



## KontakTUM Special Edition

For Alumni of the Technical University of Munich Fall/winter 2017/2018







#### The TUM Alumni Jubilee Circle 1868

You received a sound education at TUM and have found your place in the world. No doubt you are grateful for that and would like to let others share in your success. With endowment contributions and donations of any amount, you can help sustain TUM on its course of excellence and become a part of our TUM Alumni Jubilee Circle 1868.

www.together.tum.de/spenden

The TUM family will be celebrating together throughout the jubilee year. We will be showing our appreciation of our sponsors with our TUM Alumni Jubilee Circle 1868.

#### Cum laude (jubilee contributions of up to 499 euros)

As part of the Jubilee Circle, you will be invited to jubilee events.

#### Magna cum laude (jubilee contributions over 500 euros)

At this level you will also receive a small gift as a thank-you for your personal involvement.

#### Summa cum laude (jubilee contributions over 5.000 euros)

You will be welcomed as honorary guests at selected Alumni events.

#### Cum excellentia (jubilee contributions over 10,000 euros)

Our circle of excellence is especially close to our heart: supporting means taking part.

#### Corona honoris (jubilee contributions over 50,000 euros)

You will become part of the exclusive ranks of TUM university supporters. Your name will appear on the "Wall of Honor" in the TUM auditorium on the original Munich campus.

#### **TUM University Foundation**

donation account IBAN: DE93 7002 0270 0015 3338 76. BIC: HYVEDEMMXXX

As donations, all contributions are fully tax-deductible. We honor our jubilee donors in print and online media. If you do not wish to be named, please notify us of this by email at: alumniundcareer@tum.de or via regular mail at the following address: TUM | Alumni & Career | 80290 Munich.



Dr. Sabrina Eisele and Dr. Verena Schmöller from the KontakTUM editorial team in front of the Asymptotic Pavilion on the TUM main campus (p. 52)

### What we have to tell

Your TUM is turning 150! Since its founding in 1868, your alma mater has written history in a variety of ways: TUM has brought forth numerous famous inventors and award-winners. Significant technological advancements were developed and patented here. 2016 alone, researchers racked up 145 inventions through their scientific work at TUM. Beginning on page 16, we recount what has happened at TUM since its founding and how things look today.

The TUM network is equally replete with fascinating stories that amaze us every day. TUM Alumni found innovative companies, manage internationally successful firms, fly into space and receive – as, most recently, Joachim Frank did – Nobel prizes. TUM Alumni get involved and support their alma mater, like our first jubilee donors (p. 42). They meet in Singapore or via Skype, learn from each other and with each other. You can get to know some of them in the voices of TUM starting on p. 8.

You can read about the history of TUM – but you can also experience it. Be a part of the great TUM birthday celebration from the get-go. In this special issue of KontakTUM, starting on page 46 you'll find a plethora of events at a wide variety of places and institutions to which TUM invites its Alumni to attend. You'll gain insights into current research projects such as the geothermal (p. 50) and structural planning (p. 52) projects, and get to know top researchers (p. 57) and Alumni in Hidden Champions (p.64) in familiar environs. Or you can join us for our "Dine Around the World" series (p. 36) and drink a toast to TUM with fellow Alumni around the world.

Join the rest of the TUM family in celebrating 150 years of our Culture of Excellence!



#### Keen for more stories?

Over the jubilee year, we'll introduce you to 150 TUM Alumni. See what we have in store for you by clicking www.together.tum.de/150 every now and again.



#### Yet another Nobel laureate:

The Nobel prize for Chemistry, featuring the visage of Alfred Nobel on the front, will be received on December 10, 2017 by Joachim Frank (chemistry doctorate 1970). Read more about famous TUM Alumni starting on p. 26.

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## KontakTUM digital

in English and German www.together.tum.de/epub

## Roots and wings. 150 years of TUM

he research university as we have known it since the time of Wilhelm von Humboldt is one of the most important and enduring success stories "Made in Germany." The technical sciences have

technology country.

Our founding in 1868 was in an age of awakening, the To do so, we provide a comprehensive education in the industrialization of Germany, inspired by the motto expressed by its founding director Karl Max von Bauernfeind, "to bring the igniting spark of science to the commercial and industrial world." At the time, the Kingdom of Bavaria was a small agricultural state; today the Our university model is an "invention" that has played a hotbeds of innovation in the world and home to globally competitive, technology-intensive companies. As a leading technical university, we embody the qualities of German engineering, which is respected throughout the world.

international university was possible because we were always ready to start afresh. Today, with digitization we are facing incredible upheaval in practically every aspect of our lives. But we are approaching this venture into the digitized world with the wealth of 150 years of successful research, with renowned scientists from over 30 countries and a unique network that spans the globe. Moreover, as a technical university we have also opened ourselves to the fields of Medicine, the Life Sciences, Economics and, most recently, the Social Sciences as well. Today we can research scientific and "grand challenges" of the modern, knowledge-based oneer in the new age of digitization.

society. In the future, it will no longer be sufficient simply to bring forth new knowledge and new technologies. The new things that we bring to the world, after all. must always be kept in tune with the needs and ways of thinking of the society in which we live and operate. As TUM, we are well-placed to bring the viewpoint of the engineer to bear in the shaping of political opinion. We analyze the interactions of politics, society, economics and technology to develop recommendations for the political decisions that give shape to our common paved the way to Germany's status as a leading existence.

#### The adventure of research

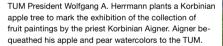
matter of science. We see scientific research as a source of fascination, adventure, personal development

Free State of Bavaria is among the most prosperous major role in the western world's entry into the industrial age. It has fostered the technological advancement of our society and fundamentally changed people's lives -

TUM is meeting the challenges of digitization as the cantus firmus of this century with interdisciplinary re-The rise of TUM from a "polytechnic school" to a top search at the highest level, an international orientation, the exceptional dedication of its members and its groundbreaking concept of the "entrepreneurial university." What that means, first and foremost, is that the university sees itself as an entrepreneurially-thinking and acting community of scientists that takes on the international competition on its own steam, however intense that competition may become. We compete for the most talented researchers and students in order to take a leading role in major, transnational research associations, and vie for the favor of deep-pocketed donors. It's the only way we can pursue our agenda in technological developments on an interdisciplinary ba- a proactive manner. Only through this approach will we sis and shape our future with a comprehensive range be able to keep pace internationally and help ensure of capabilities. We are ideally positioned to meet the that Germany can keep its role as a technological pi-









#### Sowing what we will not reap ourselves

However: Acting entrepreneurially in this age also means being fast. The needs of the business community and society change with exceptional speed. To keep pace, we need the type of large investments that only the best minds are capable of earning. To foster and secure elite output, we rely on private donors to help us close the gap to the top US universities. That's why we've started the TUM University Foundation. And it needs your personal donation, esteemed Alumni. Your financial contributions will aid us in our work for the coming generations, which are our future. Join us in sowing today what those who come after us will reap. Make your personal contribution to fostering talent at our university! All of us who want the best for TUM are beholden to a 150-year history. We stand on the shoulders of our great forebears, and for that reason alone we are obliged to take the longer view. In this jubilee

vear, it is important for us to reflect on the roots that keep us grounded. But it is also important to remind ourselves of our wings, which will carry us into the future. Your support gives us momentum.

Across the generations, we have been and will continue to be the standard-bearers of a culture of academic excellence. Since 1868. Take your part of that responsibility! Take this jubilee year as an ideal opportunity to thank your alma mater for the great education it gave you, which helped you along your path to success in the professional world.

Warm regards Wolfgang A. Herrmann (Degree in Chemistry 1971)



#### **ROBERT HUBER**

Degree in Chemistry 1960, PhD 1963, Post-doctorate 1968

"I still feel a connection to the TUM. It's an excellent university and should continue in the same manner it has always done. I studied at the Technical University of Munich and literally lived and breathed science there. My first lecturers, like my mentor Walter Hoppe, all have a considerable reputation in the world of research."

Prof. Dr. Robert Huber was awarded the Nobel Prize for Chemistry together with Johann Deisenhofer and Hartmut Michel 1988 for crystallizing an intramembrane protein important in photosynthesis in purple bacteria. From 1971 to 2005, Robert Huber was director of the Max Planck Institute for Biochemistry in Martinsried. He is co-founder of the biotech companies Proteros and Suppremol, and was appointed extraordinary professor at the TUM 1976. He has belonged to the circle of TUM Emeriti of Excellence since 2013.



#### KATHARINA KREITZ

Degree in Mechanical Engineering & Management 2013

Engineer Katharina Kreitz studied Mechanical Engineering at the TUM, before graduating with an MBA in

Paris. 2014, she and two colleagues set up their own company specializing in developing individual flow measurement technology using 3D printing. In April, Katharina Kreitz met with German President Frank-Walter Steinmeier and his wife at a reception in Munich organized for citizens who do charity work. Innovations from Bavaria were also presented at the event, among them the sensors developed by the company Vectoflow.

"The difficult intermediate degree examination at the TUM showed me that I can manage everything if I just persevere. One of my nicest memories from my time as a student is the excursion to the launch of the Space Shuttle. We were as close to the Shuttle as only employees of NASA otherwise are. It was a really thrilling moment."

#### **MARKUS FERBER**

Degree in Electrical and Computer Engineering 1990

"While studying Engineering at the TUM, I learned how to approach a problem or subject matter in order to find a solution. This ability has helped me as a politician in a great many situations."

M

Markus Ferber already worked for the CSU in party politics while still at school, first for the Young Union youth section of the CSU, and then from 1990 as the district head of the CSU Schwaben. He was already elected to the EU Parliament at 29, and has now been there for more than 20 years. For several years now, he has been

Spokesman for the parliamentary circle of small and medium-sized businesses there, as well as first vice-chairman of the Committee for Economy and Currency. In this role, he profits from the inter-disciplinary way of thinking he learned while studying Engineering at the TUM.



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Robert Huber

#### ANDREAS KUNZE

Bachelor's in Information Systems 2013



"Our founding team met one another while we were studying. We found important supporters there who formed us and who still support us today. You couldn't wish for more."



Andreas Kunze was only 23 when he set up the Munich company KONUX with his colleagues Dennis Humhal and Vlad Lata. The company develops solutions for predictive maintenance based on smart sensors and analytics, with clients including German railway company Deutsche Bahn and Swedish company Trafi kverket. Andreas Kunze often stands out at public appearances because of his young age, but he has managed something that other German founders dream of: KONUX has now become an important

name in Silicon Valley, where a majority of its investors are located. The company has also begun to expand throughout Europe. It received the TUM Presidential Entrepreneurship Award 2017, which comes with prize money of 10,000 euros.

#### **DANIEL TOMIC**

Degree in Mechanical Engineering 2003, PhD 2009, MBA 2015

"The TUM has been with me in my professional career for almost 20 years. While studying at the Faculty for Mechanical Engineering I learned what the German art of engineering really means. After gaining my PhD, I decided to do an MBA while working to equip myself for modern management. This has paid off today. Our family-run business recently had its best year in its 40-year company history."

After graduating with his degree from the TUM, Dr. Daniel Tomic wanted to do further research. As a member of the scientific staff and academic adviser with a temporary position, he gained his PhD 2009. When he entered his family's business, he soon noticed that when it comes to fulfilling a management position, good general managerial skills are vital. That is why he decided to do his Master of Business Administration (MBA) at the TUM alongside work. Today, as a successful managing director of Tomic TEC GmbH, he would like to give back something to his Alma Mater as a thank-you for the good education he received. That is why he is a committed sponsor of the TUM University Foundation.





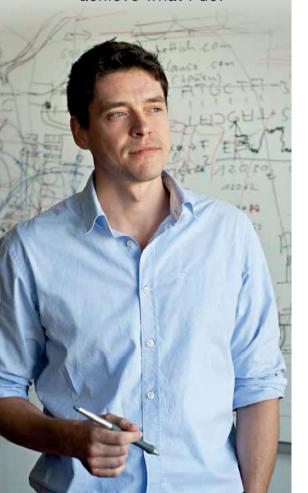
Degree in Mechanical Engineering (Aerospace Technology) 2001

"Thanks to TUM for a great engineering education! I have very, very good memories of my time at university studying and enjoying student life. I was active for many years in the faculty's student body and lived in the student dorm in Garching. There might now be more than one student dorm in Garching, but back then mine was the only one, and it was small and cozy. As a TUM student, I went to Toulouse on an Erasmus program and wrote my degree thesis in Moscow."

After gaining her degree at the TUM, the astronaut Samantha Cristo-foretti joined the Italian Air Force, where she was the first woman to be trained as a fighter pilot. She studied Aerospace Technology at the University of Naples as part of her training, graduating 2005. After that she served in the Italian Air Force for several years until taking part in the selection procedure of the European Space Agency (ESA) 2009, and being awarded a place in the European corps of astronauts from among more than 8,400 applicants. In November 2014, she flew with the Futura 42 mission to the International Space Station (ISS). As the return flight was postponed, she was in space for almost 200 days, thus making her the record holder for the longest single space flight for a woman.



"You don't research here in isolation, but are part of a scene in which people inspire one another. Not even the best idea can be successful without the right professional environment. And that not only refers to Munich as a location, but also above all to the TUM. My employees and our students are excellent. Without them, I would be unable to achieve what I do."



#### **HENDRIK DIETZ**

#### PhD in Physics 2007

Prof. Dr. Hendrik Dietz studied Physics in Paderborn and Saragossa, among other places. After receiving his PhD at the TUM, he worked at the Harvard Medical School in Boston, Since 2009, he has been Professor for Experimental Biophysics at the TUM. He is specialized in DNA Nanotechnology, one of the most dynamic fields of research in basic biomolecular research. His special area of interest is the DNA origami, the folding of the DNA to create non-arbitrary two- and three-dimensional shapes at the nanoscale. The elements are designed to act as miniscule tools used to undertake certain tasks in cells and organisms, for example, opening and closing artificial pores in the cell envelope. Hendrik Dietz received the Gottfried Wilhelm Leibnitz Prize 2015, which is the most important award for scientists at German research facilities.

#### **BASTIAN NOMINACHER**

Master's in Finance and Information Management 2011

"Studying at the TUM provided the essential foundation for setting up our company. I not only learned the academic tools of the trade for developing our technology, but also met my co-founders Alexander Rinke and Martin Klenk, And the support given by the TUM company foundation advice service paved the way for our success today."

Bastian Nominacher is the son of a baker and used to help his parents in their family bakery. Today he is founder and managing director of Celonis,

process mining technology that visualizes, analyzes and optimizes company processes in real time. Nominacher and his co-founders Alexander Rinke a TUM spin-off which developed a and Martin Klenk, who also studied at the TUM, have now become world market leaders in this technology. 2015, the TUM gave Celonis the Presidential Entrepreneurship Award which comes with prize money of 10.000 euros. In the same year, Celonis was also awarded as Germany's fastestgrowing technology company.



#### **ESER** AYTEKIN

#### 3rd semester Management and Technology

After achieving his school-leaving certificate, Eser Aytekin first wanted to earn some money like all his friends. When he was 18, he realized that he wanted to achieve more. He completed a training course as an office administrator and then gained more advanced school

qualifications, before going on to achieve his vocational baccalaureate Degree and then his university entrance qualification (Abitur). Today he is studying to gain his Master's in Management and Technology. His achievements have been given special recognition by the granting of a scholarship that is also made possible thanks to supporters of the TUM.

"My pathway to university was anything but simple. I still have to persevere, but I'm happy that I have the chance to study at the TUM and learn so much."

# At the highest level \_\_\_\_

**HISTORY OF TUM** 

The "Polytechnic School of Munich" was established 150 years ago by King Ludwig II of Bavaria with university status. Around 300 students and 24 professors learned and taught back then in the highly modern and prestigious Renaissance Revival building at the site on Arcisstrasse. A great deal has changed since then. In 1877 upgraded to the Technical College and 1970 to the Technical University, the TUM today is more diverse, modern and international in its network than ever before. In addition to the now four locations in Bayaria (Munich, Freising, Garching and Straubing), the TUM has a branch in Singapore (TUM Asia), and six other offices worldwide. The TUM has brought forth 17 Nobel Prize winners and numerous revolutionary inventions and discoveries, among these refrigerator, the diesel motor and the decoding of the human proteome.

A total of 145 inventions as well as 60 patents registered annually make the TUM one of Europe's most innovative universities. And the TUM has been awarded several times as the university most conducive for business start-ups. In the past years, 70 companies have been founded per year, and the founding of more than 800 technology-intensive companies with approximately 14,000 new jobs since 1990 underscore this special position. At the present time, around 41,000 students, more than 10,000 employees and more than 60,000 registered and active TUM Alumni give the TUM a face and a profile. Many former students occupy leading positions in the economy, state and society, and are networked with one another worldwide. In this special year of 150th anniversary, the TUM family is invited to celebrate together and look back at the history of their alma mater.



## The history of a scientific enterprise

#### The beginnings as a polytechnic school

#### 1864

On May 14, King Ludwig II issued new school regulations for the technical educational institutions in Bavaria that included provisions for a central polytechnic school to be opened in 1868. By then the new building was to be finished.

#### 1868

On April 12, King Ludwig II issued the "organic provisions," i.e. the charter for the new "Polytechnische Schule Munich" with the status of a technical university. The founding director was the surveyor Karl Max von Bauernfeind. A total of 301 students – all male – were accepted. Lectures began on November 3. The inaugural celebration was held on December 19. There was the General Department (Mathematics, Physics, Economics, Social Sciences), the Engineering Department (Structural Engineering and Surveying), the Architecture Department, the Mechanical/Technical Department (Mechanical Engineering) and the Chemical/ Technical Department (Chemistry). The sixth department, the Agriculture Department, was added in 1872.

#### The period as the Royal Bavarian Technical University

#### 1877

King Ludwig II grants the name "Königlich Bayerische Technische Hochschule zu Munich," or Royal Bayarian Technical University of Munich. This grant of equivalent status with the state universities was explicitly confirmed.

#### 1879

Carl von Linde became the first "entrepreneur" to leave the university to form his own company and bring his refrigeration technology inventions to the market with his company "Gesellschaft for Linde's Eismaschinen AG."

#### 1899

A revised charter was introduced that would remain largely in place until 1957. In addition to private tutors, there were now also titular and honorary professors. Thekla Freitag from Berlin was granted extraordinary admittance to become the first female student to enroll at THM.

#### 1900

Enrollment exceeded 2,000 for the first time.

#### 1901

On January 10, the university received the right to grant degrees (Diplom) and doctoral degrees; by July 8, the first three graduates obtained a doctorate in the field of chemistry.

"The university at that time was still very much a 'higher school' which the young student would approach with an attitude of reverence. To enter a lecture hall with naked legs was an unimaginable concept."

Architecture professors Alwin Seifert, who attended THM as a student around the turn of the 20th century

#### 1902

Prince Regent Luitpold approved the free selection of the rector. Until that time, the post was held by a director named by the state. This new regulation was due in large part to the diplomatic talents of mathematician Walther von Dyck, who advocated the move from his post as the last appointed director and was thereafter elected the first rector.

#### 1905

Bavaria became the first German state to allow women to study at technical universities. Agnes Mackensen enrolled as the first regular female student and 1915 became the first woman graduate with a degree in architecture.

#### 190

To aid the rector, a post of syndic was introduced for the administration of the position; 1912 a second syndic post was added.

#### 1910

Under the leadership of architecture professor Friedrich von Thiersch, urgently required expansions were built. This included the 37-meter clock tower in the Luitpold style on Gabelsbergerstrasse, which was completed 1916. The Thiersch Tower remains a landmark symbol of TUM today. Its elaborate refurbishment will conclude with a celebration in the jubilee year of 2018.

#### 1914

At the outset of the First World War, many students, professors and staff joined the war effort and were considered to be on leave. The number of students declined from almost 2,800 in the summer of 1914 to roughly 500 the following winter. The North Wing would later host a reserve military hospital, and the university issued war bonds

#### 1918

The Armistice was signed in November. The monarchy was deposed. In spite of the politically difficult situation, university operations continued as well as possible. The students' "War Committee" founded 1917 became the "Allgemeiner Studenten-Ausschuss" (AStA) or "General Student Committee." Amalie Baur became the first woman to attain a doctorate from THM.

#### Weimar Republic years

#### 1919

War returnees poured into the university. The number of students broke one record after another: 1919 over 3.000, 1920 over 4.000, 1921 over 5.000.

#### 1920

The 50th jubilee celebration passed up 1918 was made up for two years later. Representatives of AStA were also up on the stage.

#### 1922

The Munich Commercial College, the Handelshochschule Munich, was integrated to become the university's 7th department, the Department of Economics. Influential Alumni and industry representatives foun-

ded The "Bund der Freunde" supporter association.
The group still exists today. Thanks to its donations, it was possible to continue expanding the university institutes

#### 1924

Oskar von Miller launched a research institute for hydraulic engineering, today's Oskar von Miller Institute at the TUM. Students form the Akademischen Fliegergruppe Munich e. V. (AkaFlieg) built their first glider the same year. This student initiative still exists today. In September 2017, a new glider, the Mü 31, started on its maiden voyage.

#### 900

seats and several hundred standing room spots were offered by the "Grosse Physikalische Hörsaal," built by German Bestelmayer 1925. It served as the Auditorium Maximum for decades.

#### 1928

To honor the private engagement of sponsors, the titles of Honorary Senator was created, followed by Honorary Citizen 1932. The Hochschule Weihenstephan was first attached to the university and 1930 was completely integrated into an Agricultural and a Brewing Department. Under the umbrella of THM, the Weihenstephan State Brewery also came into the fold, an institution with a tradition stretching back to 1040 and which is regarded as the oldest still existing brewery in the world.

#### 1930

Chemist Hans Fischer became the first THM professor to receive the Nobel prize. Up to the present day, 17 scientists and Alumni have received Nobel prizes.

#### **During the Nazi period**

#### 1933

The conservative faculty did not manifest any significant resistance when the Nazis took power. The university's autonomy was de facto eliminated. The minister appointed the "Führerrektor," who reported to him. The departments were converted into "faculties": General Sciences (including Economics and, from 1940, Chemistry) as well as Construction (including Structural Engineering, Surveying and Architecture), Mechanical

(including Electrical Engineering). Agriculture and Brewing, Jewish instructors were forced to leave THM in summer, and from 1938 onwards no new Jewish students were allowed to enroll. The Nationalsozialistische Deutsche Studentenbund (NSDStB) was already the strongest faction in the AStA.

#### 1938

The dedicated Nazi Lutz Pistor became rector and instituted a strictly National Socialist orientation of the university. The climate was marred by spying and denouncements. The initial enthusiasm turned to disillusionment as the war progressed. Nevertheless, resistance remained a rarity at THM. The Nazi period at THM is currently being researched for an exhibition at the Munich Documentation Center for the History of National Socialism that will open in May 2018.

#### 1943

In spite of the ongoing war, the 75th jubilee of the university's founding was marked with a ceremony. Due to the military call-ups, the number of male students dropped massively

#### 700,000

Reichmarks were collected by the Bund der Freunde in this difficult period as a jubilee donation to the university.

#### 1944

With individual institutes already having relocated to the countryside, the Faculty of Agriculture now moved "temporarily" to Weihenstephan, which would be the only German university campus to emerge from the war unscathed. This "provisional measure" has remained in place to this day and the School of Life Sciences at Weihenstephan has meanwhile developed into a life sciences center of international repute.

#### Rebuilding and expansion

#### 1945

The German Wehrmacht capitulated, and the war came to an end. 80% of the buildings on the original Munich campus were destroyed. The primary tasks of the remaining faculty of "non-party members" were

reconstruction, denazification and the democratic reorientation of the institution. Instruction was put on

> "Does anyone remember our funny rectorate in Room 351, the island in the middle of the pool of water? For three-quarters of a year after that it was full operations, trimester for trimester."

Hans Döllgast, acting Rector 1945

Architecture professor Wilhelm Vorhoelzer headed up the reconstruction process. Upon enrollment. students had to demonstrate proof of providing "student aid services." The students pitched in mightily, clearing debris and cleaning bricks for re-use. At 8 a.m. on April 8, instruction resumed. The study conditions are difficult: overfull, unheated lecture halls, provisional labs. And yet: "The heart of the technical university [was] beating again" (Münchner Merkur). Liesel Beckmann was named the first female associate professor at THM. As decided by the Culture Ministry, the Department of Economics was transferred to I MU

#### 1948

65% of the university had been restored. 13,500 students at all Munich universities took part in a "hunger strike."

Deutsche Mark (DM) in cash was distributed to the populace as starter money with the currency reform of 1948. Many students were forced to work full-time on the side to finance their education.

#### 1952

The number of students reached 4,400 and continued to rise year after year. The need for space was immense. In the years that followed, significant investments in further buildings had to be made (e.g. the cafeteria 1957, north grounds 1969, south grounds 1972).

#### 1955

Nine years after the loss of the Economic Department, the Work Sciences and Economics Postgraduate Program (AWA) was introduced as a completely new academic discipline at the time.

#### 1956

kind to go into operation. The showpiece of the center is the "Programgesteuerte Elektronische Rechenanlage Munich" (PERM) - the program-controlled computer center in Munich. The huge computer was the starting point for today's Leibniz Supercomputing Center.

#### 1957

A new charter, the first to be created by the university itself, went into effect, enshrining the university's status as a public legal body, a status it had sought for decades. The syndics were now named executive supervisors of the university administration.

> "THM serves in the spirit of the academic freedom of instruction, research and invention. As a community of teachers and learners, it endeavors to engender a conscientious disposition toward culture and the state in a vital interaction with public life."

Charter of 1957

#### 1958

On January 3, the first German research reactor (the "Atomic Egg") in Garching was handed over to THM in a festive ceremony. It became a symbol of progress and made THM famous around the world

#### 1962

The program for teacher education at vocational schools was transferred to THM and the rooms of the predecessor institutes on Lothstrasse were integrated.

#### 1965

At the largest student demonstration in Munich since 1948, some 10,000 students protested the education crisis. On the podium, rector Heinrich Netz joined AStA chairman Klaus Irmscher. For the first time in the university's history, the AStA chairman was invited to hold a speech on the Dies Academicus, the highest academic holiday.

is regarded as the year in which academic Computer Science was born: Friedrich L. Bauer held the first Computer Science lecture in Germany, Computer Science was initially formed as a branch of Mathematics department; 1982 it became a separate department. The Department of Medicine was founded On May 7, the THM computer center was the first of its and the former municipal clinic on the right bank of the Isar (Klinik rechts der Isar) was taken over. There were rumblings among the student body. The student convention under AStA chairman Günther Dengel adopted a political mandate.

"Girl rules 7.600 students"

Headline in Münchner Abendzeitung

Iln its 100th year of existence, the university had grown to over 9.000 students and roughly 8.000 employees. In the AStA election in winter, Gunthild von Löhneysen became the first female student to win the post. Although many of the students' demands were not met, they were nevertheless effective and influenced the reform process at the universities. At the Dies Academicus, a celebratory welcome for first-year students was held for the last time. And for many years thereafter, caps and gowns were no longer worn by the professors either.

#### A momentous name change

#### 1970

Effective on August 18, the Culture Ministry approved a name change from the Technische Hochschule Munich (THM) to the Technical University of Munich (TUM). The following year, a chancellor post was approved as the head of the university administration and person responsible for the budget. The first chancellor was the former 1st syndic Angela Molitoris.

> "For many of us, and above all those who have studied at this university, it was a day that filled us with a certain wistfulness."

Rector Horst Engerth on the name change

More than 10,000 students were enrolled, and for the first time the share of female students exceeded

10 percent. The University Sports Center Munich (ZHS) was constructed on the Olympic grounds and made available to all Munich university students through the University Sports Center as well as for the physical education teaching program, which was established 1973 with the founding of the Central Institute for Sports Science.

#### 1974

Enacted in October, the Bavarian University and College Act introduced a presidential and chancellorship constitution and initiated a far-reaching restructuring of the institution. In July 1975, the office of president was publicly announced for the first time. In April 1976, the last rector, Ulrich Grigull, was named the first president. The first elected chancellor was Heinrich Lampersberger. The student body as previously constituted was eliminated. AStA then reconstituted itself as a club.

#### 1986

A University Council including figures from the worlds of business, politics and culture was established to support the university. With the IKOM, students held the first career forum at TUM. Today, with over 300 exhibitors IKOM is the largest job fair in Germany – organized by over 100 students.

#### 1993

The 125th jubilee was celebrated under President Otto Meitinger, with gowns being worn again for the first time in many years.

President Otto Meitinger has the striking TUM logo designed in the new TUM trademark color blue.

#### 1994

Ingrid Krau became the first female full professor in the chair of the Urban Space and Urban Development faculty at the TUM

#### 1995

Chemist Wolfgang A. Herrmann (Degree in Chemistry 1971) was elected president and with his over 20-year term is now regarded as one of the fundamental reformers of TUM and the German university landscape in general. His goal was a self-contained, competitive and internationally operating, entrepreneurial university.

#### 1997

The Mechanical faculty building was built at the Garching Campus. Over the next two decades, many further construction projects would be brought to fruition. Today Garching is the TUM's largest location, with over 12,000 students. A central fundraising body was established.

283.4

millions euros have been raised by the fundraising office.

#### 1998

In the year before the Bologna declaration, the first Bachelor's and Master's programs were established.

#### 1999

With the introduction of a new organizational structure, the operational apparatus was separated from the supervisory function. The Forestry Sciences faculty previously located at LMU was transferred to TUM. At the behest of President Hermann, a central Alumni network was set up; to date, over 60,000 Alumni have registered with the network.

#### 2000

The three faculties at the Weihenstephan location were merged with the Biology department to form the Weihenstephan Science Center for Life & Food Sciences, Land Use and Environment (WZW).

#### 2002

The UnternehmerTUM GmbH company was founded in order to offer start-up support for spin-offs. The first foreign campus by a German university was established with TUM Asia in Singapore. The Sports and Health Sciences faculties as well as the Economics faculty were established.

#### 2004

The new Heinz Maier Leibnitz research neutron source (FRM II) was put into operation at the Garching campus. It is part of the scientific central institutes of TUM. In addition to the Walter Schottky Institute for Semiconductor Physics (WSI), these include the Catalasis Research Center as well as the Hans Eisenmann Center for Agricultural Science (both 2008) and the TranslaTUM Center for Translational Cancer Research (2017).

#### 2005

As the first Integrative Research Center, the TUM Institute for Advanced Study (TUM-IAS), in which top scientists work together in interdisciplinary projects focusing on groundbreaking research studies, was established. This was followed 2010 by the Munich School of Engineering (MSE) and 2012 by the Munich Center for Technology in Society (MCTS).

#### TUM university of excellence

#### 2006

TUM was named one of three universities of excellence in Germany with its forward-looking concept of the entrepreneurial university. The International Graduate School of Science and Engineering (IGSSE) was founded. The EuroTech Universities Alliance with EPFL Lausanne, TU Eindhoven and Danmarks Tekniske Universitet began its work, and after 2012 with a joint office in Brussels. In Beijing, China, the first TUM foreign office opened, followed by: Mumbai, India (2011), Sao Paulo, Brazil and Cairo, Egypt (both 2012) and San Francisco, USA (2015).

#### 2000

A further faculty was added with the TUM School of Education.

#### 2010

TUM founded the TUM University Foundation, which raised 35 million euros of foundation capital within five years. 2017, the foundation won the German university fundraising prize for its pioneering role in drumming up donors. In Singapore, TUM CREATE was established with a research focus on electromobility in megacities. Moreover, the TUM Graduate School, the central institution for all doctoral candidates at TUM, also took up its work.

#### 2011

The "TUM: Teaching Agenda" concept was lauded in the "Qualitätspakt Lehre."

#### 2012

TUM was again named a university of excellence and introduced the performance-based TUM Faculty Tenure Track.

Former students and doctoral candidates who have attained a degree or academic title at the Technical University Munich (Alumni) are members of the university.

According to the TUM constitution since 2012

#### 2013

The school student research center was opened in Berchtesgaden.

#### 2014

TUM took over responsibility for the Bavarian School of Public Policy.

#### 2015

At the Garching Campus, the TUM Entrepreneurship Center and the UnternehmerTUM center were established. The TUM University Foundation received its largest donation to date, 25 million euros. The donor was the Klaus Tschira Stiftung and the donation enabled the establishment of a new center for multiple sclerosis research.

#### 2016

Enrollment exceeded 40,000 students for the first time. The TUM School of Governance was established, becoming the university's 14th faculty. The TUM Science and Study Center Raitenhaslach in Burghausen was opened.

#### 2017

Straubing became the fourth center of instruction and research at TUM after Munich, Garching and Freising-Weihenstephan.

#### Further reading:

the two volumes of "Technische Universität Munich:
Die Geschichte eines Wissenschaftsunternehmens,"
publisher Wolfgang A. Herrmann, Berlin: Metropol 2006,
can be purchased via the TUM Shop:
https://shop.tum.de/gastgeschenke

or borrowed at the TUM library. www.ub.tum.de

### The TUM today

**41.000** students



from Germany 24%

+106%

growth since 2000

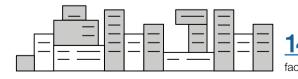
Alumni worldwide

13,000 new students



34% female 66% male





TUM is Germany's number one: For the third time in a row, the TUM has been rated the best German university by the QS World University Ranking. Worldwide, the TUM is among the top 25 universities in the Natural Sciences and Engineering. Innovative university: the TUM occupies 4th place in the Reuter's ranking of "Europe's Most Innovative Universities". Ideal environment for start-ups: The "Gründungsradar" (Foundation Radar) of the Association for the PhD of Science and Humanities in Germany has praised the "outstanding environment for start-ups" at the TUM, and sees it ranked in first place among the big universities. Global University Employability Ranking: In this comparison seen from the perspective of entrepreneurs, TUM has been awarded 8th place - worldwide! TUM graduates are highly sought after on international job markets.

#### At home in Munich and in the world

TUM has its own offices and research centers on four continents and maintains strategic alliances with the world's leading technical universities. The four research and teaching locations in Bayaria form the core institutions of the TUM:





The lively center of the TUM with the main campus (above) is located in central Munich, as is the Rechts der Isar Hospital. The university's sports facilities are located in Munich's Olympic park. The TUM School of Life Sciences Weihenstephan (left) is the green campus of the TUM: located in the idyllic town of Freising outside of Munich, here top-level research is pursued in the modern life sciences.



1.3 billion+

8+3

total budget 2015 (incl. hospital)

employees

0,103

283.4 million+

fundraising (1998 – 2016)



The high-tech campus in Garching (right) is the largest TMU location and also one of the most modern research and training centers in Europe. Campus Straubing (above) is the newest teaching and research location with a focus on biotechnology and sustainability that is unique in Germany.



# We are proud of our Alumni

#### BY WOLFGANG A. HERRMANN

Soon after the foundation of the "Royal Bavarian Polytechnic School in Munich" in 1868, the first "graduates", in Latin "Alumni", started their professional lives. Many graduates became highly regarded in the first few decades of their careers. This is especially true of the mechanical engineer and entrepreneur Carl von Linde (1842–1934); the mechanical engineer, entrepreneur and inventor of the engine named after him, Rudolf Diesel (1858–1913); the civil engineer, pioneer of hydropower and founder of the German Museum Oskar von Miller (1855–1934); the physicist and fluid scientist Ludwig Prandtl (1875–1953).

Of course, the writer and Nobel Prize winner **Thomas Mann** (1875–1955) should also be mentioned here, even if he was only enrolled as a student at the Technical University of Munich for a few semesters and left without a certificate of higher education. He too, the later Nobel Laureate in Literature, is one of our Alumni.

The university attracted foreign students soon after its founding. At the beginning of the twentieth century, nearly 20 percent of students were

from overseas: almost as great a share of foreign students as there is today. Young students from eastern, southeastern and southern Europe in particular moved to Munich to acquire a technical education. A number of North Americans and Asians also came. Some of these foreign Alumni made a name for themselves with remarkable careers, including the Italian electrical engineer, entrepreneur and aviation pioneer Giovanni Caproni, the Count of Taliedo (1886–1957); the Italian mathematician Gregorio Ricci-Curbastro (1853–1925); and Romanian mechanical engineer, entrepreneur and aviation pioneer Aurel Vlaicu (1882–1913).

Our university produced outstanding scientists in the 20th century. The TMU can boast of a dozen Nobel Prize winners: the chemists Hans Fischer (1881–1945), Ernst Otto Fischer (1918–2007), Gerhard Ertl (born 1936), Robert Huber (born 1937) and Joachim Frank (born 1940), the physicists Ernst Ruska (1906–1988), Rudolf Mößbauer (1929–2011), Johann Deisenhofer (born 1943), Wolfgang Ketterle (born 1957), Erwin Neher (born 1944), Wolfgang Paul (1913–1993) and the physiologist Konrad Bloch (1912–2000).

Many other Alumni have gone on to work at other German and international universities and have been awarded prestigious science awards. Examples include **Reinhard Rummel** (born 1945), the initiator of the famous GOCE research satellites, which provided the most accurate images of the gravitational field of the earth at the time. Or **Hendrik Dietz** (born 1977), one of the internationally leading scientists in DNA nanotechnology, who received the 2015 Leibniz Prize.

World-famous aircraft designers and company founders such as Claude Dornier (1884–1969) and Wilhelm Messerschmitt (1898–1978) acquired their degrees as mechanical engineers at our university. They are role models for our young start-up generation. Those honored as TUM Entrepreneurs of Excellence include Sissi Closs (born 1954), Hans Georg Huber (1942–2014), who founded a company that produces water treatment machines and Stefan Vilsmeier (born 1967), whose company is an international market leader for image-based technologies.

The successful combination of technical and entrepreneurial thinking is also clear to see in our Alumni who have succeeded as inventor-entrepreneurs, such as the "visionary of vacuum technology" Karl Busch (born 1929) or the "Edison of the graphic industry" Rudolf Hell (1901-2002). Entrepreneurs such as Karl Diehl (1907-2008). Ulrich Finsterwalder (1897-1988). Hermann Linde (born 1902), Otto Meyer (1882-1969), Leonhard Obermeyer (1924-2011), Rolf Rodenstock (1917-1997). Carl Friedrich von Siemens (1872-1941) and Ernst von Siemens (1903-1990) shaped the German economy before and after the Second World War. More recently, top executives such as Heinrich Hiesinger (born 1960), Henning Kagermann (born 1947), Hans-Peter Keitel (born 1947). Richard Oetker (born 1951), Bernd Pischetsrieder (born 1948), Randolf Rodenstock (born 1948), Norbert Reithofer (born 1956) and Wolfgang Reitzle (born 1949), Ulrich Rohde (born 1940) and Friedrich N. Schwarz (born 1940) have all had distinguished careers. All of them have obtained their undergraduate degree or doctoral degree from the Technical University of Munich.



Four TUM Chemistry Nobel Prize winners in a row: E. O. Fischer, Heinrich Wieland, Hans Fischer, Robert Huber (from left to right)

Internationally known architects and urban planners such as **Hans Blumenfeld** (1892–1988), the first German Pritzker Prize winner **Gottfried Böhm** (born 1920), **Helmut Jahn** (born 1940), **Erich Mendelsohn** (1887–1953), **Otto Meitinger** (1927–2017) and **Albert Speer Jr.** (1934–2017) left their mark in our built environment, not only in Germany but also around the world with their buildings and urban planning.

Our Alumni have also had careers in politics. Agricultural scientists seem to have been particularly talented in this area: Anton Fehr became Minister for Agriculture in the Weimar Republic and later also for the state of Bavaria. After 1945, TUM Alumni Josef Ertl became Federal Minister for Agriculture and Hans Eisenmann the Bavarian Minister for Agriculture. A more recent example is the electrical engineer Markus Ferber (born 1965), who has been a member of the European Parliament since 1994.

The Kingdom of Bavaria only allowed women to study at the Technical University of Munich 1905. After this date, women seized the opportunity and fulfilled their professional goals. Our Alumni lise Knott-ter Meer (1899-1996) became Germany's first female graduate engineer 1924 together with another fellow female student. Soon afterwards she set up her own engineering firm and founded the "Gesellschaft deutscher Ingenieurinnen" ("The Society of German Women Engineers") 1929. Her colleague Melitta Gräfin Stauffenberg née Schiller (1903-1945) conducted scientific test flights at the German Experimental Institute for Aviation in Berlin-Adlershof and rose to become a civilian and military test pilot. The succeeding generation of women also

established itself in technical and natural science disciplines. Eveline Gottzein (born 1931) is an acknowledged expert in the field of control technology and 1993 became the first and still only woman to receive the Werner von Siemens Ring, one of the highest awards for the technical sciences in Germany. Another high-filer in the truest sense of the word is astronaut Samantha Cristoforetti (born 1977), whose over 6-month stay on the International Space Station 2014/2015 set the record for the longest single space flight by a woman.

Compared to the English-speaking university sphere. German universities have long proven exceedingly negligent in tending to their Alumni. TUM has been a pioneer in tapping this valuable potential. Some 60,000 TUM Alumni around the world have registered with the Alumni network to date and maintain ties to their alma mater. Their involvement is intended to help the university and its members tap connections to the worlds of business, society and politics - from helping arrange study and work opportunities to guest talks or even the sponsorship of a department chair by an industrial corporation. In return, the Alumni have access to the latest research results. contact to young talents in the field as well as social and scientific events together with other former colleagues. They can thus stay part of the big TUM family. The close contact between active students and Alumni strengthens the identity of TUM and identification with it. These are immaterial values that are critical for the success of our university as well as its visibility in the world.

We are proud of our Alumni, who contribute to the success if our academic enterprise as TUM ambassadors, as sponsors of our students and with their large donations, not to mention their amazing involvement and dedication. We are proud of our history, and we're very much looking forward to a promising future.

## Valued advisers

#### Alumni on the TUM University Council and Board of Trustees

The TUM University Council, founded 1986, advises and supports the university administration. It supports the university in the fulfillment of its responsibilities and acts as an ambassador toward the public. The University Council members stake their names to the goals of TUM and are dedicated to its mission. The body currently includes 25 respected figures from the worlds of business, culture, education and politics who distinguish TUM with their expertise, experience and commitment to the institution. The chair is held by Dr. Georg Freiherr von Waldenfels, the former Bavarian Minister of State for Finance. Members of the University Council serve in an honorary capacity. Alumni are especially appreciated as advisers as they personally experienced TUM during their undergraduate or postgraduate studies. That is what makes their specific insights so valuable. Building on their further professional careers, as University Council members they can make well-founded recommendations on the further course of development and represent their alma mater with unmistakable conviction: a responsibility that has been vigorously taken up by the five Alumni in the University Council. Alumni also play an important role in another TUM body, the Board of Trustees. Dr. Reinhard Ploss has also been co-opted as a member of this body. The Board of Trustees is the central oversight committee for TUM.



Dr. Reinhard Ploss (PhD Mechanical Engineering 1990) CEO of Infineon Technologies AG

Dipl.-Ing. Josef Geiger (Degree Civil Engineering 1986) President of Bayerische Bauindustrieverband e. V.





Dr. Manfred Stefener (PhD Mechanical Engineering 2003) founder and CEO of Elcore GmbH



Ministerial Director Hubert Bittlmayer (Degree Agricultural Sciences 1990) department head at the Bavarian State Ministry of Agriculture and Forestry



Prof. Dipl.-Ing. Mathias Pfeil (Degree Architecture 1989) General Curator of the Bavarian State Office for Monument Protection





The TUM turns 150 years of age! A time for the entire TUM family to celebrate and come together.



Since our university was founded more than 150 years ago a great deal has happened: The TUM has brought forth important inventors, outstanding Nobel Prize winners, influential personalities in science, the economy and society. People have researched and worked here in line with the spirit of their time, bringing us both the diesel motor and now the MUTE electric car. A great number of students have learned here from scratch, and experienced what the art of engineering means in Germany. After their last exam, they have held their TUM certificates proudly in their hands. Many former students enjoy coming back to their alma mater, are involved in the current research work, give the expertise they have gained on to the younger generation, and let their memories come back to life again in the university halls that have become almost sacred to them.

After all these years of researching and working, learning and teaching, it is now time to celebrate this special year of 150th anniversary. On this occasion, the entire TUM family will come together to look back at the past full of pride and satisfaction, and to look to the future full of confidence and inquisitiveness. Meeting up with old acquaintances or getting to know new ones, telling anecdotes and listening to the stories of others: The Jubilee Year is a time for everyone who has a heartfelt connection to the TUM to come together.

The TUM family is also bound by a love of music. As such, the Advent concerts at the TUM will provide a musical launch into the important Jubilee Year on the first Advent Sunday of 2017. The impressive Philharmonic Concert Hall in Gasteig, the stirring music and, above all, the diverse celebrating community made up of Alumni, students and employees together will create the perfect atmosphere for us to toast the university and its family.



The TUM Choir and the Symphonic Ensemble of Munich conducted by Felix Mayer give the audience a real treat every year at the TUM Advent concerts.

## Conductor Felix Mayer

"The Jubilee Year 2018 has a great many musical treats in store for everyone – more than in a normal year. At the foundation of the Polytechnic School, the Jubel-Overtüre by Carl Maria von Weber was performed, and it will definitely be in our program this year. Die Meistersinger von Nürnberg by Richard Wagner had its premiere in Munich in 1868, the founding year of our university, and this piece will also play a role. There will be a festive performance of the Meistersinger at the Nationaltheater."



The party goes on: Look forward to Act II!

More about this from March 2018 in your mailbox and under www.together.tum.de/150.

The jubilee year will once again be a festive affair with the big annual academic celebration. Every year in December, TUM invites its Alumni, students and employees to the "Dies academicus" celebration. It is the highest of annual academic holidays and is attended by the entire university family, friends and sponsors. Regular instruction is put on hold on this festive day. At the start of the big jubilee year, Dies academicus has even greater significance than usual. At the event, outstanding individual performances by members of the TUM family are honored with awards. In his welcome speech, President Wolfgang A. Herrmann looks back on the successes of the preceding year and talks about what is of particular important for the university in the jubilee year and beyond.

The highlight of the official part of the event is the ceremonial address, to which illustrious figures are invited. This year the speech will be given by world-renowned architect Francis Kéré. He is one of the leading proponents of the socially engaged architecture of the modern era and was named to a newly created professorship in the TUM Faculty of Architecture in October of this year. "This extraordinary, world-class appointment at the outset of the 150th jubilee year of the Technical University of Munich opens up a new era in the storied history of our founding faculty," says President Wolfgang A. Herrmann. "With Professor Kéré on board, this most renowned of international protagonists in the field of sustainable architecture will apply his craft in Munich, transforming our university into the epicenter of a new architectural philosophy." After that, the party will ensue: At the reception on the Dies academicus, Alumni, students and employees will enjoy the opportunity to round out the academic holiday together in a relaxed atmosphere.

For more information, visit www.tum.de/diesacademicus



World-famous architect: Prof. Francis Kéré

Diébédo Francis Kéré was born in Burkina Faso (West Africa). After his architecture studies in Berlin, 2005 he founded the firm Kéré Architecture. 2013 he occupied a post at the Accademia di Architettura di Mendrisio (Switzerland), and before that had lectured at the University of Wisconsin Milwaukee, USA. Since 2011 he has been a guest professor at the Harvard Graduate School of Design. With the "Kéré Foundation," Kéré works to promote sustainable architecture in the region of his birth. Kéré is known around the world for his innovative designs, in which he combines traditional building materials with modern engineering technology. For his very first work, a primary school in Gando (Burkina Faso), he was honored with the "Aga Khan Award for Architecture." Since then, he has won many more national and international prizes for his building projects, which are regarded as groundbreaking, style-defining works of contemporary architecture. Among other works, Kéré designed the temporary Serpentine Pavilion 2017 in London. In Germany, Kéré is primarily known to the wider public for his designs for Christoph Schlingensief's Operndorf. The TUM Architekturmuseum hosted an exhibition through the end of March 2017 that showed the first monographic presentation of the architect and was attend by over 50 000 visitors



The TUM is an international university with a worldwide family. The TUM network brings together 60,000 Alumni from all over the world. Of the more than 13,000 new students enrolled for the current winter semester, one third of them come from abroad, and in the Master's courses it is almost one half. TUM cooperates with around 170 partner universities worldwide and is the first German university to have a campus abroad with TUM Asia.

"if TUM were not international, we would be depriving our graduates of the future," says President Wolfgang A. Herrmann. "Because job markets are international. This is why the university's radius has expanded enormously with globalization." International guest scientists, guest students, semesters abroad, learning languages – all this is part of their education nowadays. In fact, graduates with these kinds of international skills not only create the ideal conditions for their future career path, they also start and cultivate friendships all over the world – which usually last a lifetime and survive thousands of kilometers. At international Alumni meetings they meet up on a regular basis and get to know people from different cultures.

So

## "Happy Birthday, dear TUM!"

is the motto for the jubilee year in many languages and in many different places around the world.

Alumni and students all over the world want to celebrate the big jubilee. Only how? Good food, a relaxed atmosphere, interesting conversations - that's all you need for a good birthday party. This was what Alumni of TUM thought. So they came up with the idea of inviting other TUM Alumni to have dinner at the place where they lived. The idea was well received, and one event quickly became more.

#### "Dine Around the World"

Meanwhile, they have met in eight different locations, including **Tokyo**, **Sydney, Montreal** and **São Paolo.** At a chic dinner in a restaurant, a casual picnic in the park or relaxing at home, glasses are raised to TUM and memories of their student life and times come alive.

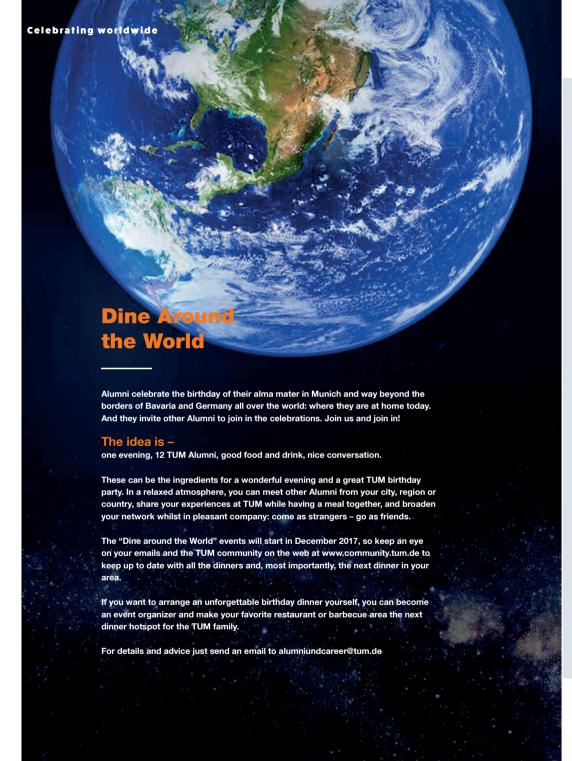


"While I was a professor at Stanford University in California, I discovered how important international Alumni networks are in the USA. Exaggerated you might say, as for many American university graduates the most important group is their own family, then their sports club and then in third place the university they studied at. This is another reason why TUM is so attractive - it has an active and very international Alumni network. TUM Alumni live in 139 countries all over the world, but they stay connected to each other no matter where they are through their alma mater."

#### PROF. DR. JULIANE WINKELMANN

Studied at the Max Planck Institute for Psychiatry in Munich. She has been the head of Neurogenetics at TUM since 2015 and was previously a professor at Stanford University in California. Prof. Juliane Winkelmann works on the genetic architecture of neurological diseases with a focus on movement and sleep disorders. Her research aims to create the basis for personalized medicine. Since October 2017, she has been Executive Vice President for International Alliances and Alumni at TUM.





#### Welcome -

#### the first dates:

TOKYO /JAPAN

Dec. 6, 2017, 7 PM Representation of the Federal State of Bavaria in Tokyo

SÃO PAOLO /BRAZIL Jan. 17, 2018, 7.30 PM Restaurant Adega Santiago

> MUNICH / GERMANY Feb. 22, 2018, 7 PM Spezlwirtschaft Munich

SYDNEY /AUSTRALIA Feb. 23, 2018, 6 PM Maggie's Pott's Point FR Ma

FRANKFURT / BAD VILBEL /GERMANY March 16, 2018, 6 PM Golfclub Lindenhof Bad Vilbel

MONTREAL /CANADA
Apr. 12, 2018, 7 PM
Saint Houblon

SOFIA /BULGARIA Apr. 20, 2018, 7 PM Restaurant Vodenitzata

Find more information at www.together.tum.de/datw

DR. ULRIKE DACKERMANN

#### SYDNEY

"For me, TUM meant having a great time with my fellow students."



PROF. DR. KASPAR SCHATTKE

MONTREAL

"People I feel comfortable with in a cozy atmosphere with creative dishes and drinks that go well with the food."

# TUM Alumni Jubilee Circle 1868 Alumni donated for the TUM Alumni

Jubilee Circle 1868 already before the official start of the Jubilee Year. We thank our first jubilee sponsors.

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**Walter Matschiner** 

**Hanns Mäusl Josef Mayer Bertold Mayr Andreas Meier Ulrich Mellinghoff Heinz Metz** Klaus Metzeler Franz Mever Robert Mitterwallner Jürgen Moeller **Torsten Mohr** Winfrith Moldenhauer **Abdolhossein Morwarid** Klaus Moser **Reinhard Müller** Inga Müller **Dieter Murmann Aristid Neuburger** Norbert Nieder **Hans Niemeier Marc Niemeyer** Aino Niskanen **Günther Nitsch Angela Nizic Werner Oberfichtner Karl Oefele** Otto Olbrich **Walter Ott Franz Past Joannis Patelis Oswald Peithner** Frank Petermann **Siegfried Petz Andreas Peukert Diethard Pfab Wolfgang Pfaehler Evelyn Pfeuffer Martin-Eugen Pfuderer Helmut Pickert** Franz Pitschi **Hans Pongratz** 

**Alexander Konstantin** Prelipceanu **Matthias Prestele Hanns-Herbert Prien** Günther Puhl **Wolfgang Rambold Horst Rammensee Cruz Ramos Flores Wolfgang Range Jochen Rank Fritz Ranke** Klaus Raupach **Alfred Reim Sebastian Reinartz Ernst Reinhold** Katrin Reisnecker **Antonius Reittinger Erich Reitzner** Otto Resch Claudia Richter **Charles Risse** Barbara Röper Bernhard Rößle **Peter Roth** Josef Rothenanger **Walter Rothmaver Albert Rudert** S Siddhartha Sampathkumar **Martin Sattler** Stephan Schäffler **Ulrike Schätz Stefan Scheinost Jochen Schenek** Ingo Schilling **Rudolf Schipka Arno Schleippmann** Michael Schmeidl **Karl-Heinz Schmid Rolf Schmidt Peer Thilo Alexander Schmidt Michael Thoma Horst Schneider Frank Tschirne** 

Hans-Joachim Schöpf Petra Schröder-Kaiser Josef Vilsmeier Hermann Schwaderer **Wolfgang Vollhardt Max von Vopelius** Franz Schweiger **Ramon Schweiss Markus Schweitzer Albert Waas Fabian Seebauer Christoph Wächter Erhard Sehr Peter Wacker Georg Sessier Erich Wagensonner** Chunvuan Sha **Peter Wagner** Yazen Shegem **Otto Walterspiel Ulf Sickmüller Hannes Wandl Heinz-Christoph Horst Weber** Sieafried **Matthias Weber Horst Simmeth Christian Weber Ernst Singer Walther Weikl Phevos Skalidis Alexander Weimann** Stefan Skudlarek **Arno Weiss Erich Sonntag** Heiko Welsch **Folkmar Specht Helmut Werner** Albert Speer **Christian Wiedenroth Rolf Wilhelm Wolfram Spiegel Rolf-Peter Spiegel Carolin Winkel Hans Springer Andreas Winner Birgit Stanek Wolfgang Wirth Günter Stark Bernhard Wolf Ulrich Steffen Brigitte Wolff Gerd Steinbrecher Achim Wörner Robert Steinhoff Wolfgang Wuestner** Günther Stieber 7 **Robert Stolze** Rainer Zeh **Johanna Storek-Petzold** Günter Zeidler **Karl Stork Holger Zeitler Kiril Stovanov** Werner Zielonkowski **Dominik Straßer Hans Zwisler** Roman Straßer and another eight **Arash Taki** unnamed sponsors **Carola Tausend Walter Tengler** As of: October 12, 2017 **Wolfgang Teubner** 

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## KontakTUM

## Program

For Alumni of the Technical University of Munich Fall/Winter 2017/2018



In its jubilee year, TUM looks back on 150 successful years. Be there when the eventful history of TUM comes alive in

interesting lectures

and exhibitions.

"As an archive, and as part of archive legislation, we primarily collect files that at first glance appear to be rather uninteresting. But files also have some charm when you bring them alive. For me, the personal file of Carl von Linde was particularly interesting. Carl von Linde was one of the founding professors and one of the most influential figures in TUM history. His personal file ranges from his recruitment in the year of his foundation in 1868 to his death 1934 – that is almost seven decades of TUM history."

#### Prof. Dr. Peter J. Brenner

joined TUM 2009 as a founding Director of the TUM School of Education and was subsequently appointed Academic Director of the Carl von Linde-Akademie until 2014. Since June 2014, he has been Director of the TUM archive and the President's Commissioner for the jubilee 2018.

Thursday Jan. 11, 2018

5.00 - 7.00 PM

MUNICH CAMPUS

LECTURE WITH GUIDED TOUR

#### **TUM from its foundation to** the present day

In the past, professors used to wear a civil servant's sword. Today, they are safely kept in the archives of the TUM. They are no longer needed in everyday life. But like the many other exhibits collected and sorted by the Archive Director, Professor Peter J. Brenner, they tell the story of 150 years of TUM history. Following the lecture on the major development phases of TUM, Professor Brenner will take you on a tour through the TUM archive.

To register, go to: www.together.tum.de/events



Wednesday March 14, 2018

5.00 - 6.30 PM

MUNICH CAMPUS



GUIDED TOUR

#### Stones tell the history of TUM

Cultural geological guided tour of the TUM main campus

Have you ever thought about how many different types of stone have been used to make the buildings at TUM? For Dr. Gerhard Lehrberger that is everyday business and the focus of his research. In March, he will be offering an exclusive guided tour for Alumni through the City Campus and will shed light on the history of TUM through its buildings and decorative stones. He presents the variety of stones for floors, stairwells, door and window frames and also explains special features such as the stone cloakroom tables in the main building of TUM.

To register, go to: www.together.tum.de/events

MUNICH CAMPUS, ENROLMENT HALL



"The stones are the material memory of TUM. They hold information about their dismantling and transport, and their varied history at TUM since they were installed."

#### Dr. Gerhard Lehrberger

Lehrberger is Academic Director at the Institute of Engineering Geology at TUM (Degree in Geology 1986, PhD 1991)

From Friday Apr. 13. 2018 - Dec. 31. 2018

8.00 AM - 9.00 PM

PERMANENT EXHIBITION

#### Slow motion - 150 years of TUM history

How do you make 150 years of university history visible to the public? Andreas Wolter and Jens Weber from the Institute of Computer Science for Architecture have combined the documents from TUM history in an extraordinary installation project and present them in 15 decades. In a few lines, they describe the progress of TUM development in each decade and condense it into images and symbols. When you visit TUM, spend some time looking at the enrolment hall in the main building on Arcisstrasse.

The exhibition opens to the public on weekdays. No admission fee.



## Building Bridges

#### SCIENCE IN DIALOG

Countless TUM research groups work on developing new technologies with great commitment and passion. Many of them can help to sustainably improve people's lives, such as inventions for electric mobility. In order for new products and solutions to find their way into society, TUM has committed itself to a dialog with the public. The mission statement explains "Society needs to know what we do in science and technology for our future and how we prepare young people for the tasks of the future".

#### INTERDISCIPLINARY EXCHANGE

At the same time, developing new technologies cannot be successful if it is carried out alone in a silent room. To enable researchers to respond to the major technological challenges of our time, TUM promotes contact between engineers and other disciplines in a variety of ways. "The closer you work together and the more interest and attention you give each other, the deeper the relationships become," says President Wolfgang A. Herrmann. For this reason, TUM purposely offers a platform for discussions with the public and among the disciplines in several events. You are welcome to join us.

The bridge in Laim was designed at the Chair of Structural Design in the winter semester 2015/16. It was developed by architecture students Flavia Maria Fagugli, Greta Ellen Goebel and Jessica Santos Bouffard. "The Wave" is designed to allow pedestrians and cyclists to cross quickly and safely under a roof of steel cables and a steel arch. The special feature of the bridge is not the path itself but the noticeably elevated supporting structure, which gives the setting a distinctive quality.

"After a long period of research in

a method for constructing complex

always using the same joints. I am

of such high aesthetic quality."

shapes from simple components and

especially pleased that this result is also

collaboration with mathematicians and

engineers, we have succeeded in finding

Monday, Jan. 15, 2018

5.00 - 6.00 PM

MUNICH CAMPUS

#### GUIDED TOUR

#### Innovative "Asymptotic Pavilion"

arid shell exhibition

The asymptotic pavilion called "INSIDE\OUT" is the result of years of research - and extremely successful research. In the project "Repetitive Grid Structures", which is part of the Chair of Structural Design under Prof. Dr. Rainer Barthel, experts from mathematics, civil engineering and architecture investigated the structure of elastically curved grid shells. A fruitful and innovative collaboration. By examining the theory of curvature in more detail, the research group succeeded for the first time in developing a construction method that enables the creation of double curved grids consisting of straight - so-called asymptotic - lamellas using only right-angled joints. The 9 x 12 meter pavilion is now open to the public for one year from October 2017 - freely accessible to everyone - at TUM's main campus. On the guided tour, Eike Schling will give any interested Alumni greater insight into the development and construction of the pavilion.

The exhibition is open and free of charge to the public

until October 2018

#### Eike Schling

was responsible for the three-dimensional planning in architectural offices in Munich, London and Shanghai. He returned to TUM 2012 and now works as Academic Councilor at the Chair of Structural Design (Degree in Architecture 2008).

To register, go to: www.together.tum.de/events



#### **Munich Talks**

of Governance is a meeting place for political science, political education and political practice. Twice a year, it invites first-rate scientists or well-known politiin July 2017 and spoke about "European Politics and Governance in Challenging Times". For the latest events, go to:



THURSDAY - SEVERAL EVENTS

6.00 - 7.30 PM

MUNICH CAMPUS

#### LECTURE SERIES

#### Insights into immigration

Series of events from TUM Junge Akademie (Young Academy)

TUM offers refugees who have been deprived of starting or continuing their studies in their home country the opportunity to attend German and English-speaking course modules as guest students. They can use the information and counseling services of the TUM to find a way into the German education system. They are also individually supported by student mentors, so-called buddies. Since the program began in October 2015, more than 500 people from crisis areas have visited TUM as guest students. The lecture series of the TUM: Junge Akademie is part of the program and is open to students and Alumni. Speakers from different social fields present their views and experiences on the topic of "Flight and Migration" and will open the discussion up to the audience. The formats vary with individual lectures, book presentations, film screenings or panel discussions.

To register, go to: www.together.tum.de/events

For further information, go to: www.jungeakademie.tum.de/einblicke



Executive Vice President Gerhard Müller (right). Director of TUM: Junge Akademie with participants of the guest student program

#### **TUM: Junge Akademie**

is the TUM's support program for its exceptionally talented and committed students. Young people should be introduced to open and difficult questions at an early stage. They should learn to take responsibility for their own developments and plans. The 20-month scholarship gives them plenty of room to create and implement initiatives from start to finish in teams. Many students of the TUM: Junge Akademie are involved in the "Buddies for Refugees" program.

www.jungeakademie.tum.de

#### Individual events

Thursday Dec. 14, 2017 Mental health and stress in refugees - NUR (Neue UfeR), psychological services for foreigners, Caritas Center Munich city center

Thursday Jan. 18, 2018 Fundamental questions on the Welcome Culture - Dr. Martin Lauterbach, Head of the Unit for Fundamental Issues of Integration at the Federal Office for Migration and Refugees (BAMF)

Thursday Feb. 1, 2018 Presentation of the book "Über Grenzen denken: Eine Ethik der Migration" (Thinking beyond borders: The ethics of migration) - Prof. Dr. Julian Nida-Rümelin, Professor of Philosophy, Ludwig Maximilians University Munich, former Minister of State

THURSDAY - SEVERAL EVENTS

5.15 - 6.45 PM

MUNICH CAMPUS, LECTURE HALL 605, MARSSTR, 20-22



"The current debates on so-called alternative facts lend a new political urgency to the question of how and by whom evidence is made and used."

Prof. Dr. Karin Zachmann is Professor of History of Technology at the TUM and has been a member of the Munich Center for the History of Science and Technology since 2003.

LECTURE SERIES

#### From knowledge to secure knowledge

Evidence practices in science, medicine, technology and society

Increasingly, there is talk of a so-called "postfactual age" i.e. of a time in which facts and truth lose their significance. At the same time, secure knowledge - evidence - is becoming increasingly important for making political, social and individual decisions. Evidence that is based on scientifically collected data. Nowadays, with huge amounts of knowledge being produced, we are also constantly discovering new things. It is important to understand how research results find recognition and application, particularly for a technical university. In the lecture series, lecturers from different subject areas explain how their respective subject can be taught to secure knowledge.

No registration necessary

For more information, go to: www.evidenzpraktiken-dfg.tum.de

"Practicing Evidence – Evidencing Practice" is the name of the research project conducted by DFG research group 2448 at the TUM on the subject of evidence practices, in collaboration with the LMU, the research institute of the Deutsche Museum as well as the universities of Augsburg, Bonn, Mainz and Giessen. The speaker is Professor Karin Zachmann.

#### Individual events

Thursday Dec. 7, 2017 Redefining medical evidence in the 4P era

Thursday Dec. 14, 2017 Who defines the Anthropocene? Evidence practices in the debates on the human age

Thursday Jan. 1. 2018 Evidence as value and valuation. A scientific-philosophical reflection

Thursday Jan. 18, 2018 What is excellence? On the evidence of scientific quality

WEDNESDAY FEB. 28. 2018

6.15 - 8.00 PM

KLINIKUM RECHTS DER ISAR

TRAINING

#### **Prevention is to prevent**

injury from occurring

Sport is healthy and improves the quality of life and performance in the long run. The Center for its medical director Prof. Dr. Martin Halle, is a only intended for physicians but also for the ge-

pioneer of sport as medicine and uses physical training to treat certain complaints, just like medicine. In order to do sports safely and purposefully, it is important to know your own physical capa- Andreas Imhoff. bility and to prevent injuries. The "prevenTUM -Prevention and Sports Medicine at TUM, under Excellence in Prevention" training series is not

neral public. In February, "Muscles and Fascia -Injury Prevention" will be the focus and takes place in cooperation with the sports orthopedist,

Registration and information:

www.kongress.sport.med.tum.de

Monday Dec. 11. 2017

5.00 PM

MUNICH CAMPUS, OFTTINGENSTRASSE 15

TOUR

#### A look at the restoration workshops

From the preservation of Chinese cultural assets to the investigation of the human form in Mediterranean panel painting. TUM researchers are active worldwide. For example, restorers have been working for years to reconstruct the faded painting of the Chinese terracotta army. This year the Chair of Conservation-Restoration, Art Technology and Conservation Science celebrates its 20th jubilee. A guided tour through the restoration workshops in Oettingenstrasse is available exclusively for Alumni.

To register, go to www.together.tum.de/events

At the institute, for example, conservation methods have been developed to preserve the original colored version of the 2.200-vear-old terracotta warrior from the burial site of the first Chinese Emperor.

SUNDAY JAN. 28. 2018

11.00 AM

GARCHING CAMPUS, TUM-IAS, AUDITORIUM, LICHTENBERGSTRASSE 2A

SCIENCE MATINEE

#### **Magnetic moments**

At TUM, magnets are used with a field strength of more than 500,000 times the earth's magnetic field. This can be used to investigate the molecular causes of cancer and develop new medical imaging methods. Prof. Dr. Franz Hagn explains how the complex technology of these large devices at the Bavarian Center for Nuclear Magnetic Resonance at TUM, works. Professor Hagn is a biochemist and researches the molecular causes of diseases caused by defects in proteins. He runs the Laboratory of Structural Membrane Biochemistry.

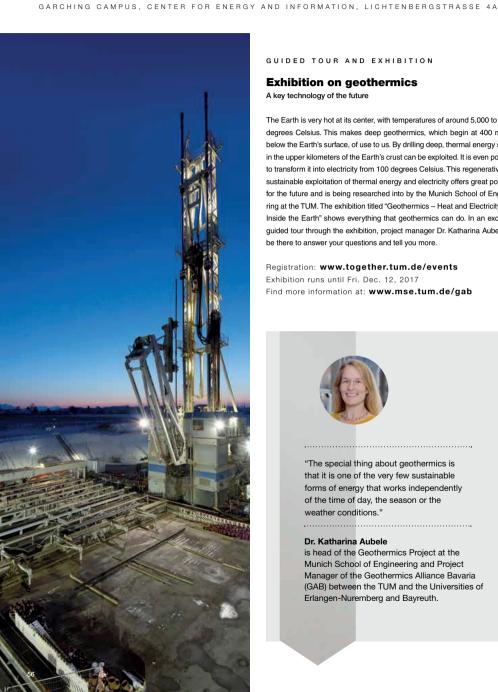
No registration necessary

#### **TUM Institute for Advanced Study (TUM-IAS)**

The TUM-IAS funds innovative, high-risk top-level research at TUM in cooperation with renowned international research institutes and industry. Well-known scientists will be presenting their current projects in the Science Matinee on Sunday, and asking "What do our neighbors, the researchers, actually do in Garching?"



MUNICH CAMPUS, VORHOELZER FORUM, ARCISSTRASSE 21



GUIDED TOUR AND EXHIBITION

#### **Exhibition on geothermics**

A key technology of the future

The Earth is very hot at its center, with temperatures of around 5,000 to 6,000 degrees Celsius. This makes deep geothermics, which begin at 400 meters below the Earth's surface, of use to us. By drilling deep, thermal energy stored in the upper kilometers of the Earth's crust can be exploited. It is even possible to transform it into electricity from 100 degrees Celsius. This regenerative and sustainable exploitation of thermal energy and electricity offers great potential for the future and is being researched into by the Munich School of Engineering at the TUM. The exhibition titled "Geothermics – Heat and Electricity from Inside the Earth" shows everything that geothermics can do. In an exclusive quided tour through the exhibition, project manager Dr. Katharina Aubele will be there to answer your questions and tell you more.

Registration: www.together.tum.de/events

Exhibition runs until Fri. Dec. 12, 2017

Find more information at: www.mse.tum.de/gab



"The special thing about geothermics is that it is one of the very few sustainable forms of energy that works independently of the time of day, the season or the weather conditions."

,....,

#### Dr. Katharina Aubele

is head of the Geothermics Project at the Munich School of Engineering and Project Manager of the Geothermics Alliance Bavaria (GAB) between the TUM and the Universities of Erlangen-Nuremberg and Bayreuth.

LECTURE SERIES

#### **Tech-Histories Alive**

Top researchers up close

Science lives from special personalities who have a great deal of experience. What motivated them? What have they experienced in life? What thoughts would they like to pass on? In Tech Histories Alive - Witnesses of the Times, TUM Emeriti of Excellence tell us about their working and scientific lives. In their biographies as researchers, you will not only find extensive life's works, but also how science is developing within the context of contemporary history. At his lecture in January, Prof. Dr. Horst Kessler will be talking about nuclear magnetic resonance, a method that has revolutionized the natural sciences and medicine

Registration not necessary

#### TUM Emeriti of Excellence

Since 2006, the TUM has been honoring outstanding and particularly dedicated retired professors by awarding them the honorary title TUM Emeriti of Excellence, and involving them in university activities. The TUM Emeriti of Excellence take part in building up and consolidating research facilities, take care of gifted students, doctorate candidates and upcoming young scientists as mentors, and are consulted by the university presidium as competent, independent advisers. Thanks to their worldwide contacts, they also promote the internationalization of our university.

SHORT PORTRAIT

#### "I can't imagine a life without research."

Professor Horst Kessler prefers to look to the future than at the past. Even though there is a great deal to see when he looks back: In his decades of scientific work, the former Professor for Organic Chemistry and Biochemistry achieved several important breakthroughs - especially in the development of the "conformational analysis of peptides". Here he brought together design with synthetic works, spectroscopic examinations and molecular dynamic calculations. Using this procedure, he invented a key process for developing new active substances that is used worldwide today.

Giving up working is out of the guestion for the TUM Emeritus of Excellence. "The fascination for the natural sciences and the urge to understand and perhaps find solutions for new phenomena is something that'll never leave me. I can't imagine a life without research," the 77-year-old says. And he adds with the grin, "Much to the chagrin of my wife - she really wishes I would slow down a little." As part of his Carl von Linde professorship he still works in his own laboratory almost every day, working together with three post-doctorate students. He has supported 170 doctorate students over the years, 20 of whom are successful as professors today.



PROF. DR. HORST KESSLER

studied and received his PhD in Chemistry and was appointed Germany's youngest professor at the Johann Wolfgang Goethe University in Frankfurt 1971. He transferred to the TUM 1989, where he was a full professor for Organic Chemistry and Biochemistry until 2008. Since 2008, he has been at the TUM-IAS as a Carl von Linde Senior Fellow and he now works at the TUM as an Emeritus of Excellence.

**Dr. Bernhard Edmaier** (right; Degree in Electrical and Computer Engineering 1990, PhD 1996) works in the TUM Mentoring program as a mentor for Obaid Mushtaq (Master's in Communications Engineering 2010): "The fact that a mentoring program would result in an intercultural friendship is something I wouldn't have expected. But that is exactly what is important to me," says Edmaier today.

#### Celebrate the TUM Family

Academics spend important and formative years at their alma mater. They not only make friendships for life there, but meet role models for their professional or personal path in life, people they will orient themselves towards all their lives. And many see their alma mater as a part of their extended family. TUM President Wolfgang A. Herrmann finds it important to make "university into a family experience". In TUM's case, we are talking about a very big family: More than 60,000 re-

gistered Alumni and more than 40,000 students from all over the world are connected with one another in the TUM Network. Here, it is not only the young members who benefit from the more experienced ones, for example, in the TUM Mentoring program or at the evening talks on different career topics. The Alumni also benefit from one another, from hearing about the experiences and know-how of others, and also from celebrating together. Here they also meet interesting people – and more friends in life.

THU. DEC. 7, 2017, WED. JAN. 17, 2018, THU. MARCH 8, 2018

6.15 PM

MUNICH CAMPUS



KOLLEGIAL ADVICE

#### **Adventure: Management**

Among the TUM Alumni, a group of experts in management positions has formed and the members meet up regularly to exchange ideas and information. Inexperienced people who have only recently taken on a management position also profit from being able to talk to people with similar interests. Why not come along! Whether you want to talk about managing employees or the new challenges facing you at work – share this with the others. "The collegial exchange with other managers helps me to come up with new ideas. Most of all I appreciate the feedback on specific examples," says Dr. Herbert Reiter (PhD Informatics 2010), one of the initiators of the "Adventure: Management" group.

Registration: www.together.tum.de/events

WED. DEC. 13, 2017, THU. FEB. 1, 2017

6.30 PN

MUNICH CAMPUS



FRIENDLY ADVICE

#### **Adventure: Career Start**

The first 100 days in a new job, the challenges of everyday work, thinking about plans for your career ahead – when you start out in professional life, a lot is new and unfamiliar. We invite young Alumni in their first professional year to come and talk with other career starters. The group provides a protected space to talk about problems with people of similar interests, to pass on your experiences and to develop possible solutions. You can learn from the experiences of other young Alumni from different subject areas and companies.

Registration: www.together.tum.de/events

THU. JAN. 18, 2018

7.00 - 9.00 PM

MUNICH CAMPUS



OPEN MENTORING

#### Try out mentoring

Are you interested in just trying out mentoring? On January 24, we invite interested Alumni and students including active tandems from TUM Mentoring to come along and network. Under the title "Open Mentoring", we offer open mentoring discussions in pairs or in small groups. Expand your network, and learn about the mentoring program by trying it out. In the best case, the result may be ongoing mentor and mentee partnerships.

Registration: www.together.tum.de/events



knowledge and invite you to exchange ideas and information. Use the opportunity to find out about career paths and make interesting contacts. And if you have an idea about what your own career path should look like, then approach us:

alumniundcareer@tum.de

TUE. Dec. 12, 2017

6.00 - 7.30 PM

WEIHENSTEPHAN CAMPUS



CAREER LOUNGE

#### Career opportunities in the life sciences

At this event, Alumni from the life sciences give you tips for planning your career in a varied branch: What skills and additional qualifications are in particular demand? What professional areas offer the most potential for development?

Registration: www.together.tum.de/events

TUE. Jan. 30, 2018

6.00 - 7.30 PM

GARCHING CAMPUS



CAREER LOUNGE

#### Opportunities in patenting

Munich, as the seat of the German and European Patents Office, and home to many patent lawyers, is an important location for patents. Alumni report about their training to become a patent lawyer and about the career opportunities in law firms, the industry, the German patent and trademark authority, and the European Patent Office.

Registration: www.together.tum.de/events

#### **JOB** – TALK

QUICK MENTORING AT ANY TIME

FROM ANY PLACE



#### One question - one hour

You're probably familiar with this from your day-to-day studies you often have questions that can't be easily answered by someone you know: for example, you want to know more about different areas in consulting or you are wondering what a train station manager actually does or what type of internship you should do.

You have already gained a lot of experience and can talk about your typical workday. Take an hour to talk to a student about a particular issue. It could be in the form of a telephone call, a Skype conference or a personal meeting.

The new program is aimed at students and Alumni who want to discuss a specific topic. It is intended as a one-time contact. If you want to ask more in-depth questions and engage in a subject more thoroughly, you can register for a one-year mentorship at TUM Mentoring by Alumni for Students.

Registration:

mentoring@tum.de

Further information:

www.together.tum.de/mentoring



"I am looking for insights into different occupational fields in my area. The talks with Alumni, the mentoring and the TUM Network have helped me a great deal to get a good overview."

#### Sungeun Lee

(Master Life Science Economics and Policy, 4th semester)



"As a doctoral student, I attended the TUM career events and learned a lot. That's why I now want to be part of it and talk about my experiences. The patent system is its own special field and it has great career potential for anyone. I would like to get involved and make this clear to students and Alumni "

#### Dr. Christian Gärtner

was a research associate at the University of Wisconsin and at the Chair of Chemical Technology II at TUM. He became a professional representative of the European Patent Office 2017 and has completed his training as a patent attorney at the law firm Prüfer & Partner. (PhD Chemistry 2014)

#### INTERNATIONAL CONNECTIONS —

"For all students and Alumni interested in living and working abroad, the Global Minds series is ideal for obtaining useful recommendations and information about their chosen countries."

Christina Thunstedt Chief Instructor, TUM Language Center FURTHER EVENTS

MUNICH CAMPUS

LECTURE WITH ACCOUNTS OF EXPERIENCES

#### Global Minds.

apply and work abroad

Do you want to go (back) abroad at some point - whether as a student, straight after university or even via a company? There are always opportunities to work abroad short or long-term. The event series "Global Minds" will discuss important things to pay attention to and questions that might come up. Each meeting will present a specific country: its general framework, application process and intercultural challenges.

Registration: www.together.tum.de/events



CHINA WED. NOV. 29, 2017 6.30 - 8.00 PM





TUE. JAN. 16, 2018

FRANCE TUE. DEC. 05, 2018 4.45 - 7.45 PM

45 - 6 15 PM US / UK 1.15 - 3.45 pm

SWEDEN WED. JAN. 11, 2018

SAT. JAN. 20. 2018

11.00 AM

SCHLIERSEE

EXCURSION AND HIKING IN ENGLISH

#### A winter trek with the entire world

Winter hiking with the whole world. The snow-covered mountains overlooking the deep blue Schliersee form a fairytale backdrop in winter perfect for an excursion out of Munich! Go on a two-hour hike around the Schliersee with international guests of the TUM and enjoy a winter afternoon with people from all around the world after coming back. Bring your family! Many researchers at the TMU from abroad bring their children along and would be happy to meet other families.

Registration: www.together.tum.de/events

SEVERAL EVENTS

DIVERSITY FILM SERIES

#### **Discover cultures and** expand networks

Language Center to bring German students closer to

#### **UPCOMING EVENTS**

THU. DEC. 07, 2017 Hebrew film evening, 7.00 PM HFF Munich, free entry

#### Hehnizin

quickly took Israel by storm, becoming a

TUE. JAN. 23, 2018 European film evening,

#### Europe, She loves



"Understanding foreign films on a purely linguistic level isn't so easy. Visual impressions nonetheless provide a great deal of nonverbal information about how people in other countries communicate with each other. For me, learning this nonverbal communication is also part of a good language lesson."

#### Marie Miyayama-Sinz

studied directing at HFF Munich and has since been a Japanese instructor at the TUM Language Center. She organizes the Diversity film series.



# Hidden Champions

#### Global market leader amongst medium-sized businesses

If you want to perform accurate site, Dr. Christof Lehner is director metalwork, you cannot avoid the of TRUMPF Machine Tools. He stulaser cutting machines of the German firm Trumpf. The company, whose headquarters are in Ditzin- Germany is a real treasure trove of gen, is the global market leader in hidden global market leaders. Of this segment and hence a so-called "hidden champion." This name is given to small and medium-sized 48 percent - come from Germany. businesses that are relatively little known, but which nonetheless strong culture of medium-sized have a leading position in their area businesses and its favorable conor industry. Decisive characteristics are that a company is one of start-ups. TUM president Wolfthe three largest within its industry gang A. Herrmann described meor holds the leading position upon dium-sized businesses as the its home continent. Usually having backbone of the German economy a yearly turnover below three billi- and underlined their importance on stock exchanges. Many have the region."

their headquarters outside of large cities, for which reason they are sometimes also called "pearls of the provinces." At the Teningen died Engineering at the TUM and obtained a doctorate here 2001. the 2,734 hidden champions wor-Idwide, 1,307 businesses - some This could be a result of Germany's ditions for family businesses and on Euros, such firms are often fa- for the TUM: "A strong university mily owned and not publicly listed needs to be strongly anchored in

Markus Hartinger Founder and Director of jambit (Degree in Computer Science 1999)



Dr. Christof Lehner Director of TRUMPE Werkzeugmaschinen Teningen GmbH (Degree in Mechanical Engineering 1996, PhD 2001)



Dr. Eberhard Veit former CEO of Festo.

Board Member of Wagner AG

(PhD Ecotrophology 1999)

THU. JAN. 18. 2018 GARCHING CAMPUS

5.00 - 6.30 PM

**NEW SERIES** 

PANEL DISCUSSION

#### **Hidden Champions**

There are many "hidden champions" amongst TUM Alumni. Three of them discuss their personal career paths in this panel discussion. Get to know interesting employers and family businesses that you've perhaps not heard of. Learn about unique products and entrepreneurs who departed from well-trodden paths.

Registration: www.together.tum.de/events

#### Dr. Eberhard Veit

In his dissertation Dr. Eberhard Veit worked Until 2015 Dr. Eberhard Veit was CEO on robotic vacuum cleaners and lawnmowers. "Back then the idea and the technology were too far ahead of their time," he says. Today, however, these are top products. The time has to be ripe and things often depend on the right market-entry point. "Don't lose faith, but keep going," Veit advises all businesses.

of the Festo business group, a world leader in pneumatic and automation technology. A family man, since May 2016 he has been a board member of WAGNER International AG.

#### Markus Hartinger

"It's always exciting to see what has become of my Markus Hartinger founded the software provider fellow students. It's quite easy to have an overview of the jambit along with his fellow student Peter F. whole industry and people often run into each other, particularly because many from my year group have started their own businesses. I find it fun to return to the TUM as a employees. Hartinger, a father of three children, is mentor or presenter at various events."

individual software solutions and today has over 220 also active as a mentor within the TUM network.

#### Dr. Christof Lehner

"Working at the Institute for Machine Tools and Industrial Management (iwb) at the TUM was especially important for me. At that time Professor Milberg led the institute. I was excited by the various technologies, from factory planning, machine tool vibrations and simulation systems for robots to laser material processing. I was also fascinated by the culture of innovation at the iwb and the many totally different and brilliant thinkers there. It was simply fun to work there."

Dr. Christof Lehner has been director of TRUMPF Machine Tools Teningen GmbH since 2017 and was previously General Manager of TRUMPF Inc. - Laser Technology Center, with its headquarters in North America. The high-tech company leads the global market in laser cutting machines for metalwork.

## Bring your Family

Anyone who would like to take a closer look at the night skies can make his own telescope at the TUMLab. The TUM's experiment laboratory at the Deutsches Museum offers children and adolescents the chance to try out science for themselves.

Enjoying learning new things and about how the world works is something small children all do. They examine how toys can be taken apart and built back together again, try out what noises objects can make, and ask why words are used in a certain way and not in another. It's their way of approaching the world surrounding them and provides the basis for learning knowledge at school, and later on at university and at work.

The TUM is also interested in making upcoming generations enthusiastic about technology and knowledge, and in promoting special talents from a young age. The children and adolescents of today are the academics of tomorrow. And it is passing on knowledge from generation to generation that is fundamental to the mission of a university. A university not only makes use of the enthusiasm and thirst for knowledge of the students, the creative spirit of graduates, and the life experience of the Alumni in an expansive network, but also gives the children of students, Alumni and employees the chance in workshops or holiday activities to breath in some university air. And it opens its doors already to school students, for example, in the TUMKolleg in cooperation with the Otto von Taube High School in Gautingen, in everyday school life, or by offering special orientation activities before matriculation, such as "Ban an die TIIM".

Often enough, the children of Alumni later study at their parents' alma mater as well, thus practically passing on the baton from generation to generation. Give your children and your children's children an insight into academic life and the adventure of knowledge and technology.

It is important to many people to provide their family with security through a good will and testament. Every spring, the TUM offers its Alumni a lecture on the subject of "inheritance", which will take place on February 27, 2018 in the coming year



I have already taken part in the fall university and in a school students' day at the TUM, and learned all about the TUM from the inside out. I was excited right away by it and I now know that I definitely want to study here.

Lena Neureither
is currently doing her
production internship at
a metalwork company
in Munich before applying to the TUM to do a
Bachelor's in Mechanical
Engineering. (achieved
school qualification
allowing university entry,
the Abitur, 2017).

THU. SEVERAL DATES

5.30 - 7.00 PM

MUNICH CAMPUS

LECTURE SERIES

#### "Ran an die TUM": The study areas introduce themselves

From Architecture to Electrical Engineering to Mechanical Engineering to Medicine, teacher training or even Brewing or Food Technology – the "Come to the TUM: Study Perspectives" series of events invites people interested in studying to inform themselves about the different study options at the TUM. The faculties introduce their study courses, provide some insights into their areas of research and later professions. There is also some general information all about studying at the TUM.

More information and registration: www.schueler.tum.de/ran

THU. Nov. 30, 2017	Learning teaching - teacher training at the TUM TUM School of Education
THU. Dec. 12, 2017	Glasses, watches, cars & co. – informatics is changing the world – shape the future! Faculty for Informatics
THU. Jan. 18, 2017	Logic, analysis and the laws of nature Courses of study in Math and Physics
THU. Jan. 25, 2018	Rethinking political science Bavarian School of Public Policy Munich / TUM School of Governance
THU. Feb. 22, 2018	Studying Medicine at the TUM Faculty for Medicine
THU. March 1, 2018	Improving and developing technology Faculty for Mechanical Engineering
THU. March 15, 2018	Where management meets technology TUM School of Management
THU. Apr. 2, 2018	Food, landscape, forest - the green diversity of the Weihenstephan Campus Brewing & Food Technology, Landscape Architecture & Landscape Planning

and Forestry & Resources Management

THU. Apr. 19, 2018

6.00 - 8.00 PM

MUNICH CAMPUS



INFORMATION EVENT

#### Parents' evening at the uni

"Small children, small worries – big children, big worries" is a German saying. What about when they're so big that university is just around the corner? How can I help my child get started at university? What is different today compared to when I was young? The TUM invites all interested parents to an information evening to get an insight into campus life.

Registration: www.schueler.tum.de/de/infoabend

THU. Feb. 8, 2018

9.00 AM - 5.00 PM

ALL TUM LOCATIONS



SCHOOL OPEN DAY

#### Open day for school students

First time sitting in a lecture hall? Or like to take a look at a laboratory? Interested school students can do all this at the TUM open day. They can hear interesting lectures and have a chance to talk to academics.

Registration and information: www.schueler.tum.de/schuelertag

#### SAT. SEVERAL DATES

DEUTSCHES MUSEUM MUNICH



OPEN WORKSHOPS

#### Try out science

Guide a robot through a labyrinth yourself or build your own telescope – a dream for many children and adolescents. The TUMlab makes such dreams come true in the courses offered in its open program in the Deutsches Museum. This is real science hands on and for young people to try out!

Robotics:	Robotics:
Introductory course	Advanced course
<b>SAT. DEC. 2, 2017</b> 9.30 AM - 12.30 PM	<b>SAT. DEC. 9, 2017</b> 1.00 - 4.00 PM
SAT. JAN. 13, 2018	SAT. JAN. 20, 2018
1.00 - 4.00 PM	1.00 - 4.00 PM
<b>SAT. FEB. 3, 2018</b> 1.00 - 4.00 PM	SAT. FEB. 10, 2018 1.00 - 4.00 PM
SAT. MARCH 3, 2018	SAT. MARCH 10, 2018
1.00 - 4.00 PM	1.00 - 4.00 PM

Registration, course program and more information:

www.tumlab.edu.tum.de/kursangebot

#### **Alumni Ticker**

Dr. Irina Antonijevic (PhD Medicine 1992) was appointed to the supervisory board of PAION AG. Since 2016, she has been Chief Medical Officer at vasopharm GmbH and since 2006 expert at the Federal Ministry for Education and Research. ■ Dr. Heinrich Arnold (Technical Physics 1995) is the new

Chief Executive Officer at the management consultancy firm Detecon International. He is to further expand the business for consultancy topics such as digital business models, Industry 4.0 and digital reengineering. ■ The new principal of the vocational college "Schulzentrum Kulmbach" is called Alexander Battistella (Lehramt für berufliche Schulen 1996). Since 2013, he has been acting deputy of the principal at the "Staatliche Berufsschule" in Bayreuth. ■ Since March 2017, Dr. med. Raimund Bauer (PhD Medicine 1998) has been the new Chief Physician for Accident Surgery at Klinik Bogen, From 2014, he was Senior Physician in charge of accident surgery and acting deputy to the Chief Physician ■ Dr. Thomas Bernhard (Postgraduate studies in Environmental Protection Technology 1993) is new head of the Environment Dept. of the City of Gelsenkirchen. He was formerly the Deputy Head of the Department for Environmental Planning, Environmental Information, Climate protection. ■ Recently, Prof. Dr. Andrea Büttner (Post-doctorate Chemistry 2006) was appointed Deputy Institute Director of the Fraunhofer-Institute for Process Engineering and Packaging. Moreover, she is Head of the Department for Analytical Sensors there and since 2012 Professor for Aroma Research at the Friedrich Alexander University of Erlangen-Nuremberg. ■ On April 1, Dr. Günther Burkhard (Mechanical Engineering 1991) became the new Managing Director of Gustav Klauke GmbH. Before that he worked in the Finance and Administration division at the Bosch Rexroth Corporation. ■ Markus Diehl (Mechanical Engineering 2008) is to become a Member of the Supervisory Board of the Diehl Stiftung & Co. KG. In 2015. Diehl became self-employed and has since then been working in start-ups as an entrepreneur. 

Sebastian Dietrich (Architecture 2004) assumed the position of City Architect on August 1, 2017 for the city of Schongau in Upper Bayaria, A native of Schongau, he has already been working at the City Building Office since 2012. ■ Prof. Dr. Heinz-Leo Dudek (Mechanical Engineering 1985) is the new Prorector and Decan of the Technical Campus of Friedrichshafen at the DHBW Ravensburg, Dudek has been the Head of Studies in Industrial Engineering there since 2009. Prof. Dr. Brigitte Forster-Heinlein (PhD Math 2001) assumed the position of Professor for Applied Mathematics at the University of Passau on April, 1, 2017, 2006, the TUM appointed her as a Junior Professor for Mathematical Modelling in Medical Technology. ■ Dr. Fabian Härtl (PhD Forestry 2015) received the Abetz Prize for young scientists with prize money of 2,000 euros. He is a scientific assistant in the Department for Forest Inventory and Sustainable Use at the TUM. ■ Since February 2017, Steffen Hartmann (Brewing 2011) has been managing the traditional Gambrinus brewery in Weiden as is Managing Director. In the past four years, Hartmann has been working as CTO of the Jacob brewery in Bodenwöhr in the Upper Palatinate. 

Herbert Held (Civil Engineering 1991) is the new Head of the Public Construction Office of the city of Moosburg an der Isar. After his studies, he worked for 10 years as a structural engineer in various offices. before changing to become Deputy Head of Public Construction at the Moosburg Townhall in December 1997. ■ The private Business School IESE of the University of Navarra in Barcelona has a German at the top for the first time: Franz Heukamp (Civil Engineering 1999). He is Professor for Decision Theory and moved to the IESE Business School 2002. ■ Forest Director Peter Hummel (Forest Science 2004) is the new Deputy Head of the Forestry Department of the Public office for Food, Agriculture and Forestry in Schwandorf. He began his career 2006 at the Forestry Ministry in Munich. ■ Prof. Dr. med. Alexander Hyhlik-Dürr (Sport Science 1994) has been Chief Physician for Vascular Surgery since the beginning of March 2017 at the Klinikum Augsburg. His last position was Head Senior Physician and Deputy Medical Director at the clinic for vascular surgery at the university hospital of Heidelberg. ■ The Audi environmental foundation awarded Anne-Katrin Kleih (Master's in Sustainable Resource Management 2015) and Veda Sara Savakoummane (Master 's in Sustainable Resource Management 2016) with the Sustainable Resource Management Award for their Master's dissertations. The prizewinners examined the CO2 footprint as an important climate protection factor in the German construction machine industry and strategies for more sustainable use of hydropower. ■ Dr. habil. Stefan Kreisz (Post-doctorate Brewing and Beverages **Technology 2009)** is the new Chairman of the Advisory Board for the promotion of science in the German Brewing Association (Wifö). Since 2015, he has been working at Erdinger Weißbräu as Head of Quality Management, Research and Development. ■ The Presidium of the German Association of Brewers (DBB) has chosen Dr. Jörg Lehmann (PhD Brewing and Beverages Technology 1997) as the new Association President. He is CTO at the

Kulmbach Brauerei AG thus bearing the overall responsibility for production.

■ Prof. Dr. Jens Lehmberg (Post-doctorate Medicine 2009) was appointed Chief Physician at the Neurosurgery Clinic of Westpfalz Hospital at the Kaiserslautern location on July 1, 2017. His last position was Senior

#### **Alumni Ticker**

Physician in Charge at the TUM's Neurosurgery Klinik rechts der Isar. ■ Dr. Christof Lehner (PhD Mechanical **Engineering 2001)** has become the new Managing Director in Teningen of the tool machine manufacturer TRUMPF. He ioined the company 2002. ■ Since April 2017, Dr. Reiner Lindner (PhD Physics 1996) has been the new Sales Director at LIMO Lissotschenko Mikrooptik GmbH. Before that he was self-employed in sales, as well as being a consultant and project manager for large complex plants in the manufacture of displays for mobile devices. Cornelia Lutz (Landscape Architecture and Landscape Planning 1997) is the new Director of Landscaping for the city of Karlsruhe, Before that she was Head of Department for Landscaped Areas and Deputy Head of the Office for Gardening and Civil Engineering for the city of Freiburg im Breisgau. Prof. Dr. Christian Meyer zum Büschenfelde (Post-doctorate Medicine 2005) has been Director of the Clinic for Hematology, Oncology, Immunology and Palliative Medicine der St. Vincentius-Kliniken Karlsruhe, From 2012, he was Chief Physician at Medical Clinic II. Hematology, Internal Oncology and Palliative Medicine at the Asklepios Klinik Altona, ■ Julian Mothes (Sport Science 2008) has been Head of Marketing since July 1, 2017 as Bayreuth sports company CEP. Before that in charge of the Sponsoring & Sales dept, at EHC Red Bull Munich, ■ The founding director of the NS Documentation Center in Munich, Prof. Dr. Winfried Nerdinger (PhD Architecture 1979), was awarded the Cross of the Order of Merit of the Federal Republic of Germany. The internationally renowned architectural historian made a considerable contribution to building up the architecture collection of the TUM. Prof. Dr. Birte Nicolai (PhD Food Technology 2005) has been appointed Chairman by the Senate of the University of Flensburg. She has been teaching at the University of Flensburg since 2012. ■ New Director of the Office for Nutrition, Agriculture and Forestry in Holzkirchen is to be Agricultural Director Rolf Oehler (Agricultural Sciences 1982). He will assume at the same time responsibility for heading the division of Agriculture and Agricultural School. ■ On April 1, 2017 Prof. Dr. Karin Pfister (PhD Medicine 1999) became Director of the Dept. for Vascular Surgery at Regensburg university clinic. New Director of the Competence Center for Nutrition in Kulmbach is agricultural director Rainer Prischenk (Agricultural Sciences 1990). Before that he was Head of Agricultural Teaching Facilities for the District of Upper Franconia. Prof. Dr. Jürgen Rabe (PhD Physics 1984) was appointed new Chairman of the Council at the Humboldt University Berlin (HU) on April 25, 2017. ■ With effect as of July 10, 2017 Johan Van Riet (Electrical and Computer Engineering 1984) took on the position of President Global Professional Coffee Business in the WMF Group, Before that, he was in charge of the Coffee Preparation business unit as Managing Director at Melitta Europa ■ The Rudolf Hermanns Foundation honored Daniel Rogg (Civil Engineering 2017) with 1st prize for his Bachelor's dissertation on "Asphalt installation quality using thermally insulated transport vehicles". The competition committee praised his outstanding technical and scientific working method and the accomplished style of the presentation of his scientific work. ■ Harald Rosenberger (Master's in Finance and Business Mathematics 2003) is new member of the board at NÜRNBERGER Lebensversicherung AG and will in future be in charge of the Life Insurance. Mathematics and Reassurance division there. Before that he was Head of Innovation at Munich Re. ■ The Nutrition Scientist Dr. Monika Schaubeck (PhD Nutrition Science 2016) from the Max Planck Institute for Neurobiology was awarded the Hans Adolf Krebs Prize 2017 by the German Association for Nutrition (DGE). ■ The German Agricultural Society (DLG) has awarded Maria Schlattl (Master's in Agricultural Science 2017) the international DLG Prize. ■ Dr. Florian I. Schmidt (Master's in Biochemistry 2007) was awarded the Young Researcher's Award 2017 by the Peter and Traudl Engelhorn Foundation. PD Dr. Andreas Weber (Post-doctorate Medicine 2011) took on the position on July 1, 2017 of Chief Physician of Gastroenterology at the Wertach Clinics, Before that he was at the TUM Klinikum rechts der Isar as Director of the Second Medical Polyclinic as well as deputy Director of Interdisciplinary Endoscopy. Hans Weber (Architecture 1979) is the new Head of Planning and Construction Division of the government of the Upper Palatinate. He is responsible for building construction, road construction, as well as for planning approval procedures, urban construction and housing. The new Head of the Department for Countrywomen. Household Services and Income Combinations in the Agricultural Ministry in Munich is Home Economics Director Regine Wiesend (Ecotrophology). Since 2015, she has been working as a further education lecturer and has worked in the Department of Management and Controlling since October 2016 at the Ministry.

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68 Adobe Stock (girl), Privat (Neureither)

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70 Illi Benz (Elternahend), faceshyfrank (TLIMI ah)

Thorsten Naeser (school open day)

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Unicum Merchanidising

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Pursuant to Article 3 (2) of Germany's Basic Law, men and women have equal rights. All persons and descriptions of functions in KontakTUM refer in equal measure to men and women. The use of the masculine form alone in some places serves only to make the text easier to read. ISSN 1868-4084

#### MR. PRESIDENT, WHY DOES A **UNIVERSITY CELEBRATE A JUBILEE?**



#### 1. A jubilee shows us where we come from. but also where we want to go.

It can be used as a moment to pause and reflect. What have we done well up to now? What could have gone better? Taking this analysis, we can set ourselves important goals for the future, which we can then pursue with enthusiasm. With respect to the TUM, this means: We want to continue to carry out top-level interdisciplinary research, and with the required speed in order to keep pace with the international competition. With the research and the innovations we have brought forth, we want to make people's lives better in a sustainable manner and create the best conditions for the future. We continue to place value in an excellent, holistic and interdisciplinary education that is available to a large number of young talents and is affordable.

#### 2. However, a jubilee is also a time to celebrate and an opportunity to say thank-you.

We are happy about the successes we have achieved in the past years and show in our jubilee year what is important to us. As a Technical University, we opened our doors first to Medicine, then to the Life Sciences, then the Economic Sciences, and most recently the Social Sciences. Since October 2016, the TUM together with the Bavarian School of Public Policy has been educating the political scientists of tomorrow. We can say thank-you to the numerous sponsors who, with their donations, help us to cope with the challenges facing us, and we can also thank the small donors, students and Alumni for whom the TUM is worth every cent. We thank our Alumni who, with their wide range of activities and engagement, are a valuable addition to the TUM Network and hold the cross-generational TUM family on course for the future.

#### 3. Last, but not least, jubilees also make us aware of our responsibility.

So many extraordinary people were there before us, and so many will come after us. What would Carl von Linde, inventor of the refrigerator and Professor at the Technical College of Munich from 1868, think if he saw our university today? He would certainly be proud and a little surprised at the diversity that the Technical University of Munich offers today. And we want to keep up with our responsibility to society, which very much relies on the newest technical achievements. Technology means a culture of civilization. Think, for example, of the hopes being placed in the current developments in electromobility. Here I will appropriately quote the famous English poet John Donne: "No man is an island!" - and the modern university is most certainly not.

## **3 ANSWERS**



## Most important cup in the cupboard?

Show how connected you are to your alma mater by having a TUM coffee cup on your desk.

A wide assortment of other merchandising articles such as polo shirts, notebooks, beer mugs and other products with the TUM design can be found in the TUM Shop.

TUM Shop at the City Campus at
Arcisstraße 21, room 0134 (on the right of the main entrance)
Opening times: Mo - Fr 10.00 – 2.00 pm
or shop online at www.shop.tum.de

