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## The TUM Senior Excellence Faculty of the Technical University of Munich – A 15-Year Success Story

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## ABSTRACT

The article presents the unique and highly interdisciplinary initiative "TUM Senior Excellence Faculty (SEF)" of the Technical University of Munich (TUM). At TUM, selected outstanding professors are awarded the honorary title "TUM Emeritus of Excellence (EoE)" on retirement. The EoE sustain their commitment to their alma mater and support essential tasks of the university. Here, we provide deeper insight into the idea of the SEF and its responsibility to society and outline the mission, concept, organization, and activities of individual EoE. We offer a glimpse at their work by example of their interdisciplinary group initiative TUM Forum Sustainability. Finally, we argue that this strategic project should serve as a model for other universities.

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**KEYWORDS:** *TUM Senior Excellence Faculty, Technical University of Munich, Interdisciplinarity, Sustainability*

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## 1. INTRODUCTION

The strategic project "TUM Emeriti of Excellence" (EoE) – known today as "TUM Senior Excellence Faculty" (SEF) – at the Technical University of Munich (TUM) celebrates its 15<sup>th</sup> anniversary in 2022. Time to take a closer look at this unique initiative! The EoE might best be understood as TUM's response to the rise in health and quality of life in recent decades that has made it possible for retired academics to remain engaged in science, research, and teaching even at an advanced age. Yet, Germany's rigid pension directives in academia create a barrier. While universities in Asia and the United States continue to count highly renowned retired scientists among their permanent staff, German universities offer virtually no models for the retention of professorial emeriti in everyday university life. With few exceptions, even internationally leading scientists have no choice but to discontinue their service to the university at the age of 68, at the latest – a waste of valuable human capital!

The strategic project "TUM Emeriti of Excellence" – an innovation of TUM's former president (1995–2019), Wolfgang A. Herrmann – is designed to give outstanding scientists the opportunity to remain an active part of university life, in accordance with their availability and level of engagement, supporting our early-career scientists without blocking their career development by occupying permanent positions. The "TUM Emeriti of Excellence" was funded through both phases of the Excellence Initiative (2006-2019) and solidified as the "TUM Senior Excellence Faculty" as part of the Excellence Strategy (2019-2026) of the German Federal and State Governments in the funding priority "Strategic Concept of TUM." Today, the SEF forms an integral part of the university community and a visible expression of its diversity strategy.

Currently, the SEF comprises 81 professors, whose ages range from 67 to 89 years. Each of them has been recognized with the lifetime honorary title "TUM Emerita of Excellence" or "TUM Emeritus of Excellence." In comparison, the total number of active TUM professors across seven Schools (see below) is approximately 620. The individual profiles of the SEF members are available online at: <https://www.emeriti-of-excellence.tum.de>

## 2. TUM SENIOR EXCELLENCE FACULTY – OUR RESPONSIBILITY TOWARD SOCIETY

Emerita and Emeritus professors have accumulated decades of experience within and outside academia. They have vast specialist knowledge in teaching and research, as well as national and international contacts and networks. When they retire, these valuable resources are in danger of being lost to universities and, in turn, to society. This regrettable situation becomes all the more so, now, considering the availability of an important resource: time – time free from the burden of administrative obligations, time to be put to effect.

Retirement marks, first and foremost, the official end of an active career in an organization, not the end of intellectual capacity and social commitment. It follows, then, that we need to develop alternatives to employment and retirement and create a new form of lived responsibility towards society. It can be described as a unique mental attitude based on voluntariness and experienced self-organization. The “dosage” of engagement is much more self-determined than during active time in academia. By nature, it varies according to other commitments to society, family and private interests, to individual states of health, and other parameters.

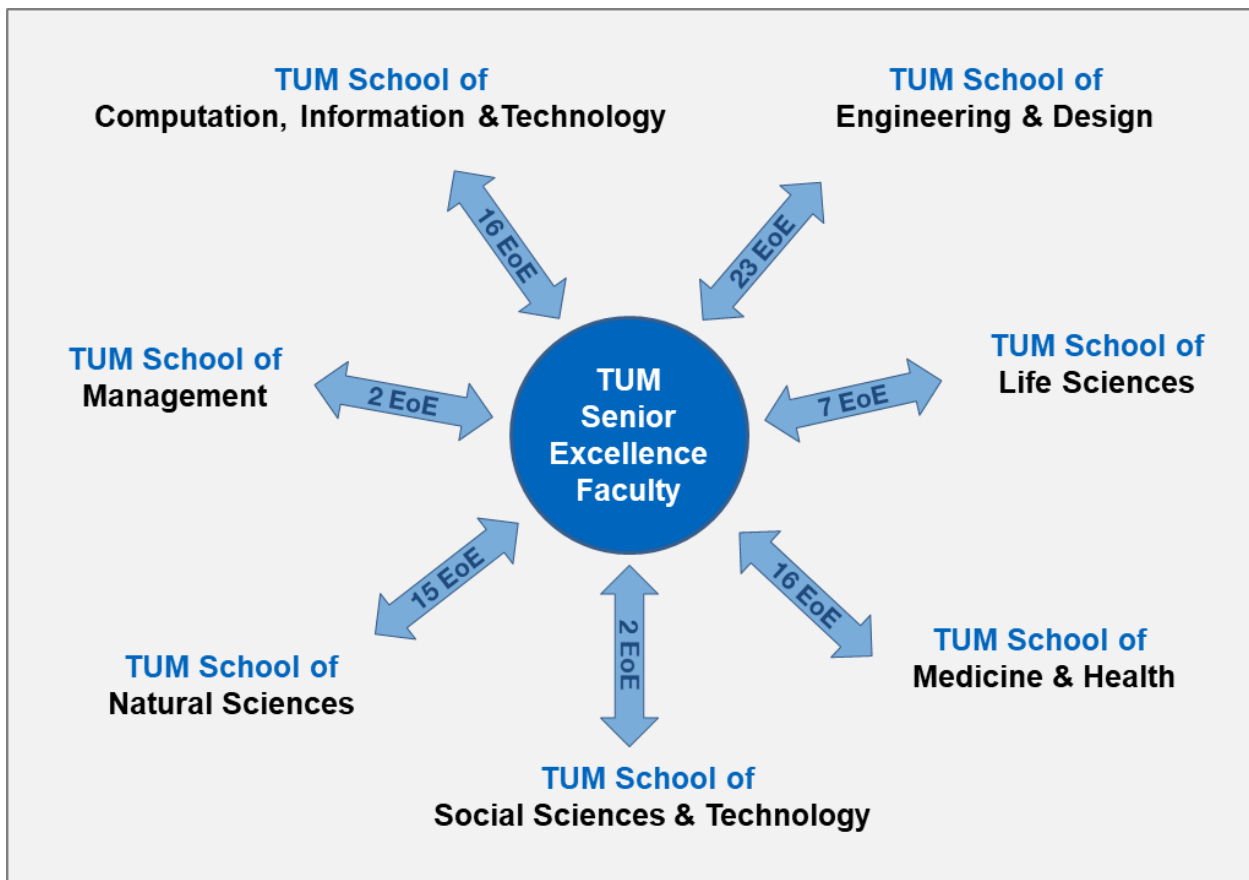
Just recently, Dr. Anthony Fauci (\*1940), Chief Medical Advisor to the President of the United States (since 2020) and Director of the National Institute of Allergy and Infectious Diseases (since 1984), announced his retirement in 2022, saying, *“So long as I’m healthy, which I am, and I’m energetic, which I am, and I’m passionate, which I am, I want to do some things outside of the realm of the federal government.”* It is in this spirit and in the spirit of an intergenerational and diverse university community that TUM actively supports the continued engagement of its highly committed retired professors through its project “TUM Senior Excellence Faculty.”

## 3. MISSION, CONCEPT, AND ORGANIZATION

Since 2007, TUM has awarded its outstanding and exceptionally committed professors with the honorary title “TUM Emerita/us of Excellence” (EoE) at the time of their retirement. It continues to involve them in tasks of strategic importance for the university. The EoE participate in establishing and consolidating research institutions, provide support in appointment committees, give valuable advice on strategic developments, and act as experienced mentors for talented students, doctoral candidates, and early-career scientists. They voluntarily hold essential positions at TUM, represent the university in national and international research organizations, and promote the university’s internationalization through their worldwide networks. Furthermore, they are highly appreciated by the university president as competent, independent advisors on strategically important issues. In turn, TUM also supports the research and teaching activities of its EoE.

Every year, up to five retiring professors are awarded the honorary title of “TUM Emerita/us of Excellence” and thus become new members of the TUM Senior Excellence Faculty. The president of TUM leads this selection process in cooperation with a committee of six members of the SEF. It is expected that the new EoE will continue to assume responsibility in academic life within and outside TUM. To be appointed an EoE, a professor must have proven internationally, highly acknowledged excellence in research, high merits in teaching and organizational activities, extraordinary engagements at TUM, such as having served as dean of a faculty or department, unique and deep intellectual commitment beyond their own discipline, successful networking in academia and society.

The SEF is embedded in the TUM School system (Figure 1). The graphic illustrates one of the SEF's greatest strengths – its high level of interdisciplinarity with roots in all seven TUM Schools. This enables and encourages the productive exchange of ideas among SEF members across disciplines, which can positively affect the TUM Schools and stimulate their interdisciplinary networking.



**Figure 1: TUM SEF embedded into the TUM School System**

*The TUM Emeriti of Excellence come from all seven TUM schools, varying in size and career structure of professors. The graphic illustrates one of the SEF's greatest strengths – its high degree of interdisciplinarity and its diversity of knowledge.*

The SEF's organizational structure provides for regular meetings of the EoE in three different bodies: The General Assembly of all members and the SEF Board as a permanent body, as well as ad-hoc working groups on specific topics, which are set up as required. The SEF General Assembly meets 2-3 times a year to discuss various matters of the group. Every three years, the General Assembly elects a spokesperson and co-spokesperson in agreement with the President of TUM. Spokesperson and co-spokesperson, together with about ten other EoE form the SEF Board, an operationally acting body that meets monthly to discuss current affairs of the SEF, assists in the organization and implementation of the SEF's activities, and prepares meetings of the General Assembly. In principle, SEF Board meetings are open to all SEF members.

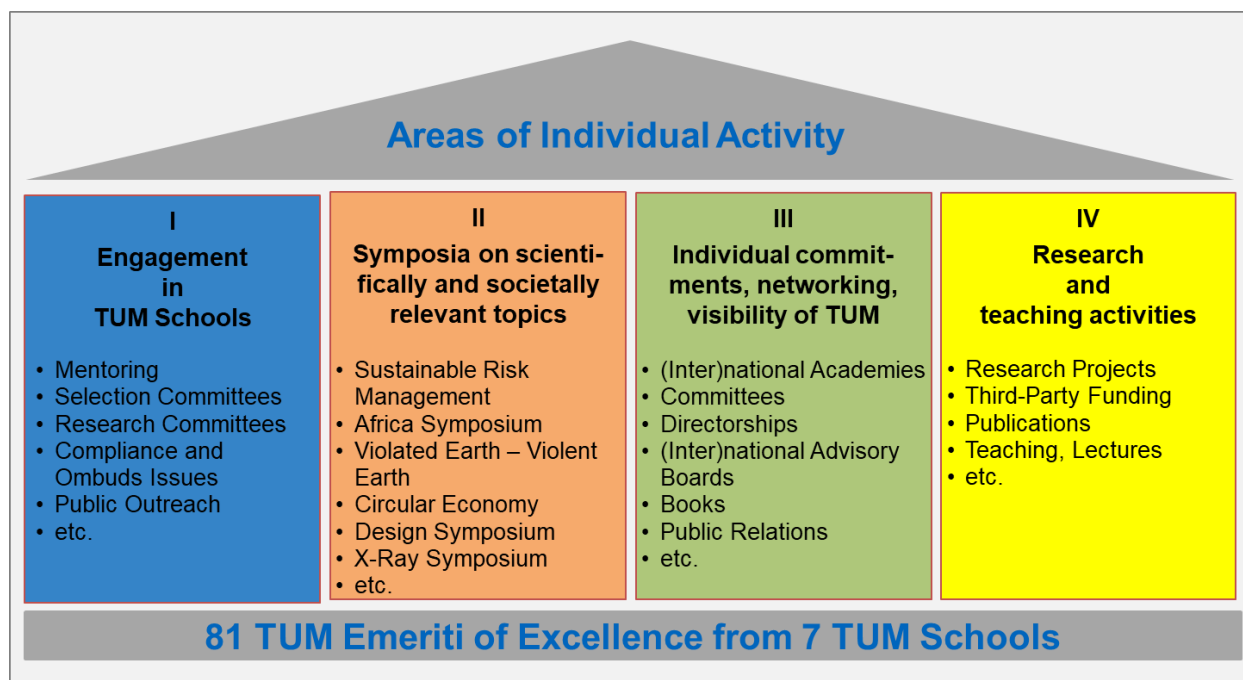
The SEF spokesperson, as representative of the SEF, has a permanent guest seat on the TUM Extended Board of Management and, thus, serves an important interface function between SEF and the entire university leadership, including the deans of the schools. However, the EoE do not seek direct involvement in TUM's operational decisions and management processes. In this sense, the EoE see themselves as independent, neutral, and fair experts who provide advice and support. Overall, the SEF defines its role as supporting the university on its way to a sustainable future, knowing that this future is in the hands of the TUM Board of Management and TUM's scientific and operational staff.

An office with one administrative position supports the self-organization of the TUM SEF. This office is directly integrated into the TUM President's office, enabling close exchange. The SEF is financed by funds from the Excellence Competition as part of TUM's strategic project (see introduction). These funds have been used mainly to organize symposia and publications in recent years. They are also available for travel of EoE

actively participating in international scientific meetings or other scientific activities. In principle, the activities of the EoE are entirely voluntary and unremunerated.

#### 4. INDIVIDUAL ACTIVITIES OF THE EOE

The individual goals and commitments of our EoE for the time after their active careers vary greatly. There are currently four main areas of EoE activity within TUM's academic life and beyond university boundaries (Figure 2).



**Figure 2: TUM SEF - Areas of Individual Activity of TUM Emeriti of Excellence**

*EoE are engaged in four different areas of activity within the academic life of TUM and outside its boundaries (e.g., in national and international scientific academies in leading positions or members, as directors of university hospitals, etc.).*

Area I comprises the continued engagements in the TUM schools. These include the mentoring of TUM students and early-career scientists, participating in the search and appointment processes of new TUM professors, contributing – if requested by the TUM president – to discussions on teaching, research, and structural concepts, and working on special tasks of the TUM Board of Management, e.g., contributing ideas to TUM international affairs, supporting TUM outreach activities, and collaborating in everyday academic tasks. Individual EoE help with their advice by reviewing or mentoring new TUM-internally funded research projects, such as the TUM Innovation Networks.

Area II comprises the initiation and organization of SEF symposia and contribution to scientific events at TUM. The SEF symposia are mainly devoted to societally relevant issues. They particularly reflect the interdisciplinary and international orientation of the SEF. Typically, the symposia are followed by the publication of brochures and books (see Section V).

Area III comprises individual EoE commitments. In part, these commitments correspond to highly challenging professional workloads in leading functions within and outside TUM. Several of those (continuous functions and functions which ended during the past years) include: TUM Vice President for Compliance, Ombudsperson of TUM, Director of the TUM Institute for Advanced Study, Medical Director of the TUM University Hospital, President of the European Academy of Sciences and Arts, President of the Bavarian Academy of Fine Arts, President of the Bavarian Research Foundation, Medical Director of the University Hospital Freiburg/Breisgau, Head of the Center Digitization Bavaria, Head of the Bavarian Academy for Rural Areas, Member of the Steering Committee Institute Laue Langevin, and board member of



the Center for Digital Technology and Management. Through these external functions, the EoE contributes to TUM's national and international visibility.

Area IV comprises ongoing and newly initiated research and teaching activities, as some EoE are still running their own third-party funded research projects, financed by the German Research Foundation (DFG), ministries, EU, etc. The scientific output in the form of publications in highly ranked international journals is significant. Furthermore, numerous books based on the individual EoE's work have been published in recent years – in addition to the books and brochures shown in Fig. 3, which result from SEF initiatives.

## 5. JOINT ACTIVITIES OF THE SEF

To benefit from the diverse expertise of our SEF and promote joint EoE activities, the SEF initiated the TUM Forum Sustainability in 2016 and has since been operating it in cooperation with the TUM Institute for Earth System Preservation (IESP) and the TUM Institute for Advanced Study (IAS). The activities of the Forum focus on the highly interdisciplinary topic of “sustainability,” with the organization of annual workshops, symposia, and publication of books and brochures that summarize their discussions in the form of recommendations to the scientific community, political decision-makers, and the public.

Meanwhile, the SEF's Forum has become a component of TUM's overall sustainability strategy, which includes establishing various multidisciplinary research groups and task forces to create synergetic knowledge and skills, as well as visions for the future. It underpins TUM's efforts to significantly impact the sustainability of society, the economy, and politics.

Figure 3 provides an overview of SEF publications to date. The 2022 Symposium (November) is dedicated to the topic of “design.” This interdisciplinary conference will discuss the meaning and role of design and design methods in business, culture, science, and technology – sectors of society with different, sometimes opposing interests, whose decisions and activities necessarily influence each other. The goal of these discussions is to work toward a standard definition that explains what design is and can be, with its many facets, across the disciplines. A conference volume will be published in 2023. Other fora on emerging topics are already in planning.



**Figure 3: TUM Forum Sustainability – Symposia & Publications since 2016**

*The TUM Forum Sustainability was established in 2016 by the TUM Senior Excellence Faculty in cooperation with the Institute of Earth System Preservation (IESP) at the TUM Institute for Advanced Study (IAS). The Forum organizes symposia and acts as editor of books and brochures.*

## 6. SUMMARY AND OUTLOOK

The TUM Senior Excellence Faculty has become instrumental for the future development of our university, which benefits from the immense expertise, intellectual creativity, and national and international networks of outstanding TUM professors in their emerita or emeritus phase. It gives TUM's EoE a structure to support their continued academic engagement. The activities of the EoE contribute to an extended diversity of thought and a strong culture of interdisciplinarity at TUM, fostering cooperation across the Natural and Life Sciences, Engineering and Design, Computation, Information and Technologies, the Political, Economic, Management, and Social Sciences, as well as Education, Medicine and Health.

To be a TUM EoE is to hold an honorary office. Indeed, it is with a sense of honor that our EoE focus their activity on the betterment of society and the common good. Their work is independent, voluntary, and unremunerated. It is guided by a purpose to contribute their ideas, take up burning questions, central issues, and future challenges of the university and society and create unique platforms for intergenerational, interdisciplinary dialogue. The TUM EoE are bridge-builders and catalysts for the exchange of ideas, connecting the various institutions of the university and society toward goal-driven action in the form of various initiatives.

The project "TUM Senior Excellence Faculty" could serve as a model for other German and international universities seeking to retain the potential of their highly successful senior professors as a valuable resource. We are convinced that a national and international network of emeriti can make important contributions to the future well-being of European societies, especially in the context of demographic change and its impact on the working world and lifelong learning. The TUM SEF has already begun to establish such a network and is eager to share its ideas and experiences with other German and European universities interested in establishing an organizational structure for their emeriti, which would form, in turn, part of a European network. In this regard, the European Academy of Sciences and Arts might serve as a catalyst to support these efforts through its own network. All stakeholders must be aware, however, that such initiatives, if they are to be sustainable, require a financial investment (budget) and support by sufficient staff to enable continuous and effective operation.

To be sustainable, any such network must also be transparent. As such, the activities of European emeriti networks must be evaluated to quantify and qualify the significance of their contribution to science (research results) and to the training of students and early-career scientists for professional life. To this end, data would be collected on emeriti's research and supervision activities and analyzed in the scope of sociological studies, the results of which would feed back into university structures and strategies, as well as into viable solutions for Europe's increasingly diverse and aging societies.

## 7. CONCLUDING REMARKS

The TUM SEF accepts its mission and aims to contribute to TUM's continued fruitful and sustainable development. The essential focus of all TUM activities is scientific excellence in research and teaching, working in an entrepreneurial spirit and supporting the creativity of its individual university members. In this spirit, the EoE/SEF participate voluntarily in university life. As described and summarized in this article, the SEF is successfully involved in many university activities and is proud of its achievements thus far. The members of the SEF are eager to continue their work from an independent position promoting, in particular, the exchange among the university's different groups and focusing on topics of the highest relevance for both current and future societies. They are grateful for the support they have received and will receive from TUM in this regard.