the Institute of Flight System Dynamics: "Nine faculties are represented in our 70-member team comprising 30 nationalities. These range from Engineering and Computer Science to Medicine and Economics. It's great that at TUM we have access to all the expertise and get the support we need to implement such a complex project."

The world's fastest tunnel boring machine

TUM Boring

In the summer of 2021, Elon Musk hosted the 'Not-a-Boring Competition' in Las Vegas. Student teams from all over the world were called upon to bore a 30-meter-long and half-meter-wide tunnel with their self-developed tunnel boring machines (TBMs). The long-term goal of the competition was to develop a tunnel infrastructure that would pave the way for the use of innovative and sustainable transportation systems, such as the Hyperloop. Eight student teams from around the world eventually competed in September 2021. The TUM team managed 22 meters of the given distance and thus won the competition. TUM Boring's drilling machine weighs a total of 22 tons, and consists of a 12-meter-long container holding components such as the drill head, steel tubes and feed system. The more than 60 members of TUM Boring had been building and tweaking their TBM for over a year. The team decided to use a process called Pipe Jacking. In this process, steel pipes are pressed into the ground one after the other during the drilling, and are then joined together underground.

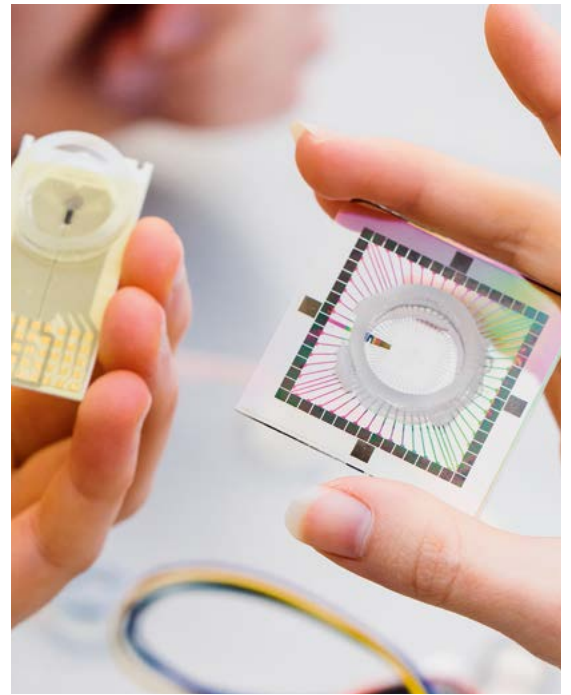
A big motivating factor for TUM Boring students is the desire to work towards a more sustainable future, in which we waste less time in traffic. "We see tunnel construction as a technology for the future and want to shape it with our innovations. Tunnels allow us to better connect and increase the quality of urban life," says Benedikt Hartmann, one of the founders of TUM Boring.



The TUM Boring team is presenting its tunnel boring machine at Elon Musk's 'Not-a-Boring-Competition' in Las Vegas in the summer of 2021, and comes first.



In their experiment, the Space Labs team wants to study neurons in zero gravity. This picture shows two different microelectrode arrays (MEAs). The students will grow a neural network on their surface in order to then observe the communication of the neurons with each other using the electrodes on the MEAs.



Experiments in space



The WARR Space Labs student team is excited to send an experiment they developed themselves to the International Space Station.

Performing a self-developed experiment in space? In early 2023, this dream is expected to come true for the students of the WARR Space Labs. They are one of four winning teams in the German Aerospace Center's high-flier competition and will send their work to the International Space Station. With their experiment ADDONISS (Ageing and Degenerative Diseases of Neurons on the ISS), the students want to study neurons in microgravity. Because cells age quicker in space than on Earth, the ISS offers the ideal conditions to study degenerative diseases. Once the experiment reaches the ISS, it will be running for 30 days. The data will be analyzed and transmitted to the students on Earth.

"One of the major challenges of the project is that the suitable container is very small. As a result, we have to carefully plan a lot of things and try out different ways to come up with a suitable solution," says TUM Alumna Karoline Kadletz (Bachelor Biochemistry, 2018, Master 2021). A year ago she started the Space Labs team which, among other disciplines, now consists of about 20 students from Mechanical Engineering, Physics, Computer Science and Biochemistry. "There are just so many exciting possibilities for experiments in microgravity. With our experiment, we hope to contribute to a better understanding of the processes of aging."

**Science doesn't
need walls and
hierarchies.**

Science needs the
cross-linking of
knowledge – a
resource that
grows when it
is shared.

TUM President Prof. Dr. Thomas F. Hofmann



This is how TUM addresses the challenges the future holds

"We have to rethink universities," says TUM President Prof. Dr. Thomas F. Hofmann, and has initiated a comprehensive structural reform at TUM.

The task of a university is to prepare the next generation for the world. For a world that is changing at a rapid pace and that is creating new challenges for society every day. In our current situation, we feel this more than ever before. Universities are therefore challenged to readjust their education and to adapt their structures in a way that enables them to meet this requirement: for the future and for the generations to come.

Since the innovations of the future do not lie within the disciplines but at their interfaces, TUM has initiated a comprehensive structural reform in line with international models as part of its TUM AGENDA 2030. In doing so, it is taking on a pioneering role in Germany and setting new standards at the right time. This is the only way that university education can keep up with social and economic change.

Traditionally, TUM had 15 faculties, which were organized by subject. Now these will be transformed into seven subject-specific schools. In a horizontal organization, these will be complemented by integrative research centers. The new schools bring together disciplines that are adjacent to each other and combine them under one roof. In this way, interdisciplinary teams focused on specific topics can be formed more easily and more quickly.

TUM President Thomas F. Hofmann is convinced that this reform will be a key factor in TUM's success. He quotes the English naturalist Charles Darwin: "It is not the strongest species that survives, nor the most intelligent – it is the one most adaptable to change."

Read more at
www.tum.de/en/about-tum/schools-departments

These are TUM's new Schools:

| Founding year | TUM Schools | |
|---------------|---|----------------|
| 2020 | TUM School of Life Sciences | FOUNDED |
| 2021 | TUM School of Management | |
| 2021 | TUM School of Social Sciences | |
| 2021 | TUM School of Engineering and Design | |
| 2022 | TUM School of Computation, Information and Technology | IN PREPARATION |
| 2022 | TUM School of Natural Sciences | |
| 2023 | TUM School of Medicine and Health | |

The Rush of Research

Experience the TUM School of Life Sciences in the lecture series TUM@Freising!

An exciting cross-section of topics from the TUM School of Life Sciences awaits you: scientists talk about their research. Relevant content, straightforward language and an entertaining delivery – this is how TUM@Freising communicates science to the audience. Because science thrives on the exchange of opinions, a subsequent discussion after each lecture is explicitly encouraged.

Information and program (in German)
go.tum.de/496958

Dates

Auswirkungen des Klimawandels auf unsere Natur

with Prof. Dr. Annette Menzel on **17.05.2022**

Renaturierung von Ökosystemen: Warum, was und wie?

with Prof. Dr. Johannes Kollmann on **July 2022**

Waldsterben 2.0

with Prof. Dr. Rupert Seidl on **18.10.2022**

New TUM School of Engineering and Design has Officially Been Launched

The TUM School of Engineering and Design is bringing together the competencies of Mechanical Engineering, the Department of Civil, Geo and Environmental Engineering, the Department of Aerospace and Geodesy and parts of the Departments of Electrical Engineering and Architecture.

Building on its 124 professorships, nearly 2300 employees and around 12,000 students, the new School is developing a brand-building collaborative profile. Focal areas range from innovations for smart mobility on and above Earth, to the transformation of the built environment, production and our energy supply, to an ecological and sustainable circular economy. The name of the new School – ‘Engineering and Design’ – emphasizes that a holistic engineering approach is required to adequately meet these challenges.

Departments

The TUM School of Engineering and Design pools its competencies in eight departments.

Aerospace & Geodesy
Architecture
Civil and Environmental Engineering
Energy and Process Engineering
Engineering Physics and Computation
Materials Engineering
Mechanical Engineering
Mobility Systems Engineering

Founding Dean Prof. Dr. Christoph Gehlen said at the opening:

“Things are changing rapidly. But that’s nothing compared to the changes that lie ahead. Climate change, population growth, digitalization. There are so many things that humanity is facing. Thus, it is time to rethink our strategies, to update the way we think, research and teach. In these times when everything is connected, we need to be interconnected, too.”

Video

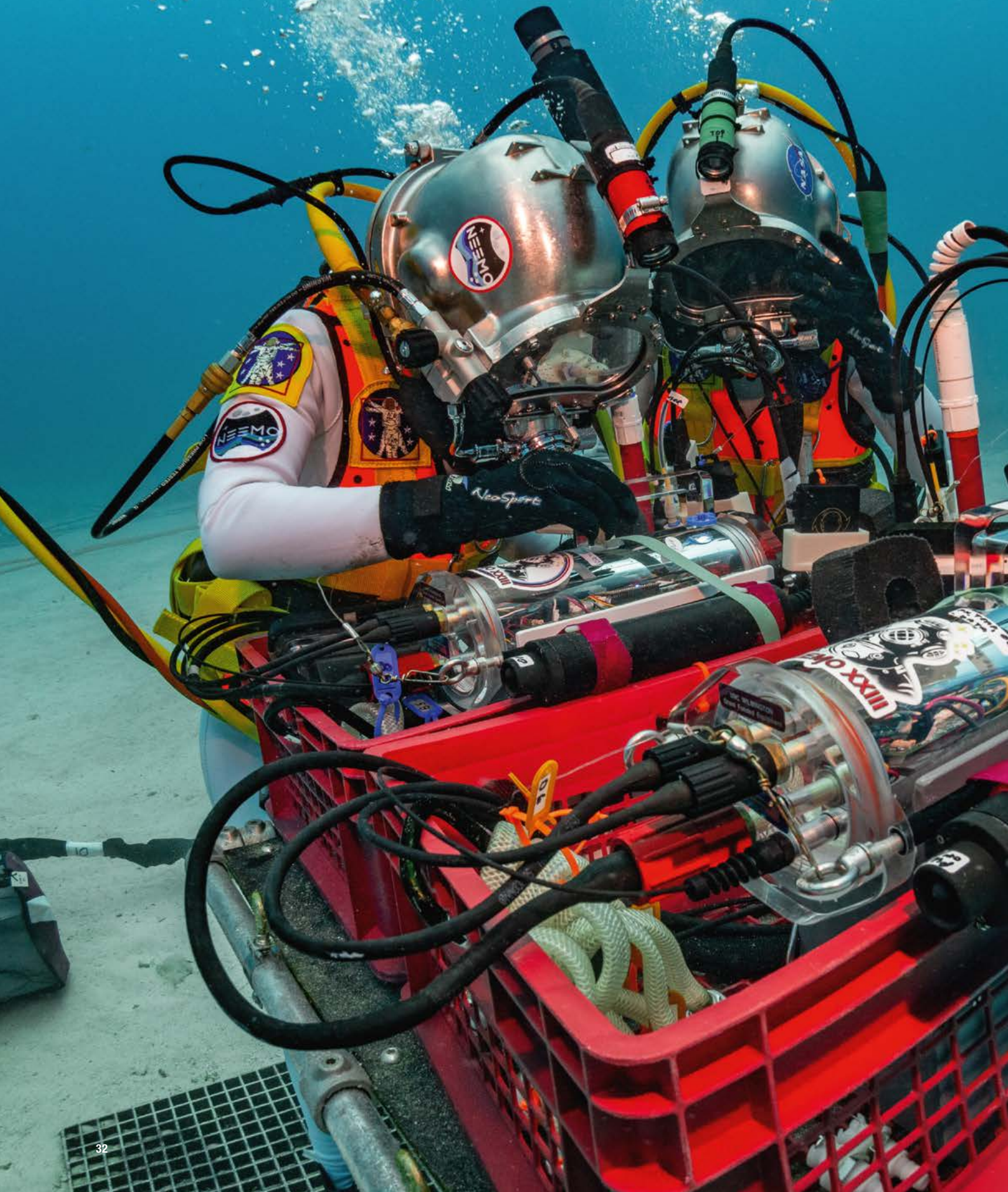
Here you can watch the virtual inaugural ceremony of the TUM School of Engineering and Design

go.tum.de/100051

At the inaugural ceremony of the TUM School of Engineering and Design, Founding Dean Prof. Dr. Christoph Gehlen, TUM Alumna Katharina Kreitz, TUM Alumni and Nobel Laureate Prof. Dr. Robert Huber and Senior Vice President for Research and Innovation Prof. Dr. Gerhard Kramer discussed.



Samantha C



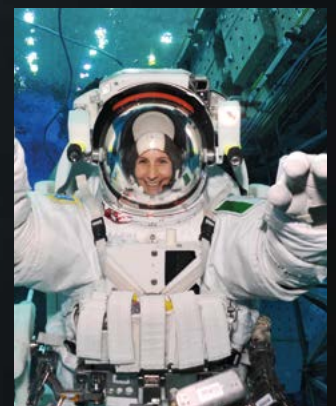
Training for the Most Challenging Workplace in the Universe

Her workplace is six hours away from Earth by rocket. It is 1,200 cubic meters in size, about the size of a small factory hall, and orbits the Earth once every 94 minutes. Here, unprecedented experiments are conducted under extreme conditions in zero gravity, thus advancing the knowledge of science bit by bit. In the spring of 2022, TUM Alumna and astronaut Samantha Cristoforetti will once again embark on a mission to the International Space Station (ISS).

To prepare for her mission on the ISS, Samantha Cristoforetti has to undergo two and a half years of rigorous training, simulating the various challenges that space has to offer on Earth. Therefore, in the past months, she has been training in a spacesuit and in space vehicles, but also underwater.

Spacewalks can for example be simulated at the bottom of the ocean and tool prototypes can be tested; in addition, the crew members also have to train how to survive in the water, in case they land in the ocean when returning back to Earth. This is grueling work, involving training missions around the globe, and is as much a part of an astronaut's daily routine as the actual mission aboard the space station.

Astronaut and TUM Alumna Samantha Cristoforetti (l.) has been undergoing rigorous training in preparation for her next mission aboard the International Space Station. An important part of her training involved underwater missions, such as this one during NASA's NEEMO mission.



1 ESA astronaut Samantha Cristoforetti is collecting sponge samples as part of NASA's NEEMO mission. The mission involves groups of astronauts, engineers and scientists living for up to three weeks at a time in Aquarius, the world's only underwater research station. The Aquarius habitat and its surroundings provide a compelling analogon for space exploration and an environment similar to the ISS. **2** Samantha Cristoforetti during water survival training at NASA's Johnson Space Center. **3** The ESA astronaut in a sleeping bag in the crew quarters. Astronauts secure their sleeping bag to the wall to prevent it from floating around and potentially bumping into equipment while they sleep. **4** Samantha Cristoforetti training for spacewalks at NASA's Neutral Buoyancy Laboratory in Houston, USA. Scuba diving is the closest thing to experiencing weightlessness on Earth for extended periods of time. To simulate floating in space, astronauts don the suits before being lowered into a large plunge pool.

Ever since she was a child, Samantha Cristoforetti wanted to be an astronaut. Her room was full of posters of planets and Milky Ways. She was an avid reader of science fiction novels and non-fiction books about space. With her first flight to the ISS in 2014, she made her dream come true and at the same time set the first record for the longest uninterrupted space flight by a European astronaut.

To achieve her dream, Samantha Cristoforetti has worked hard for many years. She began her education by studying Mechanical Engineering at TUM and after graduating joined the Italian Air Force. Here, she became one of the first women to train as a fighter pilot. Although she was still in the challenging training at the Air Force Academy, Samantha Cristoforetti did not hesitate at all when the European Space Agency (ESA) announced a recruitment program for aspiring astronauts. The tough application process took more than a year and required a lot of patience, perseverance and assertiveness on her part.

Samantha Cristoforetti

Diploma Aerospace Engineering 2001

From 1996 until 2001 Samantha Cristoforetti studied Mechanical Engineering with specializations in Aerospace Propulsion and Lightweight Structures at TUM. Through the European Union's ERASMUS Program she also studied at the Ecole Nationale Supérieure de l'Aéronautique et de l'Espace in Toulouse and at the Mendelev University of Chemical Technologies in Moscow. She completed a second degree in Aeronautical Sciences at the University of Naples Federico II in 2005. Between the years of 2001 and 2005 she received pilot training at the Italian Air Force Academy Pozzuoli and subsequently worked for the Italian Air Force until 2009. In 2006 she was trained as a fighter pilot at the Sheppard Air Force Base. In 2009 she was recruited for the European Space Agency's (ESA) astronaut corps, in 2014 her first space mission as a flight engineer on the ISS Expedition 42 and 43 followed.

Samantha Cristoforetti holds the Knight Grand Cross of the Order of Merit of the Italian Republic. She is fluent in five languages and now – in addition to her native tongue Italian, German, English, French and Russian, learns Chinese as her sixth language. In her limited free time she is passionate about diving, yoga and caving. Samantha Cristoforetti is an avid reader of science-fiction and is writing an online-log. As @astrosamantha she has thousands of followers on twitter. Whenever she is not traveling for work, Samantha lives with her partner Lionel and their two children near the ESA Astronaut Center in Cologne, Germany.

THE TOUGH ROAD TO BECOMING AN ASTRONAUT

In 2009 Samantha Cristoforetti, and 5 other Europeans, prevailed over more than 8400 competitors and were selected for the European Astronaut Corps. As soon as she had completed the basic training at the European Astronaut Centre in Cologne, she was suggested as a flight engineer on Mission Futura for the 42nd long-term crew of ISS. She prepared for her first space mission for five years. She learned to fly the Soyuz spacecraft, familiarized herself with the space station systems, robotic control and extravehicular missions. After a two-week quarantine, she finally embarked on her flight to the international space laboratory from the Baikonur Cosmodrome in Kazakhstan – as the first Italian woman in space.

OFF TO SPACE AGAIN

Eight years later, the second mission is now on the horizon: In spring 2022, Samantha Cristoforetti will travel to the International Space Station again. She will launch from Florida, USA, as a member of the so-called Crew-4 aboard a SpaceX Crew Dragon spacecraft, heading for the ISS. "The anticipation for my second trip is huge. The first time was emotionally overwhelming. Now I can witness everything more calmly and thus hopefully remember it better," says Samantha Cristoforetti. And there is something else that has changed: Samantha Cristoforetti is now a mother of two. While her one-year-old son doesn't yet realize that his mother has a very exciting job, her daughter is proud: "She thinks it's cool that her mom will soon be flying into space again." Despite the risks that always come with such a flight, Samantha Cristoforetti is not afraid. "I am familiar with the environment. I'm trained for this and I know what I have to do. Planes, spaceships and space are where I am comfortable." She is looking forward to her new mission with excitement, "ISS is a highly specialized laboratory. Here, we do research that would not be possible on Earth because of gravity. In this way, we are contributing directly to getting important innovations off the ground. That's incredibly motivating for me."

You too would like to
travel to the stars?

Visit the ESO Supernova in Garching on 21.05.2022
at 12:30 noon, guided tour in English
www.community.tum.de/en/events

How
do
you
do
this?

Lading the family business out of an economic crisis, balancing a management role and family, finding one's way back into life after a blow of fate, and persevering on an adventurous journey: **Some people accomplish things that leave us in awe and may seem impossible to ourselves at first.** Four alumni tell us about extraordinary situations in their lives and how they dealt with them.

“ I am convinced that the desire to have children and the ambition to make a difference professionally are not mutually exclusive. Of course, this is not always easy. It often requires courage.

Above all, it requires the right partners, both professionally and in your private life. This is why I have always chosen companies that offer this opportunity. At McKinsey, I worked my way up to Associate Partner on a part-time basis and had three children during that time. As the head of the Organization Development department at Volkswagen, I also had enough room to do justice to both the demands of top management and my family. Of course, I also had to actively claim this freedom. On some evenings, I even have to work longer hours.

I'm not alone – quite the opposite: we have wonderful childcare and an equally great domestic helper. And, crucially, my husband and I have a relationship at eye level. We hardly have any traditional role distributions: We share the everyday tasks, as well as the mental workload.

I also balance this by paying attention to things that fascinate and excite me – both professionally and in my private life. For me, there is no strict separation here. Why should there be? I am one and the same person: I enjoy going out to dinner with inspiring colleagues just as much as going for a gin and tonic with a friend. What matters to me is that I share good conversations and beautiful moments. That feeds me with positive energy and makes me successful in what I do – regardless of any perceived role. Because I only exist as a complete package: as a wife, mother and top manager.”



Dr. Katharina Peterwerth

Diploma Electrical and Computer Engineering 2004, Doctorate 2008

Dr. Katharina Peterwerth studied Electrical and Computer Engineering at TUM and then completed her doctorate in an industry-related program with Volkswagen, academically supervised by TUM. After a successful defense of her dissertation, she joined McKinsey, focusing on strategy consulting, organizational development and product development. Ten years later, she returned to Wolfsburg at the end of 2018 to take over heading the Organizational Development of the group and thus assuming a key role in the corporation. In April

Wife, Mother, Top Manager

2022, she moved to family-owned company Haniel as Chief People and Strategy Officer. Katharina Peterwerth is a mother of three, is involved as a mentor in the TUM Mentoring Program for Students by Alumni and has shared her experience with TUM students and doctoral students on several occasions as a speaker at career events.

Family Business and an Economic Crisis

“After my apprenticeship, I quickly had the opportunity to assume management responsibility in our family-owned business. Right away, the challenges were immense, because when I joined in 2009, the effects of the global economic and financial crisis also hit our company. A certain amount of uncertainty was felt everywhere, both among customers and our own employees. But because, as a family business, we had always taken a long-term approach and never lost sight of our focus on both customers and employees, we have so far been able to overcome every crisis. Hopefully, this also applies to the current corona pandemic and the looming Ukraine crisis, both of which will have severe consequences for the German and global economy.

Both my studies and my doctorate were very technology-oriented. As a corporate manager, however, many decisions also involve key performance indicators such as return on sales, equity ratio, cash flow and liquidity. I still had to learn that. After a few years in operations, I decided to add an Executive MBA program from TUM to my career. This enabled me to engage with classic business administration issues on a more fundamental level.

The decisive factor in managing crises is leadership and employee motivation. I only realized that through practical experience. If you have responsibility as a manager, as I had early on, you need strong communication skills, you have to be able to listen well and have the ability to detect the moods, needs and problems of your employees. You have to be able to engage people and convince them of your vision – that's the key to success.”



Dr. Daniel Tomic

Diploma Mechanical Engineering 2003, Doctorate 2009, MBA 2014

Daniel Tomic graduated in Mechanical Engineering from TUM in 2003. He then worked as a research assistant at TUM's Institute of Machine Elements and received his doctorate in 2009 in the field of Vehicle Transmission Optimization. Immediately after completing his doctorate, he joined his father's company as Managing Director, which was not what he had initially planned. In 2012, Daniel Tomic decided to pursue a Master of Business Administration, Leadership and Communication at TUM in order to develop his business skills. Daniel Tomic attributes some of the family business' success to his education at TUM and in gratitude, he wants to give something back and support young people. He has been a committed benefactor of the TUM University Foundation since 2016 and a member of the Board of Trustees of Bund der Freunde der TUM since 2017. Daniel Tomic, himself a father of 2 children, is proud to have taken

over his own father's company and to have the privilege of carrying it into the next generation. His father Franjo Tomic came to Germany from former Yugoslavia in 1971 and, as a non-academic, developed what is now a medium-sized company for industrial plant engineering from a small craftsman's business, primarily through diligence and good entrepreneurial instincts.

For years, TUM has been offering managers the opportunity for exchange and advice from colleagues as part of the “**Abenteuer Führung**” series.

19.05., 30.06., 28.07. and 22.09.2022, from 6:18 – 8 pm

www.community.tum.de/en/communityevents

Com- petitive Sports in a Wheel- chair

Laura Fürst was born in Gräfelfing in Greater Munich. She studied Energy and Process Engineering at TUM and also holds a Master's degree in Mechanical Engineering. After her graduation, she joined BMW as a Development Engineer for high-voltage storage systems. Following an accident in 2008, Laura Fürst became partially paraplegic. While at the Murnau Trauma Clinic, she first began to play wheelchair basketball. Since then, she has played for the Bundesliga club RBB Munich. With the German national team, she won the silver medal at the 2014 World Championships and gold at the European Championships in 2015. Twice she has participated in the Paralympics, winning the silver medal with her team in Rio 2016. She recently retired from her international sports career.

“ I love sports. During a school exchange in the US, I had a snowmobile accident and have been partially paraplegic ever since. Back in Germany, I spent almost five months in a trauma clinic. This is where I got to know wheelchair basketball, got into competitive sports and later even took part in the Paralympics, twice. In the process, I met many people with similar life stories who live life to the fullest.

Combining my studies in Mechanical Engineering with competitive sports was possible because I was able to make my own schedule and I had only a few attendance requirements. But it was still pretty intense. My fellow students provided me with study material and I tried to work a lot while I was on the road. In the summer of 2016 and last year, I was even able to participate in the Paralympics. That does indeed require a lot of ambition and commitment. Meanwhile, I have a full-time job at BMW and have quit my international career. But I am still playing in the federal division.

I like putting myself in the service of a team where everyone has their role. In wheelchair basketball, people from different nations, women and men, wheelchair users and walking people, play together as a team and together compete for victory. On the court you measure yourself against each other, here everyone is equal. Afterwards, one person gets out of their wheelchair and walks into the locker room, and someone else takes their wheelchair into the locker room. And that is more or less unique to this sport. I have also learned to deal with defeats and have developed a high tolerance for frustration. When we lost the finals in Rio 2016, it initially got to me, but the joy of winning the silver medal quickly outweighed it and I still get goosebumps when I think about it.”

Laura Fürst

Bachelor Mechanical Engineering 2015, Master 2018





Michael Bartels

Diploma Architecture 2006

“ After studying abroad in Japan, I traveled overland from Japan to Germany for the first time in 2004. I wanted to experience the change of landscapes, people and cultures instead of just flying home in 14 hours. At that time, the route was from Japan to China by boat, via Mongolia, Russia, Ukraine, and Slovakia back to Germany.

In 2015, I finally managed to make my dream of making the overland journey from Japan again a reality as part of a sabbatical. With this trip, I wanted to catapult myself into the unknown, to consciously engage with constantly changing circumstances. In my job, I need a lot of creativity, but I am part of an office routine that has a certain regularity. On a trip like this there is no such thing .

The trip started in Tokyo and went via China, Kyrgyzstan, Tajikistan along the Afghan border, Uzbekistan, Iran, Turkey and back to Munich. Even though I had set some target points, there was a lot of room for improvisation: How do I get from A to B? Where do I sleep? Is there still something to eat? Or will a few cookies and a sugary soda be enough for this day on the bus or train? I learned a lot in the process, not least a sense of basic trust.

The daily encounters with people on the street became very important and were the essence of the journey. Initially I stayed in business hotels. These were clean and impersonal. There was little room for spontaneous encounters with other travelers. So I started to look for simple hostels to stay in. Here I met interesting people, local and foreign travelers. For me it was all about feeling the individual places and myself. To choose only a few destinations and to experience them. Decisions seem much more immediate here. Just sitting in one place. Watching and observing. And often after five minutes someone sat down with me and a conversation started.”

In 2000, Michael Bartels enrolled at TUM to study Architecture. Through the Young Scientist Exchange Program of the TUM International Center, he was at the Tokyo Institute of Technology in Japan in 2003 and 2004. In 2006, he successfully completed his studies and began working for the Munich-based medical technology company Brainlab. His wanderlust, however, still hadn't been quenched. With the postgraduate program 'Language and Practice' of the German Academic Exchange Service, he went to Japan for another two years. At the Naganuma School (Tokyo School of Japanese Language), he consolidated his language skills, and at the Japanese branch of Brainlab, he gained international work experience. In 2009, Michael Bartels returned to his hometown Munich, where he worked at Brainlab for another ten years. In 2013, he finally completed his MBA at the University of St. Gallen. Since May 2020, he has been holding the position as Pricing Manager at Keller & Kalmbach. Michael Bartels likes to spend his free time with his family and loves visual arts. He exhibits his work, such as photos and videos, online. In 2005, he was awarded the Münchner Jugendfilmpreis (Munich Youth Film Award) for his documentary film 'Tokio München – auf dem Landweg' (Tokyo Munich – by Land).

From Tokyo to Munich by Land

You would like to go to Japan, too? The Global Minds series at TUM is the perfect preparation for a stay abroad, e.g. in Japan.

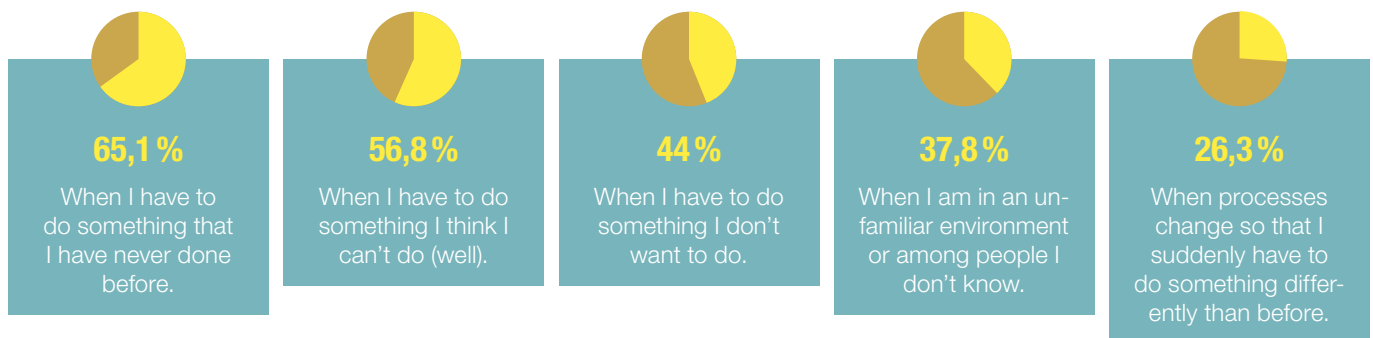
05.05.2022, 10:00 – 11:30 am, online

www.community.tum.de/en/communityevents

Do You Like Challenges?

What do you do when you are confronted with new projects and tasks? What has been the biggest challenge in your life so far, and what have you always wanted to do that you haven't dared to do yet? You told us in a survey*.

What do you consider a challenge? (Multiple answers possible)



Anything new is exciting

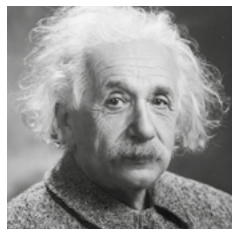
31,9 % of the TUM Alumni* consider any challenge to be a new opportunity.

Which pioneering achievement in history or which pioneers have impressed you the most? (selection)



The first moon landing 1969

"An incredible feat without the computers available today."



Albert Einstein

"Conceived groundbreaking things and never let anyone get in his way."



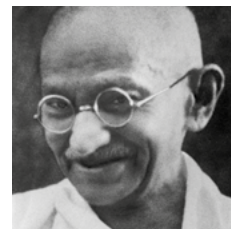
Marie Curie

"Because of her willpower, high physical commitment, dedication and belief in her goal."



Alexander von Humboldt

"Because he explored unknown territories with very simple equipment and was one of the first to realize that everything in nature is interdependent and also endangered by human actions."



Mahatma Gandhi

"Because he asserted himself in a non-violent way while being an incredible leader."



The seafarers of the 15th century

"It's unimaginable to set sail and not know where you're going to end up."

When TUM Alumni are asked to take on a task they've never done before, they...

47,3%

... try not to think of everything that can happen, but start calmly and take one step at a time.

42,2%

... first need a well thought out plan. This makes them feel confident.

39,5%

... look for allies who encourage them or who help them.

The Biggest Challenge of My Life

Holding an important lecture before a large, distinguished audience.
Pushing through a high school education for my autistic son.
Overcoming personal character traits that had been in the way.
Learning German.
Marriage.
Managing a 750 million US project.
Moving from working at university to working in an industry job.
Finding a job after graduating.
Leadership in times of the pandemic.
Renovating my own home.
Taking care of my father when he was dying.
Living in South Korea for six months.
Giving emergency medical care to a severely injured person in a road accident.
A conversation concerning a very long festering conflict.
Bringing my never-ending doctoral dissertation to a close.
Succeeding as a father and grandfather.
Establishing myself professionally and being successful.
My mother's death.
Taking on and managing a new department with twelve employees.
Studying at TUM.
Career change from electronics developer to IT manager.
Remaining faithful to my really great wife.
Coming to terms with my own chronic illness and accepting it, yet remaining positive and not losing the zest for life.
The birth and surgery of my first son, who had a heart defect.
Divorce.
Running a planning office on my own.
Earning a doctorate while working full time and having a family.
Caring for my grandchild.
Leaving a good job.
First business trip abroad, alone, as a young professional.
Losing blind trust in supervisors, and instead carving out my own paths, thereby achieving goals more effectively than before.
Birth of the first child.
When my business partner suddenly passed away.
Despite being shy, I stood at the counter as an intern at a branch bank and served complete strangers.
My bachelor thesis.
Building a house while taking care of three small children.
Advancing innovations in a government-like organization without killing anyone.
Deciding to go to university despite my parents wanting me to do an apprenticeship.
Confronting a person who means a lot to me.
Restarting my career after losing my job and being sick for over six months.
Crossing the Alps on the North Sea / Black Sea watershed.
Choosing the right time to retire.
Basically, always the last one. All previous ones then seem smaller in comparison, because you have already overcome them.

Logbooks and Chronicles – This is how TUM Alumni record their projects

47,3%

of the TUM alumni keep a record of new projects on their computer or tablet.

44,2%

use the notebook for this purpose.

*The Alumni Survey on the topic of challenges was sent to all subscribers of the newsletter 'Die TUM informiert' in January 2022. 385 alumni completed the survey. We would like to express our sincere gratitude.

What I Have Always Wanted To Do

Change jobs.
 Leave Europe.
 Cross the Alps from Vienna to Nice.
 Implement inventions that are floating around in my head.
 Start my own company.
 Take a chance on a new career.
 Buy real estate.
 Drive a car with several 100 HP.
 Take singing lessons.
 Visit Cuba.
 Do home improvement or get a glider pilot's license.
 Climb the Alpspitze.
 Ride a bike across the Alps to Italy. Without an electric motor.
 Vacation in Scotland and the Baltic States.
 Get a PPL pilot's license.
 Learn how to program mini-computers and build complex circuits.
 Go on a bike tour by myself.
 Build up a business of my own.
 Heliskiing in the Rocky Mountains.
 Climb the Matterhorn.
 Work abroad for a while.
 Rally driving with a professional.
 Play the piano.
 Climb Mont Blanc.
 Invent a game.
 Live in New York for a while.
 Become a paramedic.
 Laser eye surgery.
 Contact relatives who are at odds with close relatives.
 Make a long-term plan for my finances.
 Travel north and experience the midnight sun, together with my wife in a VW van.
 Learn to fly an airplane.
 Clean up my desk.
 Build a sustainable wooden house.
 Just do nothing for a change.
 Travel from Vladivostok to Moscow on the Transsib.
 Reunite family that is scattered around.
 A pilgrimage to Jerusalem by way of Rome.
 Move back to my hometown.
 Become politically active and initiate change.
 Acquire a time management system that really works for me.
 Travel to Kailash in Tibet and visit the sources of the four giant rivers.
 Plan my own home and contribute decisively to the construction.
 A trip to Antarctica.
 Play in an orchestra.
 I did everything I wanted to do.

Read all the answers given by our alumni at
www.community.tum.de/en/challenges

The Challenge of Starting a Job

You've earned your degree – but now what? On the way to our first job, we face many challenges: the application process, the transition into the working world, the first salary negotiation and the first management position. TUM's new career podcast guides you along this path. In 'That's my Job', TUM Alumni talk about their inspiring career paths and show how to make your own way after graduating.

www.community.tum.de/en/podcast



TUM Alumna Dr. Viktoria Leonhard (Diploma Technology & Management 2008, Doctorate 2013) is sharing her tips on leadership in the podcast.

Against all Odds: How Women Make Their Way

**Webinar (in English)
on the 24th of August**

with Prof. Dr. Kerstin Prechel

Still today, upward social mobility in Germany is lower than in most other developed countries (OECD 2018). Having parents who did not study, it is unusual for TUM Alumna Kerstin Prechel to have been appointed to a professorship. In a 'Women of TUM Afterwork Event', she talks about equal opportunities and the ups and downs of her career. She offers personal advice on how to master a career when your own path is full of obstacles and potholes.

www.community.tum.de/en/events

Challenges?

This is How TUM Supports You!

Graduation, the first child, the first management position, retirement. We are all constantly facing new challenges, new stages in life and uncharted territory that we want to explore. The experience of others can help us find the right conversations and answers to our questions. Take advantage of the TUM Network!

The Challenge of Doing a Doctorate as a Parent

Webinar (in German) on the 19th of May
with Dr. Aude Zingraff-Hamed

In this webinar, we will talk about how to build a successful academic career and raise three children at the same time.

www.community.tum.de/en/events

Overcoming Challenges Together

No matter what new professional or personal challenge you are facing – a mentor will be able to support you. Experienced TUM Alumni help you to ask questions and find answers, share their own experience and reflect your situation back to you. Since its launch in 2008, TUM Mentoring has been based on the mutual exchange of experiences, has since assisted more than 3,000 mentees with their respective challenges, and now includes a number of different formats: alumni help alumni, postdocs help doctoral students, or alumni help students.

<https://www.community.tum.de/en/mentoring>

The Challenge of Retiring

TUM Mentoring Lecture (in German)
on the 11th of May
with Franz Kapsner

Some people dread their last day at work with a queasy feeling in their stomach, while others can hardly wait. Ultimately, however, no one knows how they will feel when their retirement begins: no more trips to the office, no appointments, no full e-mail inbox. In his lecture, TUM Alumni and mentor Franz Kapsner (Diploma Mathematics 1977) explains how you can actively prepare your retirement and fully enjoy this new chapter of your life. He presents options and helps you to identify talents, inclinations as well as abilities and how to pursue them, and he supports you in finding answers to questions like: What have I achieved? What can I do? What do I want? What is important to me? What will I get involved in now?

www.community.tum.de/en/events



“The goal is to transform fear into anticipation”: A short interview with Franz Kapsner is available at www.community.tum.de/en/franz-kapsner



Uncovering the Secrets of the Rainforest

The Amazon Rainforest covers an area half the size of the United States of America. It spreads over nine countries, with thousands of rivers running through it, and is home to countless species of animals and plants, only about 20 percent of which are known to us. And it is the workplace of

TUM Ambassador David Lapola.

As a collaborative partner in Brazil, the professor is working with a team from TUM on a unique experiment and wants to find out what impact climate change has on the rainforest.

How TUM Ambassador David Lapola is doing pioneering work in Brazil

David Lapola almost didn't return from one of his first trips to the Amazon Rainforest. "Don't get lost," he and his fellow students had been cautioned. "Otherwise, chances are you'll never find your way back." But for one of his investigations – at the time he was studying the interaction of ants and plants – he had to go off on his own without the group. On this auspicious day, he ventured two to three kilometers away from camp on marked trails, inspecting the plants, and when he turned around, he suddenly didn't know where he had come from anymore. "That's it. Tonight I will have to sleep here," David Lapola thought – who, twenty years later - tells the story with a big grin on his face.

A Nature Enthusiast Since Childhood

Meanwhile, David Lapola is Professor of Meteorology at the State University of Campinas in Brazil and a respected expert on the ecology of global change. His enthusiasm for the rainforest started right there in Manaus when he was a young student: "It was an incredible experience to see these giant trees for the first time. They were so much taller than anything I had ever seen before. I felt like a tiny part in this forest that felt limitless, with life growing and thriving in every corner." A dream come true for David Lapola. Even today, he discovers something new on each of his visits: an insect, a fungus, a plant that he had not known before. "When people ask me about the motivation for my work, I can give them highly scientific reasons, but the most honest answer is that I want future generations to be able to experience and marvel at this forest, this abundance. Just like I did when I first stood here twenty years ago."

The First Experiment of its Kind in the Tropics

Currently, David Lapola is working on a unique experiment together with TUM professor and climate scientist Dr. Anja Rammig as part of a unique project that aims at unlocking one of the rainforest's many secrets: AmazonFACE. The Amazon Rainforest absorbs large amounts of carbon dioxide, a greenhouse gas that is harmful to the climate. But deforestation, agriculture and rising temperatures are pushing the tropical forest's ability to do so to a limit. What is going to happen when the rainforest will no longer be able to hold these amounts of carbon dioxide?

Prof. Dr. David Lapola
TUM Ambassador 2021

David Lapola is one of the emerging scientists in the field of Ecology. After a Bachelor's degree in Ecology, he completed a Master's degree in Metrology at the National Institute for Space Research in Brazil (INPE) and came to Germany in 2007 to pursue a doctorate at the Max Planck Institute for Meteorology. After a postdoc at the INPE and an assistant professorship at the University of São Paulo (UNESP), he joined the State University of Campinas as a professor in 2017. In the same year, he came to TUM as an August-Wilhelm Scheer Visiting Professor, working with German climate scientist Prof. Dr. Anja Rammig. In 2019, their collaborative work was published in Nature Geoscience. The AmazonFACE project is a long-term experiment to study how future expected higher carbon dioxide levels will affect the ecosystem.

In 2021 David Lapola was awarded the honorary title of TUM Ambassador by TUM President Thomas F. Hofmann. Since 2013, selected top international researchers who have been visiting researchers at TUM annually receive this title in recognition of their achievements.

The TUM Ambassadors,
 including David Lapola,
 will be honored on TUM's
 Campus Garching on the
 17th of July 2022.

[www.community.tum.de/en/
 ambassadors](http://www.community.tum.de/en/ambassadors)

Accepting the Challenge with Enthusiasm

FACE projects realistically study how the higher carbon dioxide levels expected in the future will affect the ecosystem. FACE stands for 'Free Air CO₂ Enrichment'. It describes a technical experimental setup in which a part of the forest is exposed to an increased concentration of carbon dioxide.

A FACE project in the tropics has been on scientists' wish lists for more than twenty years. "It's logistically complex, it's expensive, it requires a lot of planning and coordination, and it requires a very good scientific team to work together. In short, it basically is a lot of work," David Lapola explains. He is looking forward to finally taking on this challenge. And he is very proud of his international team, which is enthusiastic and personally committed to the project. As this is the first FACE experiment in the rainforest in Brazil, he is particularly pleased to be working with Anja Rammig, with whom he already conducted joint research during a short stay at TUM in 2017 and who contributes a great deal of expertise in this field.

Valuable Lessons

Protecting the rainforest and preserving it for future generations has been David Lapola's goal since the day it almost devoured him. But how did he find his way back in the end? "It was only 30 minutes, but to me it felt like ages. I was really desperate. It's not like you can walk in one direction for a while and come out on some road. In the Amazon Rainforest, you can walk for months and, if you're lucky, you maybe end up in Venezuela at some point," David Lapola laughs.

He had been warned beforehand that he would only get more lost if he walked back and forth to try to find his way out. So he first took out the orange from his backpack he had brought. "I peeled it piece by piece and ate it. Slowly my anxiety subsided and I recognized a notch on a tree in the distance that I had made with my machete on the way. So I went there and recognized another notch on another tree." Step by step, he found his way back. Most certainly he will forever remember this experience as the 'strangest thirty minutes' of his life. Along with many other valuable lessons learned in the Amazon Rainforest.



Professor David Lapola (back in pink T-shirt) explains the AmazonFACE experiment to a group of visitors in the rainforest.

In this chamber, biologists led by David Lapola monitor the CO₂ content of a forest patch North of Manaus. The red markings in the trees are used to permanently monitor the leaves. These are marked when they begin to sprout and it is observed when they die and are shed from the trees.

Video

The AmazonFACE Project explained

This video takes you into the rainforest and takes a look at the work of the international research team.

go.tum.de/182130

Podcast

David Lapola and his Research

In the TUM Institute for LifeLong Learning's podcast 'TUM Global', David Lapola talks about his research in the Amazon Rainforest and reveals why it is so important to find out if the rainforest will continue to be a carbon sink.

Have a listen at
www.ill.tum.de/podcast





Honored
as a
TUM Pioneer

2021

TUM Alumna Zarah Bruhn is Helping Refugees

Originally, TUM Alumna Zarah Bruhn wanted to become an investment banker. Now she is a social entrepreneur. With her non-profit company Socialbee, which is a TUM spin-off, she integrates refugees into society in a sustainable way and is currently specifically supporting people from Ukraine who are looking for work in Germany. Since April, she has also been the Representative for Social Innovation for the German Ministry of Education and Research.

Zarah Bruhn is a doer. „Anything is possible,“ she says, quoting her parents’ motto. With 20,000 euros in seed money she launched one of the most successful European Social Scale-ups in 2015. With two permanent offices in Munich and Stuttgart, the TUM Alumna has been successfully placing refugees in the German labor market for six years.

In addition to direct placements, the focus of her integration work is on skill-building projects with large companies. In this way, real career opportunities can be opened up for refugees, while at the same time counteracting the shortage of skilled workers. For these efforts, she was honored as a TUM Pioneer by TUM President Thomas F. Hofmann in December. „As a responsible technical university, we align our activities with the values, needs and expectations of society. Our alumna and Socialbee founder Zarah Bruhn is living up to this social responsibility in an exemplary manner with her company,“ says Thomas F. Hofmann.

NEW
PATHS

Supporting Ukrainian Refugees

Zarah Bruhn and her company immediately responded to the war in Ukraine. „Russia’s invasion of Ukraine shocked me. With my company, I am showing solidarity to help people in need. Refugees can turn to Socialbee for advice and receive job offers, language courses and help with bureaucratic matters. Companies that explicitly want to hire people from Ukraine can also contact Socialbee.”

From Idea to Start-up

Already as a bachelor student at the University of Mannheim, Zarah Bruhn worked for venture capitalists and private equity companies. She wanted to become an investment banker. But her studies in Management and Technology at TUM really made her want to start her own business. “At TUM, the entrepreneurial spirit is omnipresent,” she says. “Through the hands-on seminars, case studies and the many founders, you are exposed to this spirit here all the time.”

When Zarah Bruhn became involved in the refugee crisis as a volunteer at the end of 2015, she realized that she wanted to become part of the long-term solution and create a social enterprise to do so. While still at TUM, she experienced firsthand how valuable interdisciplinary and international working groups are – how useful diversity is. Virtually overnight, she and Maximilian Felsner co-founded Socialbee.

Backup

TUM provided Zarah Bruhn with the necessary backup to launch the company. The master’s student was granted two semesters off. To this day, Zarah Bruhn is benefiting from TUM’s extensive network. Thanks to grants from foundations, her company is on secure footing financially as well. In this way, Zarah Bruhn is able to completely focus on the long-term integration of refugees. But it is not just about supporting refugees; Zarah Bruhn and her team also lend a helping hand to the companies. They are grateful that they can get involved in matters of integration and diversity in a simple way without getting caught up in

“I want to create the prototype of a social empire, making the social enterprise system so compelling that it will be the preferred model.”



the jungle of authorities. “We try to act as a kind of buffer so that the obstacles that come up don’t land on one side or the other,” Zarah Bruhn explains. “The goal is for refugees to truly be ready in a year’s time, to not need us anymore, and ideally be taken on by the partner company as apprentices or qualified permanent employees.”

Making the Change Happen

To date, Zarah Bruhn and her social enterprise have been able to place hundreds of refugees in permanent positions. “The takeover rate is over 90 percent,” says Zarah Bruhn. “We are very, very proud of that.” But the energetic entrepreneur isn’t going to stop there. Zarah Bruhn wants to revolutionize the entire system. „I want to create the prototype of a social empire, making the social enterprise system so appealing that it is the preferred model“, she says. „I want to see the best talent working on the world’s most pressing issues.“ In her new role as Representative for Social Innovations at the German Ministry, which she took on in April, she will certainly be able to make a difference in this regard.

Meet & Talk

TUM is known for its entrepreneurial spirit. On the way to starting their own business, TUM supports its students and alumni with a wide range of services and events. At ‘TUM Start-ups: Meet & Talk – Insights from ...’, successful entrepreneurs from the ranks of TUM talk about their experiences, pitfalls and new beginnings.

Register at
www.community.tum.de/en/events

DATES

Insights from Kumovis

Tue. 03.05.2022 6 – 8 pm

with TUM Alumna Miriam Haerst

Learn more about the entrepreneur at
www.community.tum.de/en/miriam-haerst

Insights from innosabi

Wed. 20.07.2022 6 – 8 pm

with TUM Alumna Catharina van Delden

To read the alumni story featuring
the entrepreneur, visit

[www.community.tum.de/en/
catharina-van-delden](http://www.community.tum.de/en/catharina-van-delden)

Zarah Bruhn | Master Management & Technology 2018

Zarah Bruhn graduated in Business Administration from the University of Mannheim. In 2014, she came to TUM for her master's degree in Management and Technology. While still a student, she worked for venture capitalists and private equity companies. But when the refugee crisis hit at the end of 2015, she felt it was important to get involved. She founded the non-profit company Socialbee, which has since been sustainably integrating refugees into the labor market. In 2020, while the pandemic was still in its early stages, she launched a digital platform that allows contactless shopping for high-risk groups. Zarah Bruhn's social entrepreneurial activities have earned her several awards, including the KfW Award Gründen, the Ashoka Fellowship, and the Female Founders Award of the American Chamber of Commerce in Germany. In 2019, the business magazine Capital named her one of the Top 40 under 40. Since April, she has been the new Representative for Social Innovations at the German Ministry of Education and Research. Zarah Bruhn loves extremes, the adrenaline rush of high altitude climbing and in the waves while surfing. The successful entrepreneur likes to spend her winters in the south, thus proving at the same time how well New Work actually works.

CALENDAR OF **EVENTS**

Please Check!

Due to the coronavirus pandemic, events may be subject to change at short notice. Therefore, we ask you to always check in advance on the respective website whether there are any changes to the event.

Exhibitions and Regular Events

until Sun. 05.06.2022

10 am – 6 pm

New Neighbors: Insights Into the Archive Exhibition

Architekturmuseum der TUM
in der Pinakothek der Moderne, Munich
www.architekturmuseum.de/en/exhibitions/new-neighbors

Thur. 03.05.2022 – Tue. 26.07.2022

6:30 – 8 pm

Lecture Series 'Environment': "Responsibility in Times of (Climate) Change"

Lecture Series
Series Online and maybe TUM Campus Munich
umwelt.asta.tum.de

Thur. 07.07.2022 – Sun. 08.01.2023

10 am – 6 pm

The Olympic City of Munich:

Retrospect and Outlook

Exhibition
Architekturmuseum der TUM
in der Pinakothek der Moderne, Munich
www.architekturmuseum.de/en/exhibitions/the-olympic-city-of-munich

Run Yourself Into Shape

every Saturday

11 am

TUM Running Club

Training
Milchhäusl in the English Garden, Munich
www.community.tum.de/forum/gruppen/tum-laufgruppe

Tue. 21.06.2022

all day

4. virtual TUM Campus Run

24 hour running challenge
www.ja.tum.de/campuslauf

Wed. 22.06.2022

from 5 pm

TUM Campus Run

Running competition
TUM Campus Garching
www.ja.tum.de/campuslauf



Recordings

TUM at Home

You were not able to attend the Dies Academicus or missed the Women of TUM Talks? No problem. Many events at TUM are recorded and available as online lectures after the event.

Dies Academicus

www.tum.de/en/about-tum/news/events/dies-academicus

Inauguration Ceremony School of Engineering and Design

www.tum.de/en/about-tum/news/press-releases/details/37029

Women of TUM Talks: 'Power, Strength & Energy'

www.community.tum.de/en/tum-community/women/#talks

Lecture Series 'Environment':

"Will technology save us all? A glimpse into a sustainable future!"

umwelt.asta.tum.de/rfu/language/de/vorlesungsreihen/videoaufzeichnungen/

TUM@Freising

www.wzw.tum.de/index.php?id=556

Munich Talks

<https://munich-talks.de/#/home>

TUM Speakers Series

<https://speakersseries.de>, <https://www.youtube.com/c/tumspeakersseries>

Always up to date!

With the TUM Alumni Newsletter, you will receive information about current changes and other events. Subscribe to the newsletter 'Die TUM informiert' in your profile in the TUM Online Community:

www.community.tum.de

Career Events



Successful With a Doctorate

Around 80 percent of all doctorate students venture into the private sector after completing their doctorate. But what is important to keep in mind here? Where do you find interesting jobs? What skills do employers look for in applicants with a doctorate? How do you use your technical expertise to climb the career ladder? TUM offers a career program specifically tailored to the needs of its doctoral students and postdocs.

Webinars

Mon. 09.05.2022, 6 – 7 pm

Promotion – und dann?
Fokus:
Naturwissenschaften

Wed. 11.05.2022, 10 – 11 am

Überzeugende Lebensläufe für Promovierende und Postdocs

Mon. 16.05.2022, 6 – 7 pm

Promotion – und dann?
Fokus:
Ingenieurpromotion

Thur. 30.06.2022, 6 – 7 pm

Promotion – und dann?
Fokus: Life Sciences

Wed. 06.07.2022, 11 – 12 am

Q&A: Von der Promotion in die Industrie

Wed. 20.07.2022, 10 – 11 am

Effiziente Jobsuche für Promovierende und Postdocs

More information and registration at:

[www.community.tum.de/
career-with-doctorate](http://www.community.tum.de/career-with-doctorate)

April 2022

Wed. 06.04.2022 – Fri. 15.07.2022
all day

Sustainable Management & Technology
Part-time certification program (subject to a fees)
online/TUM Campus Straubing
[www.lll.tum.de/de/certificate/
sustainable-management-and-technology](http://www.lll.tum.de/de/certificate/sustainable-management-and-technology)

Wed. 27.04.2022

2:30 – 7 pm
Virtuelle audiovisuelle Welten erleben bei der Professur für Audio-Signalverarbeitung der TUM
Lecture
TUM Campus Munich
www.aip.ei.tum.de

Wed. 27.04.2022

7 – 8 pm
Meetup für TUM Gründerinnen und Gründer
Network meeting, online
go.tum.de/120272

Thur. 28.04.2022

4 – 5:30 pm
Jobs, Praktika und Traineeships in Nordamerika
Webinar, online
www.community.tum.de/en/events

Fri. 29.04.2022

10 – 11 am
Efficient Job Hunting for PhD students and Postdocs
Webinar, online
www.community.tum.de/en/events

May 2022

May 2022

6:30 – 8 pm
Ringvorlesung der Professur für Neuere Baudenkmalpflege: „... about being careful“
Lecture
Lecture online and maybe TUM Campus Munich
www.arc.ed.tum.de/en/nb/teaching/lecture

Mon. 02.05.2022

11 am – 12 noon
Mit Bewerbungsanschriften überzeugen
Webinar, online
www.community.tum.de/en/events

Tue. 03.05.2022

1 – 1:30 pm
KarriereCafé: Berufseinstieg als Trainee
Webinar, online
www.community.tum.de/en/events

Tue. 03.05.2022

6:30 – 8:30 pm
TUM Start-ups:
Meet & Talk – Insights from Kumovis Company visit
Munich
www.community.tum.de/en/events

Tue. 03.05.2022

6:30 – 8 pm
Kick-off lecture Series „Environment“: “Responsibility in Times of (Climate) Change“ in cooperation with DOK.fest Munich
Lecture series
Munich
umwelt.asta.tum.de

Thur. 05.05.2022

10 – 11:30 am
Global Minds: Japan
Webinar, online
www.community.tum.de/en/events

Thur. 05.05.2022

4 – 5 pm
Lebensläufe individuell gestalten
Webinar, online
www.community.tum.de/en/events

Thur. 05.05.2022

5:30 – 7 pm
Ran an die TUM: Landschaft nachhaltig nutzen und gestalten. Agrar- und Gartenbauwissenschaften, Landschaftsarchitektur & Landschaftsplanung sowie Forstwissenschaften & Ressourcenmanagement
Info event, online
www.explore.tum.de/explore/ran

Fri. 06.05.2022

5 – 6 pm
Networking and Finding the Right Position
Webinar, online
www.community.tum.de/en/events

Fri. 06.05.2022 – Mon. 30.05.2022

all day
Digital Twins for Cities
Part-time certification program (subject to fees), online
www.lll.tum.de/certificate/digital-city

Mon. 09.05.2022

6 – 7 pm
Promotion – und dann?
Fokus: Naturwissenschaften
Webinar, online
www.community.tum.de/en/events

Tue. 10.05.2022

9 am – 3 pm
IKOM Life Science
Career Fair
TUM Campus Weihenstephan
[www.ikom.tum.de/de/ikom-lifescience/
fuer-studierende](http://www.ikom.tum.de/de/ikom-lifescience/fuer-studierende)

Tue. 10.05.2022

6:30 – 8 pm
Lecture series „Environment“: “Insights into the machinery room of the energy transition – science at the interface between politics and business“ (Dr. Christoph Pelling, Dr. Anika Neitz-Regett, Forschungsstelle für Energiewirtschaft e.V.)
Lecture series
online and maybe TUM Campus Munich
umwelt.asta.tum.de

Wed. 11.05.2022

10 – 11 am

Überzeugende Lebensläufe
für Promovierende und Postdocs
Webinar, online
www.community.tum.de/en/events

Wed. 11.05.2022

10 am – 5 pm

Entrepreneurship Day Agriculture
Live session with career fair TUM Campus
TUM Campus Weihenstephan
www.unternehmertag.wzw.tum.de

Wed. 11.05.2022

6 – 7 pm

(Mental) Vorbereitet in den Ruhestand:
„Wenn das Wochenende 7 Tage hat“
TUM Mentoring lecture
TUM Campus Munich
go.tum.de/120272

Thur. 12.05.2022

8:45 – 9 am

Welcome Session
Webinar, online
www.community.tum.de/en/events

Thur. 12.05.2022

9 – 10 am

Q&A The Job Search
Webinar, online
www.community.tum.de/en/events

Thur. 12.05.2022

10 am – 12 noon

Application Photo Shoot
Special offer
TUM Campus Munich
www.community.tum.de/en/events

Thur. 12.05.2022

10:30 – 11:30 am

Berufsfindung und Karriereplanung
Webinar, online
www.community.tum.de/en/events

Thur. 12.05.2022

12 noon – 2 pm

CV Check – Live on zoom
Special offer, online
www.community.tum.de/en/events

Thur. 12.05.2022

3 – 5 pm

Speed Dating mit Unternehmen
Special offer, online
www.community.tum.de/en/events

Thur. 12.05.2022

6 – 7:30 pm

Career Lounge
Panel, online
www.community.tum.de/en/events

Thur. 12.05.2022

8 am – 7 pm

IKOM Consulting Day
Seminar
Tagungshotel Excelsior München
www.ikom.tum.de/de/ikom-consultingday/fuer-studierende

Thur. 12.05.2022

5:30 – 7 pm

Ran an die TUM: Vom Biomolekül über
das Lebensmittel zum Verbraucher.
Bio- und Ernährungswissenschaften
und Brau- und Lebensmitteltechnologie
Info event, online
www.explore.tum.de/explore/ran

Mon. 16.05.2022

6 – 7 pm

Promotion – und dann?
Fokus: Ingenieurpromotion
Webinar, online
www.community.tum.de/en/events

Tue. 17.05.2022

10 – 11 am

Personalized CVs for
Applications in Germany
Webinar, online
www.community.tum.de/en/events

Tue. 17.05.2022

5 – 6 pm

Potentialanalyse.
Klarheit über Ihr Kompetenzprofil
Webinar, online
www.community.tum.de/en/events

Tue. 17.05.2022

7 – 8:30 pm

TUM@Freising lecture series:
Prof. Dr. Annette Menzel:
„Auswirkungen des Klimawandels
auf unsere Natur“
Lecture
Linden Keller Freising und online
www.wzw.tum.de/index.php?id=533

Wed. 18.05.2022

10 – 11 am

Promotion – und dann?
Fokus: Nachhaltige Berufe
Webinar, online
www.community.tum.de/en/events

Wed. 18.05.2022

10 am – 2 pm

Application 4.0 – Essentials
for Getting Hired
Workshop
TUM Campus Munich
www.community.tum.de/en/events

Wed. 18.05.2022

6 – 7:30 pm

Abenteuer Berufseinstieg
Advice from colleagues, online
www.community.tum.de/en/events

Thur. 19.05.2022

5:30 – 7 pm

Ran an die TUM: Sport macht
gesund und glücklich. Sport-
und Gesundheitswissenschaften
Info event, online
www.explore.tum.de/explore/ran

Thur. 19.05.2022

6 – 7:30 pm

Elternschaft & Promotion
Webinar, online
www.community.tum.de/en/events

TUM CAREER DAY



TUM Career Days

A Day Devoted to Your Career

Whether you're a student or a professional, everyday life is usually packed with deadlines and obligations. Nevertheless, in between, you should always take time to evaluate your current situation and think about your next goals.

The TUM Career Days offer just that opportunity. Why not dedicate a whole day to your career? Find out about new opportunities, update your application documents or social network profiles. And take advantage of our services such as webinars, (online) lectures or panels, career counseling, CV Checks, and Speed Dating With Companies. In the evening you can meet experienced TUM Alumni at the Career Lounge and profit from their advice and experience.

Dates

Thur. 12.05.2022

Thur. 23.06.2022

all day

Information & registration:

www.community.tum.de/en/career-days





Listen to TUM

Do you love podcasts? Then have a listen to the TUM podcasts: Be it the latest research findings, insider knowledge from TUM or tips on jobs and careers – a wide range of podcasts can be found at TUM.



That's my Job. The Career-Podcast by TUM (German and English)

www.community.tum.de/en/podcast

We are TUM – der Podcast (German)

www.tum.de/en/about-tum/news/podcasts/we-are-tum

Podcast by the TUM Institute for LifeLong Learning (English)

www.lll.tum.de/podcast

Entrepreneurial Realities, TUM Venture Labs Podcast (English)

www.venturelabs.tum.de/en/venturelabs/our-offerings/entrepreneurial-realities

Mostly Awesome – a Podcast by CDTM (English)

www.cdtm.de/podcast

Die Sportbiologen! Der Podcast der Sportbiologie an der TUM (German)

www.sg.tum.de/exercisebiology/podcast-channel

Forschung fördert Bildung. Der Podcast des Clearing House Unterricht, TUM School of Education (German)

www.clearinghouse.edu.tum.de/podcast

Corona-News mit Dr. Christoph Spinner.

IQ – Wissenschaft und Forschung, Podcast im BR (German)

www.mri.tum.de/news/woechentlicher-corona-podcast-mit-dr-christoph-spinner-im-br

The TUM podcasts are available at:

www.tum.de/en/about-tum/news/podcasts

Thur. 19.05.2022

6:15 – 8 pm

Abenteuer Führung

Advice from colleagues, online

www.community.tum.de/en/events

Fri. 20.05.2022

5 – 6 pm

Please Tell Us About Yourself –

The Successful Pitch

Webinar, online

www.community.tum.de/en/events

Sa. 21.05.2022

12:30 noon

On Tour With Our Guests:

Visit the ESO Supernova in Garching
Excursion

TUM Campus Garching

www.community.tum.de/en/events

Tue. 24.05.2022

5 – 6 pm

Erfolg im neuen Job – Strategien

für die ersten 100 Tage

Webinar, online

www.community.tum.de/en/events

Wed. 25.05.2022

7 – 8 pm

Meetup für TUM Gründer:innen

Network meeting, online

go.tum.de/120272

Thur. 26.05.2022 – Fri. 27.05.2022

6 pm – 6 am

Lange Nacht der Universitäten

Lecture series

Audimax, TUM Campus Munich

www.sv.tum.de/sv/das-machen-wir/

veranstaltungen/lange-nacht-der-universitaeten

Mon. 30.05.2022

5 – 6 pm

Your First Work Contract:

What Do You Need to Know

Webinar, online

www.community.tum.de/en/events

Tue. 31.05.2022

10 – 11 am

Convincing Cover Letters

for Applications in Germany

Webinar, online

www.community.tum.de/en/events

Tue. 31.05.2022

5 – 6 pm

Irrtümer im Bewerbungsprozess.

Fehler, die Sie vermeiden sollten

Webinar, online

www.community.tum.de/en/events

Join the Music!

Do you feel like singing or playing in an orchestra? Why not join the TUM Choir or one of the orchestras at TUM?

www.tum.de/en/studies/campus-life/music-and-arts

June 2022

June 2022

6:30 – 8 pm

Ringvorlesung der Professur
für Neuere Baudenkmalpflege:

„... about being careful“

Lecture

online und maybe TUM Campus Munich

www.arc.ed.tum.de/en/nb/teaching/lecture

Wed. 01.06.2022

1 – 1:30 pm

KarriereCafé:

Praktika erfolgreich gestalten

Webinar, online

www.community.tum.de/en/events

Wed. 01.06.2022

7 – 8 pm

I want more!

Salary Negotiation for Women

Webinar, online

www.community.tum.de/en/events

Thur. 02.06.2022

3 – 4 pm

Souverän im Vorstellungsgespräch

Webinar, online

www.community.tum.de/en/events

Thur. 02.06.2022

4:30 – 5:30 pm

Aufbau und Struktur des
Assessment Centers

Webinar, online

www.community.tum.de/en/events

Fri. 03.06.2022

10 – 11 am

Personalized CVs

for Applications in Germany

Webinar, online

www.community.tum.de/en/events

Tue. 07.06.2022

6:30 – 8 pm

Lecture series ‚Environment‘
(Prof. Dr. Steve Cohen,
Columbia University)

Lecture series

online und maybe TUM Campus Munich

umwelt.asta.tum.de

Thur. 09.06.2022

5 – 6 pm

Matching Portale & Job Apps:

Die neue Art, sich zu bewerben

Webinar, online

www.community.tum.de/en/events

Mon. 13.06.2022

4 – 5 pm

Mit Bewerbungsanschreiben

überzeugen

Webinar, online

www.community.tum.de/en/events

Mon. 13.06.2022

5:30 – 6:30 pm

Perfectly Prepared for Career Events
and Job Fairs

Webinar, online

www.community.tum.de/en/events

Tue. 14.06.2022

1 – 1:30 pm

KarriereCafé: Wichtige Kompetenzen
für die erste Führungsaufgabe

Webinar, online

www.community.tum.de/en/events

Tue. 14.06.2022

5 – 6 pm

Reflecting and Developing
Your Personal Career Plan

Webinar, online

www.community.tum.de/en/events

Wed. 15.06.2022

11 am – 12 noon

Lebensläufe individuell gestalten

Webinar, online

www.community.tum.de/en/events

Mon. 20.06.2022 – Fri. 24.06.2022

12 noon – 10 pm

GARNIX 2022

Student Open-Air-Festival

In front of Maths/Informatics building,

TUM Campus Garching

www.garnix-festival.de

Tue. 21.06.2022

11 am – 12 noon

Jobhunting with a Strategy

Webinar, online

www.community.tum.de/en/events

Tue. 21.06.2022

3 – 4:30 pm

Global Minds: China

Webinar, online

www.community.tum.de/en/events

Tue. 21.06.2022

6 – 7 pm

Berufsfelder im Fokus:

Strategieleitung & Nachhaltigkeit

Webinar, online

www.community.tum.de/en/events

Thur. 23.06.2022

8:45 – 9 am

Welcome Session

Webinar, online

www.community.tum.de/en/events

Thur. 23.06.2022

9 – 10 am

Q&A on Application Documents

Webinar, online

www.community.tum.de/en/events

Thur. 23.06.2022

10:30 – 11:30 am

Erwartungen an Young
Professionals. 11 Kompetenzen,
die Sie vorweisen sollten

Webinar, online

www.community.tum.de/en/events

Thur. 23.06.2022

12 noon – 2 pm

CV Check – Live über Zoom

Special offer, online

www.community.tum.de/en/events

Thur. 23.06.2022

3 – 5 pm

Speed Dating with Companies

Special offer, online

www.community.tum.de/en/events

Thur. 23.06.2022

6 – 7:30 pm

Career Lounge: Karriere in
nachhaltigen Berufen

Panel

www.community.tum.de/en/events

Thur. 23.06.2022

5:30 – 7 pm

Ran an die TUM: Mehr als Mischen
von Substanzen im Labor. Chemie

Info event, online

www.explore.tum.de/explore/ran

Thur. 23.06.2022 – Fri. 24.06.2022

all day

Global Women's Health –
Cervical Cancer Prevention –
The Sub-Saharan Africa Perspective
Symposium

TUM Science and Study Center Raitenhaslach

www.sg.tum.de/epidemiologie/cervisymph2022

Fri. 24.06.2022 – So. 26.06.2022

all day

TUM Science Hackathon

Hackathon

Audimax & Audimax-Foyer, TUM Campus

Munich

www.ja.tum.de/ja/sciencehack

Mon. 27.06.2022 – Thur. 30.06.2022

9 am – 4 pm

IKOM

Career Fair

TUM Campus Garching

www.ikom.tum.de/de/ikom/fuer-studierende

Mon. 27.06.2022 – Fri. 01.07.2022

all day

TUM Global Week 2022

Activity week

online and TUM Campus Munich

www.international.tum.de/en/global/tumglobalweek

Mon. 27.06.2022

6 – 7 pm

Managing Cultural Differences
in the Workplace

Webinar, online

www.community.tum.de/en/events

Tue. 28.06.2022

6 – 7 pm

Career Opportunities in the EU

Webinar, online

www.community.tum.de/en/events

Wed. 29.06.2022

9 am – 4 pm

IKOM StartUp

Career Fair

TUM Campus Garching

www.ikom.tum.de/de/ikom-startup/fuer-studierende

Wed. 29.06.2022

7 – 8 pm

Meetup für TUM Gründer:innen

Network meeting, online

www.community.tum.de/en/events

TUM CAREER DAY





Certification Programs

As a TUM Alumni, you have access to the TUM Institute for LifeLong Learning and enjoy a ten percent discount on course fees. The institute offers a wide range of part-time certification programs for the further education of specialists and executives from the fields of Science, Business and Society at all stages of their careers. The program is continuously being expanded.

Programs from May 2022 onwards

- Digital Twins for Cities
- Certified Blockchain & Distributed Ledger Technology Manager
- Change Management & Human Capital
- Digital Transformation & Entrepreneurship
- Leadership & Cooperation
- Business Design & Innovation in Heilbronn
- Ownership of Enterprise & Corporate Governance
- Finance & Accounting
- Business Processes & Information Technology

Information and registration:

www.lll.tum.de/certificate-programs

Further Education for Alumni

In the summer semester of 2022, TUM Horizons will once again offer numerous opportunities for personal and professional development – also for alumni! Workshops, online events or the successfully launched series ‘Selbst. Bewusst. Arbeiten.’, offer a space for self-reflection and to take responsibility for shaping one’s own (professional) life.

Information, dates and registration:

<https://wiki.tum.de/display/horizons>

Further Education at the Department of Sport and Health Sciences

- Coaching in Gesundheitsberufen
- Coaching Sporternährung
- Faszientraining
- Fitness-Trainer B-Lizenz
- Functional Training B-Lizenz
- Kinesiologisches Taping
- Kursleitung im Baby- und Kleinkinderschwimmen
- Langhanteltraining
- Mobility Trainer
- Spiroergometrie im Sport
- Sport-Reha-Trainer
- Trainer Multimodales Stressmanagement
- Training im Kindes- und Jugendalter

Further information on dates and course fees:

www.weiterbildung.sg.tum.de



Stuttgart-Community

Initiated by mentor Dr. Viktoria Leonhard (Diploma Management & Technology 2008, Doctorate 2013) and mentor Kai-Olaf Dammenhain (Diploma Mechanical Engineering 1989), the TUM Community of Greater Stuttgart is meeting on a regular basis. Come and join them!

go.tum.de/120272

Thur. 30.06.2022

all day

TUM Entrepreneurship Day 2022

Panels, workshops, start-up fair, pitch competition

www.tum.de/entrepreneurship-day

Thur. 30.06.2022

6 – 7 pm

Promotion – und dann?

Fokus: Life Sciences

Webinar, online

www.community.tum.de/en/events

Thur. 30.06.2022

6:15 – 8 pm

Abenteuer Führung

Advice from colleagues, online

www.community.tum.de/en/events

July 2022

Fri. 01.07.2022

9:45 – 11:15 am

Global Minds: USA/UK

Webinar, online

www.community.tum.de/en/events

Sa. 02.07.2022

afternoon

TUM: Junge Akademie Symposium

„Disruption & Reconstruction“

Symposium

TUM Campus Munich

www.ja.tum.de/en/ja/symposia

Mon. 04.07.2022

4 – 5 pm

Convincing CVs for

PhD Students & Postdocs

Webinar, online

www.community.tum.de/en/events

Mon. 04.07.2022 – Fri. 08.07.2022

12 noon – 10 pm

TUNIX 2022

Student Open-Air-Festival

Königsplatz, Munich

www.tunix.de

Tue. 05.07.2022

5 – 6 pm

Find your Job with Xing and LinkedIn

Webinar, online

www.community.tum.de/en/events

Wed. 06.07.2022

11 am – 12 noon

Q&A: Von der Promotion

in die Industrie

Webinar, online

www.community.tum.de/en/events

Thur. 07.07.2022

2 – 5 pm

Das Assessment Center:

Praxishilfen und Übungstipps

Workshop

TUM Campus Munich

www.community.tum.de/en/events

Fri. 08.07.2022

11 am – 12 noon

Convincing Cover Letters
for Applications in Germany
Webinar, online
www.community.tum.de/en/events

Mon. 11.07.2022

11 am – 12 noon

Mit Bewerbungsanschriften
überzeugen
Webinar, online
www.community.tum.de/en/events

Tue. 12.07.2022

5 – 6 pm

Gehaltsverhandlung.
Mit starken Argumenten punkten
Webinar, online
www.community.tum.de/en/events

Wed. 13.07.2022

1 – 1:30 pm

KarriereCafé: Networking als Basis
für beruflichen Erfolg
Webinar, online
www.community.tum.de/en/events

Fri. 15.07.2022

5 pm

100-Jahr-Feier des Bund der Freunde
der TUM
Festive event
Audimax, Galileo, TUM Campus Garching
www.bund-der-freunde.tum.de/en

Sa. 16.07.2022

2 pm

Silbernes und Goldenes Jubiläum
Festive event
TUM Campus Garching
<https://www.community.tum.de/en/jubilees>

So. 17.07.2022

3 pm

Vivat TUM Sommerkonzert
Concert
Isarphilharmonie
[www.community.tum.de/en/
communityevents/#vivat-tum](http://www.community.tum.de/en/communityevents/#vivat-tum)

Tue. 19.07.2022

6 – 7 pm

Rechte & Pflichten im Job:
Arbeitsvertrag und Arbeitszeugnisse
Webinar, online
www.community.tum.de/en/events

Wed. 20.07.2022

10 – 11 am

Effiziente Jobsuche für
Promovierende und Postdocs
Webinar, online
www.community.tum.de/en/events

Wed. 20.07.2022

6 – 7:30 pm

Abenteuer Berufseinstieg
Advice from colleagues, online
www.community.tum.de/en/events

Wed. 20.07.2022

6 – 8 pm

TUM Start-ups:
Meet & Talk – Insights from innosabi
Company visit
Munich
www.community.tum.de/en/events

Thur. 21.07.2022

4 – 5 pm

Lebensläufe individuell gestalten
Webinar, online
www.community.tum.de/en/events

Mon. 25.07.2022

5 – 6 pm

Video & CV Parsing – Aktuelle
Trends im Bewerbermanagement
Webinar, online
www.community.tum.de/en/events

Tue. 26.07.2022

6 – 7 pm

Strategien für
berufliche Veränderungen
Webinar, online
www.community.tum.de/en/events

Thur. 28.07.2022

6:15 – 8 pm

Abenteuer Führung
Advice from colleagues, online
www.community.tum.de/en/events

Wed. 27.07.2022

7 – 8 pm

Meetup für TUM Gründer:innen
Network meeting, online
go.tum.de/120272

August 2022

Wed. 03.08.2022

6 – 7 pm

Applications and Job Interviews
in English-Speaking Countries
Webinar, online
www.community.tum.de/en/events

Fri. 12.08.2022

10 – 11 am

Personalized CVs for
Applications in Germany
Webinar, online
www.community.tum.de/en/events

Wed. 24.08.2022

7 – 8 pm

Women of TUM Online Afterwork
Event: Prof. Kerstin Prechel ‚Against
all Odds: How to become a Professor‘
Workshop, online
www.community.tum.de/en/events

Wed. 31.08.2022

7 – 8 pm

Meetup für TUM Gründer:innen
Network meeting, online
go.tum.de/120272

September 2022

Mon. 05.09.2022

11 am – 12 noon

Q&A Job Interviews
Webinar, online
www.community.tum.de/en/events

Fri. 09.09.2022

11 am – 12 noon

Convincing Cover Letters
for Applications in Germany
Webinar, online
www.community.tum.de/en/events

Mon. 12.09.2022 – Wed. 14.09.2022

All day

International Conference on Gears
Conference
TUM School of Engineering and Design,
TUM Campus Garching
[https://portal.mytum.de/termine/
Event.2022-02-04.1336610446/event_view?](https://portal.mytum.de/termine/Event.2022-02-04.1336610446/event_view?)

Wed. 21.09.2022

6 – 7:30 pm

Abenteuer Berufseinstieg
Advice from colleagues, online
www.community.tum.de/en/events

Thur. 22.09.2022

6:15 – 8 pm

Abenteuer Führung
Advice from colleagues, online
www.community.tum.de/en/events

Mon. 26.09.2022

4 – 5 pm

Mit Bewerbungsanschriften
überzeugen
Webinar, online
www.community.tum.de/en/events

Wed. 28.09.2022

7 – 8 pm

Meetup für TUM Gründer:innen
Network meeting, online
go.tum.de/120272

Thur. 29.09.2022

11:00 – 12:00 Uhr

Lebensläufe individuell gestalten
Webinar, online
www.community.tum.de/en/events

October 2022

Tue. 18.10.2022

7 – 8:30 pm

TUM@Freising Vortragsreihe:
Prof. Rupert Seidl: „Waldsterben 2.0“
Lecture
Linden Keller Freising and online
www.wzw.tum.de/index.php?id=533

Wed. 26.10.2022

7 – 8 pm

Meetup für TUM Gründer:innen
Network meeting, online
go.tum.de/120272

JULY WILL BE A TIME OF CELEBRATION

What breathes life into a university are the people who are connected to it: the people who come to learn here, who pass on their knowledge, and who remain loyal to it as alumni. This July, we are gathering to celebrate the TUM Family: we will honor jubilarians from six classes, celebrate the 100th anniversary of Bund der Freunde, and for the first time ever, there will be summer concerts at TUM.

Celebrate with us!

Saturday, 16th of July 2022

Gala for the Silver and Golden Jubilees

All alumni who graduated or received their doctorate from TUM 25 or 50 years ago are invited to the jubilee celebrations. On this day, TUM President Thomas F. Hofmann will also welcome the jubilarians of the years 2020 and 2021, whose anniversaries had to be postponed due to the pandemic.

[www.community.tum.de/
jubilaumsfeiern](http://www.community.tum.de/jubilaumsfeiern)

Friday, 15th of July 2022

Festive Event 100 years of Bund der Freunde der TUM

In 1922, the largest organization of friends and supporters of the university, the Bund der Freunde der TUM (Association of Friends of the TUM), was founded "to strengthen and awaken the feeling of fellowship of all its former members, its friends, patrons, supporters."

The President of TUM would like to take this opportunity to invite you to a festive event at Campus Garching.

Be part of it, become a member!

www.bund-der-freunde.tum.de

Sunday, 17th of July 2022

Vivat TUM Summer Concert

These are the first summer concerts in the history of TUM and with the Summer Matinee in the morning and the Vivat TUM Summer Concert in the afternoon, the first TUM concerts in the Isarphilharmonie.

[www.community.tum.de/
communityevents/#vivat-tum](http://www.community.tum.de/communityevents/#vivat-tum)

ACHIEVEMENTS in the TUM Community

As of: 10th of March 2022

A

Dr. Marlene Alkofer-Gruber (*Master Renewable Resources 2014, Doctorate Energy Conversion Technology 2019*) has been managing director of the Rottenburg Group Wasserzweckverband since February 1. She previously served as Project Coordinator for Agriculture and Groundwater Protection at the association.

TUM Honorary Senator Margarete Ammon celebrated her 100th birthday in March. She studied Business Administration at TUM and generously supported TUM on several occasions through the Margarete Ammon Stiftungs-AG. She is particularly interested in supporting highly talented young scientists, especially young female scientists.

B

Dr. Alexander Braun (*Bachelor Civil Engineering 2011, Master 2013, Doctorate 2020*) Bachelor Civil Engineering 2011, Master 2013, Doctorate 2020) has been TUM's new Executive Vice President for Digitalization and IT Systems since December 2021. He thus assumes the function of Chief Information Officer (CIO) of TUM. Previously, he had headed a research group at the TUM School of Engineering.

Dr. Dominik Bucher (*Bachelor Chemistry 2008, Master 2010*) and Robin Allert (*Bachelor Chemistry 2020*) have won first place in the TUM IDEAward competition 2021. In a research project on nuclear magnetic resonance spectroscopy, they use specific diamonds as sensors.

Pascal Büttner (*Master Forestry and Wood Science 2017*) has been the new Managing Director of Forstbetriebsgemeinschaft Sinn-Saale since January 2022. Before that, he successfully passed the Bavarian State Examination.

D

Since February 2022, Prof. Dr. Janine Diehl-Schmid (*Habilitation Medicine 2007*) is the new Chief Physician at the Center for Geriatric Medicine at the kbo-Inn-Salzach-Klinikum Wasserburg. The specialist in Psychiatry and Psychotherapy had previously been in charge of the Center for Cognitive Disorders at TUM's University Hospital Rechts der Isar.

Prof. Dr. Klaus Diepold (*Diploma Electrical and Computer Engineering 1987, Doctorate 1992*) was presented with the TUM Start-up Mentor of Excellence Award in December 2021. He holds the Chair of Data Processing at TUM's Department of Electrical and Computer Engineering.

The German Gastroenterological Association (Deutsche Gesellschaft für Gastroenterologie, Verdauungs- und Stoffwechselkrankheiten) has awarded Dr. Michael Dudek (*Doctorate Medicine 2021*) the Young Talent Award: Liver Cancer in September 2021. He currently works as a post-doctoral researcher at TUM's Institute of Molecular Immunology.

E

Martin Eschler (*Diploma Management & Technology 2007*) has been the new Managing Director

of TÜV SÜD Battery Testing GmbH since January 2022. For the previous three years, he had been Vice President Key Account Management & Sales Excellence Europe at TÜV SÜD.

Prof. Dr. Kilian Eyerich (*State Examination Medicine 2005, Doctorate 2010, Habilitation 2011*) has been Medical Director of the Clinic for Dermatology and Venerology at The Medical Center – University of Freiburg since November 2021. Previously, he had been a professor at the Karolinska Institute in Sweden.

F

Prof. Dr. Johannes Fottner (*Diploma Mechanical Engineering 1997, Doctorate 2002*) is reinforcing the Management Board of consulting and planning service io-consultants as a new member since February 2022. He has held the Chair of Materials Handling, Material Flow, Logistics at TUM since 2016.

Dominik Foucar (*Diploma Mechanical Engineering 2005*) is a new partner in the management team of Bain & Company. He joined the international management consultancy in 2018 and is heading the business with automotive suppliers in Germany, Austria and Switzerland.

Since January 2022, Medical Colonel Prof. Dr. Benedikt Friemert (*Habilitation Medicine 2005*) is the new President of the German Society for Orthopedics and Trauma Surgery (Deutsche Gesellschaft für Orthopädie und Unfallchirurgie). He is Clinical Director of the Department of Trauma

Surgery and Orthopedics, Septic and Reconstructive Surgery and Sports Traumatology at Bundeswehrkrankenhaus Ulm.

H

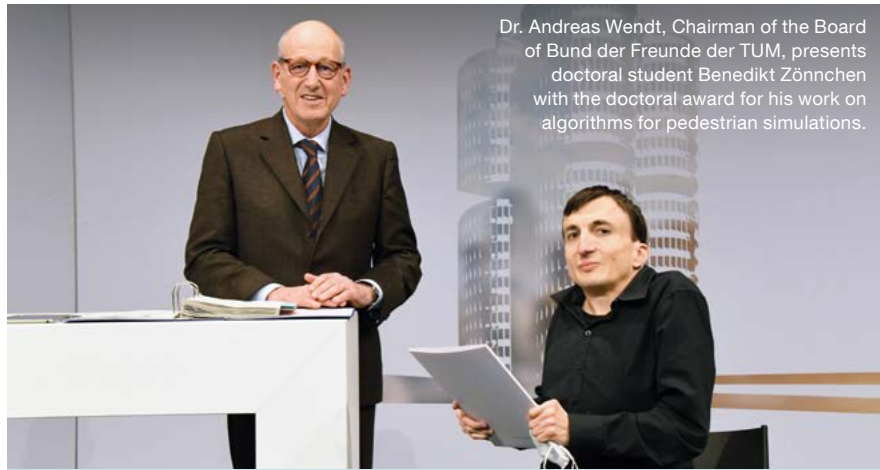
Since March 2022, Dr. Jörg Hirsche ([Diploma Horticultural Science 2004](#)) has become Head of the Unit for Viticulture and Horticulture of the Bavarian Ministry of Agriculture. He had been appointed Deputy Head of the Unit for European Politics, CAP, International Cooperation in 2020.

K

The honorary title TUM Entrepreneur of Excellence was awarded to three outstanding entrepreneurs in 2022: TUM Alumni Martin Klenk ([Bachelor Informatics 2010](#)), Bastian Nominacher ([Master Finance and Information Management](#)) und Alexander Rinke ([Bachelor Mathematics 2010](#)) not only collectively took their start-up to become the world-class company Celonis SE. They have also earned this honor because of their exemplary commitment to support the next generation of talent at TUM.

Prof. Dr. Raimund Klinker ([Diploma Mechanical Engineering 1991](#)) is the new president at the helm of REHAU Automotive SB. He has held senior positions at Porsche, Gildemeister and Knorr-Bremse. He is a member of the Executive Board and also Chairman of the Supervisory Boards of several companies. In 2020, he received the Cross of the Order of Merit of the Federal Republic of Germany for his commitment.

Undine Knappwost ([Diploma Forest Science 2006](#)) received the National ESD-Award (Nationale Auszeichnung – Bildung für nach-



Dr. Andreas Wendt, Chairman of the Board of Bund der Freunde der TUM, presents doctoral student Benedikt Zönnchen with the doctoral award for his work on algorithms for pedestrian simulations.

Dissertation Awards 2021

Every year, Bund der Freunde der TUM e. V. is honoring outstanding doctoral theses and dissertations.

In 2021, the awards, endowed with 1,500 euros each, were given to:

Dr. Annabelle Bohrdt

[Doctorate Collective Quantum Dynamics 2021](#)

Probing strongly correlated many-body systems with quantum simulation

Dr. Sema Karakurt-Fischer

[Doctorate Urban Water Systems Engineering 2020](#)

Development and validation of a novel treatment concept for planned potable reuse based on sequential managed aquifer recharge technology for more sustainable water management

Dr. Christian Kosel

[Doctorate TUM School of Education 2021](#)

Teacher Vision: Exploring the Relationship between Teachers' Visual Expertise and their Competence in Assessing Complex Student Profiles

Dr. Manfred Mayer

[Bachelor Agricultural Sciences 2013, Master 2015, Doctorate 2021](#)

Discovery of novel beneficial alleles in maize landraces for the improvement of quantitative traits

Dr. Selma Music

[Doctorate Electrical and Computer Engineering 2021](#)

Shared Control for Human-Robot Team Interaction

Dr. Theresa Trummler

[Master Mechanical Engineering 2014, Doctorate 2021](#)

Numerical investigations of cavitation phenomena

Dr. Benedikt Zönnchen

[Master Informatics 2016, Doctorate 2021](#)

Efficient parallel algorithms for large-scale pedestrian simulation



TUM SENIOR EXCELLENCE FACULTY

TUM annually awards outstanding and dedicated retired professors with the honorary title 'TUM Emeriti of Excellence' and involves them in the tasks of the university as part of the TUM Senior Excellence Faculty.

The new 2021 Emeriti of Excellence from the ranks of our alumni are:

Prof. Dr. Kristina Reiss
Professor Mathematics Education
at TUM (2009 – 2021)

Prof. Dr. Jürgen Beckmann
Professor Sports Psychology
at TUM (2006 – 2021)

Prof. Dr. Helmut Krcmar
Professor Information Systems
at TUM (until 2020)

Prof. Dr. Ernst Rank
(Doctorate Civil Engineering 1985)
Director of the TUM Institute for
Advanced Study (2015 – 2020)

Prof. Dr. Ulrich Wagner
(Diploma Electrical and Computer
Engineering 1981, Doctorate 1987)
Professor at the TUM Institute for
Energy Economy and Application
Technology (1995 – 2020)

haltige Entwicklung) in September 2021, awarded by the Federal Ministry of Education and Research together with the German UNESCO Commission. In cooperation with her partner Katharina Hocke, she has been running Naturerlebnis Café Mehlbeere on the Baltic Sea for several years.

L

Seit Februar 2021 ist Christoph Luther (Diploma Electrical and Computer Engineering 2021) has been Director Solution Delivery at Axiros since February 2021. Previously, he was Head of IT at the Munich-based telecommunications company M-net.

M

Since January 2022, Dr. Christian Meermann (Diploma Chemistry 2004) has been reinforcing the team of Gummiwerk Kraiburg as the new Director Global Sales. Most recently, he worked for the Dutch chemical group DSM Engineering as Regional Sales Manager.

P

Dr. Katharina Peterwerth (Diploma Electrical and Computer Engineering 2004, Doctorate 2008) has been the new Chief People and Strategy Officer at Franz Haniel & Cie. GmbH since April 2022. She was previously Head of Group Organizational Development at Volkswagen, reporting directly to CEO Dr. Herbert Diess (Diploma Mechanical Engineering 1983, Doctorate 1987).

Dr. Joachim Post (Doctorate Mechanical Engineering 2002) has been a new member of the Board of Management at BMW Group since January 2022. He is taking over the Purchasing and Supplier Network Division. He has been

with the BMW Group since 2002 and was previously Head of Product Line Mid-Size BMW.

R

Dr. Jeanne Rubner (Doctorate Physics 1989) has been Vice President for Communication and Public Engagement at TUM since April 2022 and is furthermore responsible for the Corporate Communications Center. The journalist and author has been editorial director at Bayerischer Rundfunk since 2012 and previously worked for a long time in the Science and Politics Editorial Department of Süddeutsche Zeitung.

S

Vladislav Samoilov (Bachelor Physics 2018, Master 2021) was awarded the TUM IDEAward 2021. Together with Philipp Zent, master's student at the TUM School of Management, he came in 3rd place with their idea 'Brainsight'.

Since January 2022, Prof. Dr. Markus Schatz (Diploma Aerospace Engineering 2012, Doctorate 2016) is the new Mechanical Engineering Professor at DHBW Ravensburg. Previously, he worked at Airbus as a systems engineer and member of the technical management team.

Dr. Matthias Schindler (Bachelor Mechanical Engineering 2012, Master Mechanical Engineering & Management 2013) has been the new Chief Digital Officer (CDO) at the Andreas Schmid Group since January 2022. He was most recently Head of AI Innovations in Production at BMW.

Hochschule Landshut has appointed Prof. Dr. Sebastian Schröter (Doctorate Physics 2013) as new

Professor for Systems and Software Engineering in October 2021. He had previously been an Associated Partner at MHP – A Porsche Company.

Dr. Sebastian Schwaminger (**Bachelor Chemical Engineering 2010, Master 2013, Doctorate 2017**) has been Assistant Professor at the Medical University of Graz since February 2022. Previously, he worked as a postdoc at TUM's Associate Professorship of Bioseparation Engineering and set up his own company Dymium.

Norbert Sterl (**Diploma Architecture 1987**) took over as the new Head of the Passau State Building Authority in January 2022. He had previously been Head of Division for Structural Engineering at the Government of Upper Palatinate.

Prof. Dr. Tobias Strobl (**Diploma Aerospace Engineering 2011, Doctorate 2016**) has been Professor at the Bavarian Innovation Transformation Centre Oberschneiding since March 2022. He previously was a Strategy Developer at BMI-US, where he led the Aerospace, Mobility and Transportation division. He is also co-founder of the company AriaX.

T

Dr. Simon Thorn (**Doctorate Biology 2016**) became the new Head of the State Bird Observatory at the Hessian State Authority for Nature Conservation, Environment and Geology in Gießen in March 2022. He was most recently a research associate at Universität Würzburg's Ecological Field Station Fabriksschleichach.

V

Dr. Dominik von Au (**Diploma Management & Technology 2006**) has been the new Managing Partner of PETER MAY Family Business Consulting since January 2022. Before that, he was Managing Director of the INTES Academy for Family Businesses and a partner at PwC.

W

Dr. Martin Webhofer (**Diploma Mechanical Engineering 2000, Doc-**

torate 2005) is the new CEO of TÜV SÜD Rail. He had previously been in charge of the Wind Energy Department at TÜV SÜD Industrie Service.

Y

Nadja Yang (**Bachelor Chemical Engineering 2020**) was included in the 30 Under 30 list of Germany, Austria and Switzerland by FORBES magazine. She has served as President of European Young Engineers since April 2021.

TUM AMBASSADORS 2021

For many decades, international visiting scientists have come to TUM for a shorter or longer stay. They contribute to our university not only with their scientific expertise and international experience, but also with their great willingness to cooperate and their multifaceted commitment. In recognition of their achievements, every year since 2013 some of these top international researchers have been awarded the honorary title 'TUM Ambassador' by the President of TUM – acknowledging them as representatives of all TUM Research Alumni around the world.

In 2021, the following research alumni were honored with the award:

Prof. Dr. Michael Bronstein

Artificial Intelligence and Machine Learning | University of Oxford (UK)

Prof. Dr. Kaan Erkorkmaz

Mechanical and Mechatronics Engineering | University of Waterloo (USA)

Prof. Dr. David Lapola (see p. 46)

Center for Meteorological and Climatic Research Applied to Agriculture | Universidade Estadual de Campinas (Brazil)

Prof. Dr. Matteo Maestri

Chemical Engineering | Politecnico di Milano (Italy)

Prof. Dr. Muriel Medard

Electrical Engineering | Massachusetts Institute of Technology (USA)

Prof. Dr. Markos Papageorgiou

School of Production Engineering & Management | Technical University of Crete (Greece)

Dr. Heike Riel

New Materials and Novel Device Concepts for Future Nanoelectronics/IBM

Prof. Dr. Zhen Zhang

School of Electrical and Information Engineering | Tianjin University (China)

The award ceremony for the TUM Ambassadors 2022 will take place during the festive weekend on the 17th of July 2022 in Munich. More information at www.community.tum.de/ambassadors

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“

The biggest
challenge
is to
face each
new one.”.

From the Alumni Survey
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SAMANTHA CRISTOFORETTI

In spring 2022, the astronaut and TUM Alumna will set out on her second space mission.

As a member of mission Minerva, she will be heading to the International Space Station. To prepare for this mission, the 45-year-old mother of two has trained rigorously for several years, practicing potential spacewalks underwater, for example.

In this issue, she talks about why she is not afraid of the journey into space and what she finds particularly exciting about her job.



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