



## **TUM School of Management Research Report 2019**







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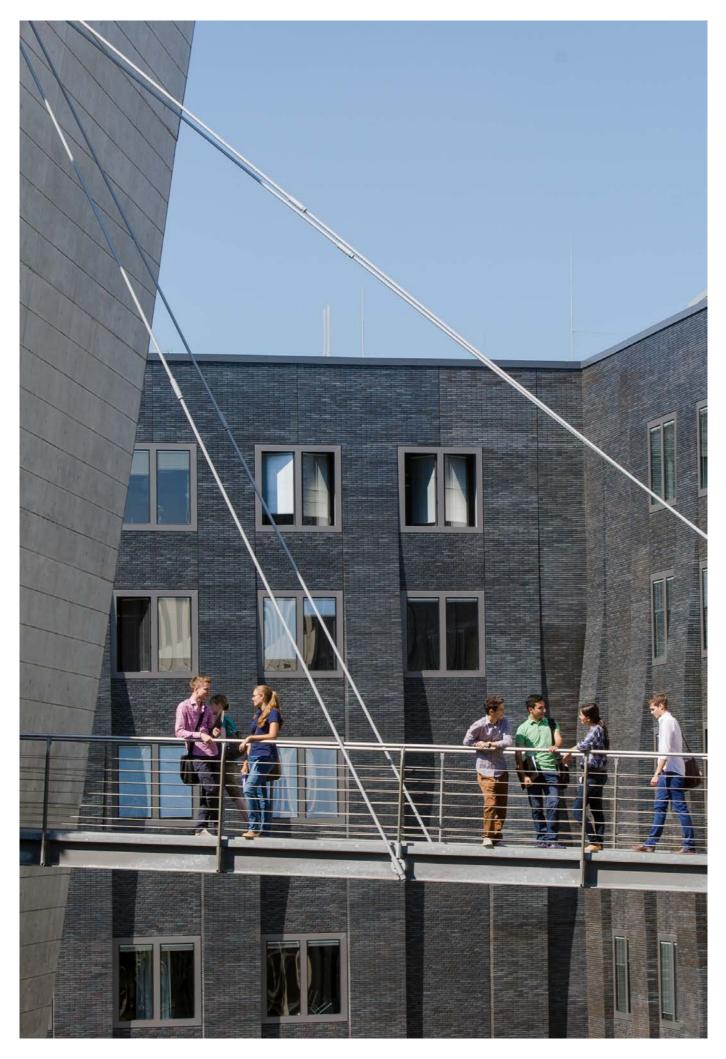
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## Welcome

In 2017, TUM School of Management joined the elite circle of Triple Crown management schools, having received accreditation from AACSB, AMBA and EQUIS. The research conducted at the School contributed strongly to this success, in particular its high quality, the relevance of the topics investigated, the international networks and the highly visible publications in leading journals.

As of mid-2018, the school has grown to 40 faculty members, 21 Honorary Professors, 55 postdocs and 257 doctoral students. They are organized into five academic departments: Economics & Policy; Finance & Accounting; Innovation & Entrepreneurship; Marketing, Strategy & Leadership and Operations & Supply Chain Management. The School is also home to the Center for Entrepreneurial and Financial Studies and the Center for Energy Markets. In addition, jointly with partner institutions, the School runs the Munich Intellectual Property Law Center and the Center for Digital Technology & Management

Thanks to a generous donation by the Dieter Schwarz Foundation, from October 2018 the School will also offer degree programs in Heilbronn. This expansion will be supported by 20 new faculty positions, further strengthening the School's research profile and allowing us to broaden our research, particularly in the fields of digitization and family firms.

In this report we provide an overview of our research activities: the topics, projects, publications, and most importantly the people. The contents demonstrate our focus on the interface between management and technology, the role of internationalization and our commitment to rigorous research, as well as to practical relevance.

This report aims to make the research at TUM School of Management visible to a broad audience. We also hope that it will lead to even more exciting research opportunities in the future.



Prof. Dr. Gunther Friedl Dean

the hard

Munich, October 2018



Prof. Dr. Joachim Henkel Vice Dean of Research

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## **Technical University of Munich**

The Technical University of Munich (TUM) combines first-class facilities for cutting-edge research with unique learning opportunities for students. It is committed to finding solutions for the major challenges facing society. The University thinks and acts with an entrepreneurial spirit. Its aim is to create lasting value for society.

TUM forges strong links with companies and scientific institutions across the world. It is a truly entrepreneurial university, fostering a supportive environment for innovation with a market-oriented approach. Its strong international presence and reputation is further strengthened by its campus in Singapore and offices in Beijing, Brussels, Cairo, Mumbai, San Francisco and São Paulo.



## **TUM School of Management**

The School of Management at TUM has a unique focus on the interface between management, engineering and the natural and life sciences. Our mission is to overcome the gap between management and technology.

TUM School of Management currently has 40 Professors and some 300 staff members. We cooperate with more than 100 internationally renowned universities and business schools. We also work closely with a wide range of corporate partners in Germany and abroad.

In 2017 TUM School of Management joined a select international group of business schools to be awarded what is known as the "Triple Crown" – accreditation by the AACSB (Association to Advance Collegiate Schools of Business), AMBA (Association of MBAs) and EQUIS (European Quality Improvement System) awarded by the European Foundation for Management Development). To receive the Triple Crown, an institution has to meet a large number of criteria including having a highly qualified teaching staff, a curriculum with an international character, close-knit interactions with the business world and substantial dedication to ethics and sustainability.

Also in 2017, we were ranked "best German business school" in the Korea University Business School (KUBS) Worldwide Business Research Rankings, which put us among the top 100 business schools in the world. According to the Frankfurter Allgemeine Zeitung and Handelsblatt, our Professors are among the most influential economists and management scholars in the German-speaking world. And in the 2017 CHE ranking we scored three top rankings for research and achieved top positions in 11 of the 12 student-rated categories.



## **MULTIPLE LOCATIONS – MORE POSSIBILITIES**

#### TUM School of Management operates in those locations where it finds the best interaction with other disciplines and the corporate world.

For this reason it has sites in Munich, Garching and Weihenstephan, and cooperates with the new TUM Campus Straubing for Biotechnology and Sustainability – plus a brand-new campus in Heilbronn.

Munich is the capital of Bavaria and home of global companies such as BMW, Siemens and Allianz. The city offers great opportunities to interact with DAX companies, large corporations and startups. Garching is home to the TUM Entrepreneurship Research Institute (TUM ERI), one of Europe's leading research institutes in the emerging field of "entrepreneurial studies". The Institute houses our interdisciplinary team of 20 academics and devotes its energies to further developing the field and deepening our understanding of entrepreneurial individuals and enterprises. In Weihenstephan, our Professors and their staff teach and research in close collaboration with their colleagues from the life sciences. Management studies are also represented at the new TUM Campus Straubing for Biotechnology and Sustainability.

Currently under development is our ambitious new TUM Campus Heilbronn on the Bildungscampus Heilbronn (Heilbronn Education Campus). The Campus lies in the heart of Heilbronn-Franken, a geographical area that is home to a significant number of innovative firms, many of them family-led small and medium-sized enterprises that have achieved top positions in world markets.





## Conferences

#### **Innovation & Entrepreneurship**

2015-2018

#### **Munich International Patent Law Conference 2016**

The International Reach of Patents June 24, 2016 Chair for Corporate & IP Law

#### **Munich International Patent Law Conference 2017**

Preliminary Injunctive Relief against Patent Infringements June 23, 2017 Chair for Corporate & IP Law

#### **Panel Discussion on Patent Invalidation**

September 21, 2016 Chair for Corporate & IP Law

#### Panel Discussion: Do Patent Wars Overburden the Judiciary?

September 19, 2017 Chair for Corporate & IP Law

#### **Economics & Policy**

2015-2018

#### **FAUN**

January 22, 2016 Freising, Chair for Forest and Environmental Policy

8. universitätsübergreifendes Greifswalder Doktoranden- und Habilitandenseminar an der TUM in Weihenstephan September 5-7, 2016

Chair of Forest Economics

49. Forstökonomisches Kolloquium (internationale wissenschaftliche Tagung von Universitäten und Forschungseinrichtungen in der Forstökonomie insbesondere aus dem deutschsprachigen Raum) October 3-5, 2017

Chair of Forest Economics

International workshop on the "Economics of Science: Resource Competition, Research Assessment and Institutional Affiliations in Academia"

Raitenhaslach, September 27-29, 2017 Professorship Economics of Innovation

## Conferences

#### **Operations & Supply Chain Management**

2015-2018

Munich Management Colloquium: Lean & Green & Connected – Success Factors of Networked Value Creation March 15-16, 2016 Chair in Corporate Management, Logistics and Production

13th International Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP 2017)

June 12-16, 2017 Seeon Abbey

#### **Finance & Accounting**

2015-2018

#### Forum on Digital Data Analysis

June 9-10, 2016 Full Professorship Financial Accounting

## 78. Wissenschaftliche Jahrestagung des Verbands für Hochschullehrer der Betriebswirtschaft e.V. (VHB)

May, 18-20, 2016 "The Role of Entrepreneurs, Corporations and Technology– Opportunities for Business Research" Jointly organized by TUM SOM and VHB Christoph Kaserer led the local organizing committee

## Conferences

#### Marketing, Strategy & Leadership

2015-2018

Conference: "Die digitale Transformation erfolgreich gestalten – Digital Work Design, Leadership and Organizations" June 10, 2016

Chair for Strategy and Organization

Symposium on Alienation and Meaning in Production and Consumption January 12-13, 2017, Munich

Gründungsworkshop der Wissenschaftlichen Kommission Strategisches Management im Verband der Hochschullehrer für Betriebswirtschaft May 4-5, 2017, Chair of Strategic and International Management

#### EU-InnovatE Ph.D. Summer Academy

September 14-16, 2016 In cooperation with Politecnico Milano, Executive Education Center Chair of Corporate Sustainability

#### FGF-Arbeitskreis Sustainable Entrepreneurship Frühjahrstreffen

March 2017 Chair of Corporate Sustainability

#### Event "TEDxTUM 2017"

December 2, 2017 Chair for Strategy and Organization

#### Conference "Disrupt yourself – Work, Leadership and Organizations in the Digital Age"

September 28, 2017 Chair for Strategy and Organization

#### Conference "Digitale Transformation – Gibt es einen eigenen Weg für Deutschland?"

September 19, 2017 Chair for Strategy and Organization

#### "Leistungsbewertung in der Wissenschaft – Perspektiven aus Forschung, Praxis und Politik" January 25-26, 2017

Chair for Strategy and Organization

#### Event "TEDxTUM 2016"

December 10, 2016 Chair for Strategy and Organization

Convention "Die digitale Transformation erfolgreich gestalten – Digital Work Design, Leadership and Organizations"

June 10, 2016 Chair for Strategy and Organization

6th Munich Symposium on Motivation 2016 Chair for Psychology July 21-24, 2016 Chair for Psychology

#### Food 2030: Die Zukunft der Ernährung im Zeitalter der Konnektivität

November 10, 2017 & December 12, 2016, Garching Ausgerichtet vom Cluster Enable

#### Convention "Neue Formen der Führung"

November 10, 2017 Chair for Research and Science Management/TUM Executive Education Center

#### VHB 2016, Munich

Belz & Binder: Who am I not – Founders negative self-categorization and its imprint on new sustainable ventures

## Research

The research at TUM School of Management is characterized by its interdisciplinary approach, focusing on the interface between management, engineering and the natural and life sciences. The methods employed range from theoretical models and qualitative and quantitative empirical work to applied research.

TUM School of Management has achieved leading positions in all relevant national rankings, as well as accreditations by AMBA and EPAS. In particular, TUM School of Management topped the list of German universities in the 2014 Handelsblatt research ranking for the field of management.

The School is also home to several "competence centers" that bundle resources and facilitate close collaboration with other institutions and corporate partners. These are the Center for Entrepreneurial and Financial Studies, the Center for Energy Markets, and – set up as joint ventures with partner institutions – the Munich Intellectual Property Law Center and the Center for Digital Technology & Management. The faculty is engaged in a broad range of cutting-edge research projects, supported by the Federal Ministry of Education and Research, the German Research Foundation, the European Union and other bodies.

According to rankings by Frankfurter Allgemeine Zeitung and Handelsblatt, three TUM School of Management Professors are among the 100 most influential economists and management scholars in Germany, and seven are among the top 100 management researchers in German-speaking countries.

On the following pages we present research topics that relate to the School at large. Research carried out by individual academic departments is presented in the relevant sections later in this report.

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## **Research Seminar**

TUM School of Management hosts a regular research seminar covering a broad range of management topics. The seminar is open to faculty members, students and guests.

#### Winter Semester 2017/2018

Date	Title	Name	Host	Institution
October 16, 2017 - 5:00pm	The evolution of the European crowdfunding industry	<u>Gary</u> Dushnitsky	Joachim Henkel	London Business School
October 24, 2017 - 3:00pm	Impact of low prices on shale gas production strategies	Svetlana Ikonnikova	Sebastian Schwenen	The University of Texas at Austin
October 27, 2017 - 12:00pm	A meta-analytic approach to understanding the effects of CEO overconfidence on firm performance	Charlotta Sirén	lsabell Welpe	Universität St. Gallen
November 15, 2017 - 12:00pm	Is there a female leadership advantage in innovation? New evidence from cross-country data	Samuele Murtinu	Hanna Hottenrott	University of Groningen
November 20, 2017 - 2:00pm	Actual-wanted job design incongruence, creative bootlegging and innovative work behavior	Matej Černe	Claudia Peus	University of Ljubljana
November 29, 2017 - 11:45am	How firms frame catastrophic failures	Sen Chai	Oliver Alexy	ESSEC Business School
December 13, 2017 - 11:00am	Using design to secure knowledge-based competitive advantage	Sam MacAulay	Oliver Alexy	University of Technology Sydney
January 30, 2018 - 5:00pm	U.S. Monetary Policy Transmission and Liquidity Risk Premia around the world	Mathijs van Dijk	Christoph Kaserer	Erasmus University
February 8, 2018 - 11:00am	Orchestrating organizational adaptation: Pharmaceutical incumbents' responses to the Biotech Revolution	Patricia Klarner	lsabell Welpe	Vienna University of Economics and Business (WU Vienna)
March 20, 2018 - 11:00am	tba	Alexander F. Wagner	Christoph Kaserer	University of Zurich

## **Research Seminar**

#### Summer Semester 2018

Date	Title	Name	Host	Institution
April 18, 2018 - 12:00pm	Do Organizations' Human Resource Management Practices Converge? An Empirical Analysis	Thorsten Biemann	Alwine Mohnen	Universität Mannheim
April 18, 2018 - 5:00pm	Operations Strategy at the Base of the Pyramid: Consumer Education and Reverse Logistics in a Durable Goods Supply Chain	Andre Calmon	Stefan Minner	INSEAD
April 24, 2018 - 10:00am	The Impact of Labor Mobility Restrictions on Managerial Actions: Evidence from the Mutual Fund Industry	Alexander Kempf	Christoph Kaserer	University of Cologne
May 9, 2018 - 1:00pm	The Internationalization of New Ventures in a Post-Liberalization Era: The Shifting Role of Industry Concentration	Stephanie Fernhaber	<u>Hana</u> Milanov	Butler University
June 20, 2018 - 12:00pm	Hubs as lampposts: Academic location and firms' attention to science	Michaël Bikard	Joachim Henkel	London Business School
June 25, 2018 - 5:00pm	The Impostor Syndrome from Luxury Consumption	Nailya Ordabayeva	Christoph Fuchs	Boston College
June 28, 2018 - 12:00pm	Banking Crises and Corporate Innovation	Steffen Juranek	Hanna Hottenrott	Norwegian School of Economics, Oslo
July 3, 2018 - 10:00am	An Application of Evolutionary Portfolio Theory to Factor Investing	Thorsten Hens	Christoph Kaserer	University of Zurich
July 4, 2018 - 12:00pm	Do University Entrepreneurship Programs Promote Entrepreneurship?	Charles Eesley	Joachim Henkel	Stanford University
July 4, 2018 - 5:00pm	Civicness Drain	<u>Moti</u> Michaeli	Michael Kurschilgen	University of Haifa
July 9, 2018 - 5:30pm	Merge Search for Production Scheduling in Open Pit Mining	Andreas Ernst	Rainer Kolisch	Monash University, Australia
August 1, 2018 - 5:00pm	tba	Jonathan Bard	Rainer Kolisch	University of Texas at Austin

## **Research Fest 2017**



Continuing a great tradition that started back in 2013, the Research Fest at TUM School of Management took place on July 7, 2017 at the TUM Main Campus.

All academic departments of TUM School of Management gave presentations on their research, and the three best exhibited posters on ongoing research projects. Maxim Egorov won the Best Poster Award 2017 for his poster "Look Before You Leap: Effects of Moral Intuition and Moral Foundations Congruence on (Un)Ethical Leadership". The prize of EUR 2,000 is awarded by TUM Management Alumni e.V.

The Research Fest featured several speeches and presentations by the faculty of TUM School of Management. We also welcomed Professor Dietmar Harhoff Ph.D., Director of the Max Planck Institute for Innovation and Competition, as our guest speaker. In addition, attendees had plenty of opportunities for networking.



## **Research Fest 2018**



The TUM School of Management 2018 Research Fest took place on May 4, 2018. The Research Fest gives all academic departments the opportunity to present their current research projects in a poster exhibition, and a prize is awarded for the best poster.

This winners of the Best Poster Award 2018 were Bernhard Mohr, Irina Dolgopolova and Carola Grebitus with Professor Jutta Roosen, who exhibited a poster on the research topic "Burgers and Tears: The role of emotions in the fast-food choices of young adults". Maximilian Pohl came second with his poster "Airport Runway Scheduling, Winter Operations: How to minimize delay when the weather gets rough". Frank Hage and Martin Grunow came third with their research poster "Coordination mechanism in sales and operations planning: How to tackle untruthful information sharing in intra-organizational planning".

The TUM School of Management Supervisory Award 2018 was also awarded at the Research Fest. Every doctoral candidate who is a member of the TUM Graduate School can nominate his or her supervisor for the award. There were 13 nominations this year, five for female supervisors and eight for male supervisors. The winning criteria included a high academic standard of supervision and doctoral courses, regular and intensive research meetings, support for international research stays and conferences and active support while developing the research question. The winners were Professor Alwine Mohnen, Professor Hanna Hottenrott and Professor Nicola Breugst.



2015-2018

#### Prof. Dr. Nicola Breugst

- Best Reviewer Award, Entrepreneurship Division, 2016 Academy of Management Meeting
- Best Teaching Award, TUM School of Management, 2016 and 2017

#### Prof. Hana Milanov, Ph.D.

 Certificate of Excellence in Teaching, Master of International Management program, IE Business School

#### **Operations & Supply Chain Management**

2015-2018

#### Prof. Dr. Rainer Kolisch

 Semi-Finalist for the INFORMS Franz Edelman Award, 2016 (Ferdinand Kiermaier and Rainer Kolisch: "Decision Support for Baggage Handling at Munich Airport")

#### Prof. Dr. Stefan Minner

- Certificate of Excellence in Reviewing, European Journal of Operational Research, 2016
- Fellow of the International Society for Inventory Research (ISIR), since 2016
- Certificate of Excellence in Reviewing, Omega, 2017

#### Prof. Dr. Maximilian Schiffer

- INFORMS TSL Dissertation Prize, 2018
- Friedrich Wilhelm Preis, Friedrich Wilhelm Stiftung, 2018
- GOR Doctoral Dissertation Prize, German Society of Operations Research, 2018
- Finalist, VHB Nachwuchspreis, 2018
- Finalist, EURO Doctoral Dissertation Award, EURO, 2018
- Awarding for an outstanding publication record, School of Business and Economics, RWTH Aachen University, 2018
- Awarding for an outstanding doctoral dissertation, School of Business and Economics, RWTH Aachen University, 2018
- Borcher's Badge, in recognition of an outstanding doctoral dissertation, RWTH Aachen University, 2018
- Springorum Denkmünze, in recognition of outstanding academic achievement, RWTH Aachen University, 2015

#### **Economics & Policy**

2015-2018

#### Prof. Axel Börsch-Supan, Ph.D.

- Korrespondierendes Mitglied der Österreichischen Akademie der Wissenschaften, since 2015
- Bayerische Staatsmedaille f
  ür soziale Verdienste (f
  ür beispielhafte Forschungsarbeiten u.a. zu sozialen Sicherungssysteme)/Bavarian State Medal for Social Services (for exemplary research into social security systems)

#### Prof. Dr. Michael Suda

5 Best Teaching Awards

#### Prof. Dr. Hanna Hottenrott

- DFG Sachbeihilfe (DFG H05390/1-1) für das Projekt: "Resources, Research Assessment, and Institutional Affiliations in Academia", May 2016-December 2018
- TUM School of Management "Supervisory Award 2018"

#### **Finance & Accounting**

2015-2018

#### Prof. Dr. Dr. Dr. h.c. Ann-Kristin Achleitner

- Highly Commended paper in the 2015 Emerald Literati Network Awards for Excellence, 2015
- Honorary doctorate Dr. rer. pol. (h.c.) from Leuphana
   University of Lüneburg, 2017

#### **Prof. Dr. Gunther Friedl**

• Best Teaching Award of TUM School of Management, Technical University of Munich, 2017, 2016, 2015

#### Prof. Dr. Philipp Maume

Best Teaching Award 2016

#### Prof. Dr. Christoph Kaserer

- Best Paper Award from the Journal of Financial Intermediation for the article: Berg/Kaserer (2015), Does contingent capital induce excessive risk-taking? Journal of Financial Intermediation 24 (3), 2015, 356-385
- Best Teaching Award in Executive Education 2016,
- Best Teaching Award in Executive Education 2015

#### Marketing, Strategy & Leadership

2015-2018

#### Prof. Dr. Frank-Martin Belz

- Oikos Case Study Competition (1st Prize): von Wittken: The venture FREITAG – From recycled bags to sustainable fashion (2017) Binder: Polarstern Energy – Sustainable Change Led by Innovative Entrepreneurs (2016)
- Bayerischer Kulturpreis Binder: Kulturpreis Bayern als beste Absolventin der TU München (2017)

#### Prof. Dr. Claudia Peus

- Emerald Citations of Excellence Award, 2016
- Highly Cited Research Award, Leadership Quarterly, 2016
- Emerald Citations of Excellence Award 2016

#### Prof. Dr. Isabell M. Welpe

- "Best Empirical Paper" Award for Kilian Moser, Andranik Tumasjan und Isabell Welpe, Academy of Management Conference, 2015
- "Management Book of the Year" for the edited volume "The democratic organization" by Isabell M. Welpe, Thomas Sattelberger and Andreas Boes, Frankfurter Buchmesse, 2015
- 40 führenden HR-Köpfe 2017 an Frau Prof. Dr. Isabell Welpe am 15. November 2017

### **Example research projects**

#### Making the most of group relationships: gender and boundary effects in microcredit groups



One of the core reasons for the growth of microfinance was to empower female entrepreneurs: not only with loans, but also with the social capital that micro-finance groups provide. Challenging this premise, Prof. Milanov from TUM School of Management's Entrepreneurship Research Institute, Prof. Justo from IE Business School (Spain) and Prof. Bradley from Baylor University (U.S.A.) study micro nance entrepreneurs in Kenya and find that given the same network characteristics, women entrepreneurs actually get less out of every contact than men. Importantly, they also find that factors such as group composition or a female leader can help counterbalance this effect. To the extent that managers are able to influence characteristics of their context – for example, the group composition or leader election – they may contribute to women's ability to make the most of their intra-group networks.

#### With Laptop and Lederhosen? Understanding Regional Innovation Cultures

Regions are becoming increasingly important for innovation thinking. On the one hand, many regions around the world are competing to become the "next Silicon Valley." On the other, innovation theory and public policy are increasingly focusing on the middle ground between firms and nation-states. In the multi-year study "Regional Innovation Cultures", funded by the German Research Foundation (DFG), researchers from TUM School of Management (the Professorship of Innovation Research) compare five German city-regions (Berlin, Dortmund, Dresden, Karlsruhe and Munich) in terms of the local social, cultural, political and economic differences that affect regional innovation strategy and performance. Going beyond established innovation systems approaches, the project traces how global innovation best practices are adopted and reinterpreted in specific regional contexts.



#### ARinFLEX – Supporting Flexible Service Processing by Augmented Reality

In the research project "ARinFLEX – Supporting Flexible Service Processes by Augmented Reality", which is coordinated by the TUM Chair for Information Systems (Prof. Dr. Helmut Krcmar), the Chair for Strategy and Organization (Prof. Dr. Isabell M. Welpe) develops and validates a cross-industry digitization index for service processes (In-DiFLEX). This index will allow medium-sized enterprises in particular to assess their digitization level ex-ante and subsequently evaluate the actions taken ex-post. Moreover, LSO continuously supports and takes an active part in all the other tasks involved in the project.



Unterstützung der Ausführung von flexiblen Dienstleistungsprozessen durch Augmented Reality

#### Technology Sourcing by Acquiring High-Tech Startups

Young technology firms are often better than incumbents at innovating, in particular when it comes to radical innovation. In turn, incumbents typically have advantages in later stages of the innovation process – with respect to distribution channels, branding, sales & services, and other so-called complementary assets. As a result, a collaboration between startups and established corporations is often fruitful. Increasingly, such collaborations are realized through acquisitions. For example, Apple's speech recognition system, Siri, originated with a company of the same name that Apple acquired in 2010. Similarly, SAP's best-selling in-memory database system, HANA, builds on technology developed by Transact in Memory, a firm that SAP acquired in 2005.

Several research projects carried out under the Dr. Theo Schöller Chair for Technology and Innovation Management, Professor Henkel, aim at developing a better understanding of technology sourcing through the acquisition of young firms. Together with partners at Copenhagen Business School and Harvard Business School, researchers study a range of interrelated topics, among them: How does the prospect of being acquired affect a startup's innovation radicalness? What are first-mover advantages and disadvantages when a startup plans to sell its technology, together with the firm as a whole, on the market for technologies? How does the nature of the startup's innovation affect the timing of acquisition? Does hype around a new technology – for instance, blockchains – affect the behavior of potential buyers, and if so, how? A research workshop at the TUM Heilbronn Campus in October 2018 will bring together a group of renowned international scholars to discuss research on technology-focused acquisitions more broadly.



## **Example research projects**

## Jackstädt-Foundation supports a research project on on Corporate Governance in Foundation-owned Firms

The joint research project by Professor Ann-Kristin Achleitner (TU München, CEFS), Professor André Betzer (University of Wuppertal) and Professor Jörn Hendrich Block (University of Trier) entitled "Best practices and rules for good corporate governance in foundation-owned firms", generously supported by the Jackstädt Foundation, takes a closer look at the phenomenon of foundation-owned firms.

A separate design of corporate governance rules for foundation-owned firms is reasonable since they often exhibit hybrid characteristics that differentiate them greatly from other types of companies. Foundation-owned firms are a combination of profit and non-profit orientation, which is reflected in the structures as well as in the personnel competences. This leads to very specific goal orientation, activities and structures of the foundation-owned firms, which in turn leads to specific governance challenges. Within the research project, these will be fully identified in continuous interaction with practice. On the basis of relevant scientific theories and existing governance codes, relevant regulations for the supervision of foundation-owned firms will be developed. Due to a growing number of foundation-owned firms in Germany in recent years, the results of the research project have a high scientific as well as practical relevance. The best practices and rules of good corporate governance are aimed at existing foundation-owned firms that are neither part of the category "classic" family companies nor listed on the stock exchange. In addition to the realization of the research project, the funding by the Jackstädt Foundation enables the organization of scientific conferences and workshops, which are intended to serve as a basis for the discussion of a new Corporate Governance Code for foundation-owned firms.



#### Survey of Health, Ageing and Retirement in Europe (SHARE)

Ageing is one of the mega-challenges of the twenty-first century. Many pension systems are unsustainable, healthcare costs are rising and intergenerational cohesion is threatened. To base policies coping with these challenges on sound evidence, data on retirement choices, health behaviors and social inclusion are needed. SHARE, led by Prof. Axel Börsch-Supan, Ph.D. (Chair for the Economics of Aging), provides such data. It is the largest pan-European social science panel study and includes a broad scope of socio-economic variables, health measures and social network information.

More than 293,000 interviews with approximately 123,000 individuals have been collected in over 20 countries since 2004. SHARE data are available for researchers free of charge and are very productive: approximately two publications a week emanate from SHARE data, covering economic, health and social science topics from retirement saving to active ageing and care at the end of life. These scientific results are then communicated to public policymakers at the EU and national levels. The survey is centrally coordinated at the Max-Planck-Institute for Social Law and Social Policy. The German country team is affiliated with TUM School of Management.



#### **REWARD - Industrial Water Use and Reuse**

Water is an increasingly relevant resource in industrial settings, and its efficient use is of growing concern. There are financial reasons for this, but also environmental reasons, as water scarcity is a major challenge in many parts of the world. The Department of Operations & Supply Chain Management at TUM School of Management participates in an interdisciplinary research project that aims to reduce water consumption in the food and bioprocessing industry. Research ranges from the chemical analysis of wastewater streams to the development of new sensor technology. TUM School of Management complements the science and engineering components of the project with the development of decision-support approaches that integrate the efficient use and reuse of water in the management of production systems and supply chains.



### **Example research projects**

#### New Energy Efficient Processes for the Production, Distribution and Usage of Milk/Whey Concentrates as a Substitute for Milk/Whey Powders

Dried dairy products are a popular ingredient in the production of various food products such as chocolate, cheese and yogurt. Milk and whey are concentrated in large volumes and further dried to powders using enormous amounts of energy. This project investigates if it is possible to omit the energy-intensive drying process and instead produce only concentrates with more efficient concentration processes. In an interdisciplinary approach, TUM School of Management's research group Production and Supply Chain Management investigates the required changes in logistics and evaluates the concept as a whole with regard to its cost-effectiveness and sustainability. All processing steps along the supply chain are validated through an assessment stage by industry partners. The project is funded the Federal Ministry of Food and Agriculture and carried out in cooperation with the research group for Food Process Engineering and Dairy Technology located at the TUM campus in Weihenstephan, as well as two partners from industry, Privatmolkerei Naarmann GmbH and Bayerische Milchindustrie eG.





## **TUM School of Management** Academic Departments

## TUM School of Management Academic Department: Innovation & Entrepreneurship



#### Who we are

The Academic Department of Innovation and Entrepreneurship explores developments and extends research into management of innovation and company startups. The research focus lies on empirical investigation of innovation and startup processes. Research subjects include corporate strategies to profit from innovation, openness in innovation processes, innovation by users, patent management, innovation policy, the socio-political and cultural aspects of innovation, the recognition of business opportunities, entrepreneurial individuals' and teams' psychological processes, strategies for young companies and understanding the consequences of entrepreneurial failure.

#### **Organization and Chairs**

•	Strategic Entrepreneurship	Prof. Dr. Oliver Alexy
•	Corporate and Intellectual Property Law	Prof. Dr. Christoph Ann
•	Entrepreneurial Behavior	Prof. Dr. Nicola Breugst
•	Technology and Innovation Management	Prof. Dr. Joachim Henkel
•	International Entrepreneurship	Prof. Hana Milanov, Ph.D.
•	Entrepreneurship	Prof. Dr. Dr. Holger Patzelt
•	Innovation Research	Prof. Dr. Sebastian Pfotenhauer





### Prof. Dr. Oliver Alexy Professor of Strategic Entrepreneurship

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**Areas of interest** 

- Growth & renewal
   of firms
- Ecosystems
- (Innovation) strategy
- Open innovation
- Organization design

#### Selected current research projects

**Origins of organizing:** In cooperation with INSEAD and the University of Vienna, we inquire how young firms go about designing their fledgling organizations. The insights that we develop will help startups organize better and shed new light on the path-dependent processes by which firms are shaped.

Harnessing External Innovations Project (HEIP): Together with partners from Imperial College London and the University of Bath, we seek to understand better how firms can successfully innovate together with agents and entities outside the firm. In doing so, we want to improve our understanding of why, when and how firms can successfully engage in more open and distributed forms of innovation.

#### **Curriculum vitae**

In his research, Oliver studies how to design organizations that effectively deal with extremely high uncertainty, such as high-tech startups, R&D units, online communities and social enterprises. In particular, he looks at how collaboration, knowledge disclosure or framing may contribute to the strategic renewal of established companies and the establishment and growth of startups, as well as entire industry ecosystems. As such, Oliver's work is of great interest and relevance to academics and practitioners alike. His research has been published or is forthcoming in leading international academic journals, such as the Administrative Science Quarterly, Academy of Management Review, Academy of Management Journal and Strategic Management Journal, as well as practitioner-oriented outlets such as the Harvard Business Review, California Management Review, Sloan Management Review and the McKinsey Quarterly.





### Prof. Dr. jur. Christoph Ann, LL.M. Professor of Corporate and Intellectual Property Law

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#### Areas of interest

- European and international law of technology protection (patents & trade secrets)
- Licensing and competition law including corresponding business environments (IP strategy and IP management)

#### Selected current research projects

Patent Value and Patent Invalidation Preliminary Injunctive Relief Calculation of FRAND Licensing Fees Transposition of the EU Trade Secret Directive into German Law Sponsored Student Research Project on Cryptodownloads

#### **Curriculum vitae**

Professor Christoph Ann has held TUM School of Management's Chair of Corporate and IP Law since 2003.

Christoph holds Law degrees in both Germany and the U.S. (LL.M., Duke ,88). Before coming to the TUM, he practiced as an attorney in Munich and Erlangen, and from 2000-2003 taught IP Law as a full Professor of Law in Freiburg/Br., then Germany's number one law school. From 2001-2003 he also served as a judge on the Mannheim Regional Court's renowned IP Infringement Panel with jurisdiction over the German state of Baden-Württemberg, which is technologically eminent. In Munich, Christoph teaches IP Law at TUM and at the Munich Intellectual Property Law Center (MIPLC), where he also serves on the Managing Board.

On a regular basis, Christoph teaches at universities abroad: in the United States (GWU, UWash, Duke University, Stetson, UOregon), Australia (La Trobe University, University of Queensland, TC Beirne School of Law), Japan (Keio University, Tokyo), France (IHEE and Université Robert Schuman, Strasbourg) and Hungary (Andrássy University, Budapest). He holds Adjunct Professorships at both George Washington University Law School, Washington D.C., and LaTrobe University, School of Law, Melbourne.

Christoph has published six books and more than 150 articles and contributions to books. His new edition of the German-speaking world's leading treatise on Patent Law (1,120 pages) appeared in February 2016. Christoph's interests focus on European and International Law of Technology Protection (Patents & Trade Secrets), including Licensing and Competition Law as well as the corresponding business environments (IP strategy and IP management).

Christoph is a listed Neutral with the WIPO Arbitration and Mediation Center, Chairman of the Nuremberg Chamber of Commerce's Standing Court of Commercial Arbitration and has served as an arbitrator for the ICC, UNCITRAL and the German Arbitration Institution (DIS). In Britain and the United States he has served as an expert on German and European IP Law.





### Prof. Dr. Nicola Breugst Professor of Entrepreneurial Behavior

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#### **Areas of interest**

- Founder teams
- Entrepreneurial cognition
- Affect in
   entrepreneurship
- Entrepreneurial motivation
- Leadership in young ventures

#### Selected current research projects

**"War of roses of friendly divorces in entrepreneurial teams?** This project sheds light on the hostility of entrepreneurial team members' exit and how the remaining entrepreneurial team can cope with the exit by restructuring the team and the venture.

**"Does it take a strong team to identify opportunities?"** Jointly with École Polytechnique Fédérale Lausanne, we investigate how founder teams use their human capital to transfer a technology into entrepreneurial opportunities.

#### **Curriculum vitae**

Nicola Breugst has held the Professorship of Entrepreneurial Behavior at TUM School of Management since March 2012. She has a Ph.D. in entrepreneurship from Friedrich-Schiller-Universität, Jena, and her dissertation won the prestigious NFIB Dissertation Award from the Entrepreneurship Division of the Academy of Management. She has worked at the University of Duisburg-Essen, the Max Planck Institute of Economics in Jena, the Kelley School of Business at Indiana University and the National University of Singapore.

Nicola's research focuses on the people side of entrepreneurship. More specifically, she addresses questions of entrepreneurial affect, motivation and cognition, and integrates the entrepreneurs' social contexts, such as the founder team, new venture employees and mentors. Her papers have been published in internationally leading entrepreneurship journals. Her fascination with the people side of entrepreneurship also inspires her teaching, which aims at developing students' entrepreneurial and analytical thinking.





### Prof. Dr. Joachim Henkel Professor of Technology and Innovation Management

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#### **Areas of interest**

- Acquisition of high-tech startups
- Markets for technology
- Patent management
- Standardization
- Big Data
- Profiting from innovation

#### Selected current research projects

Acquisition of high-tech startups: In joint projects with Thomas Ronde (Copenhagen Business School), Ariel D. Stern (Harvard Business School), Moritz Fischer and Tobias Hlavka (both doctoral students at TUM), Joachim Henkel explores the acquisition of high-tech startups as a specific instance of markets for technology. Using the medical devices industry and the ICT industry as empirical settings, the projects address the timing of acquisitions and how it relates to characteristics of the parties involved.

*Strategic resources in Big Data:* Philipp Hartmann (doctoral student at TUM) and Joachim Henkel study how young firms innovating in the field of "Big Data" benefit from various types of resources, notably data, algorithms, infrastructure, talent and industry knowhow. Applying a resource-based-view perspective, they analyze the role that data actually play for firm success.

#### **Curriculum vitae**

Joachim Henkel joined TUM School of Management in 2004 as a Full Professor of Technology and Innovation Management. He received a degree in Physics from the University of Bonn, a Ph.D. in Economics from the University of Mannheim, and his "habilitation" in Innovation Management at Ludwig-Maximilians-University Munich. He was a visiting scholar at University College London, MIT Sloan School of Management, Singapore Management University and twice at Harvard Business School.

He is regularly invited to give research seminars at international universities and business schools. After his Ph.D., he worked for two years with the consulting firm Bain & Company. He consults for firms in the ICT industries, in particular on IP litigation matters.

In his research, Joachim studies how incumbents and startups collaborate in innovation through licensing or acquisition, and how firms balance open and proprietary approaches in their efforts to profit from innovation. Specifically, his topics comprise open innovation, user innovation, markets for technology, patent management, Big Data and profiting from innovation. His work has been published in the Harvard Business Review, Rand Journal of Economics, Research Policy, Strategic Management Journal and elsewhere. He serves on the editorial review boards of the Academy of Management Journal, Industrial and Corporate Change, Innovation: Organization and Management, and Research Policy. Three of his former doctoral and "habilitation" students hold faculty positions at German universities. Since 2015, Joachim has served as TUM School of Management's Dean of Research.





#### Areas of interest

- Entrepreneurial
   networks
- Venture capital
- Legitimacy, status and reputation
- Entrepreneurial identity
- International
   entrepreneurship

### Prof. Hana Milanov, Ph.D. Professor of International Entrepreneurship

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#### Selected current research projects

**"I tweet, therefore I am."** In a joint work with my doctoral student, Friderike Bruchmann, I investigate when and why a new venture's evolving identity online is accepted by growingly complex audiences, as a new venture transitions from their inception days to a more professional business. For this study, we collected data on US venture capital-funded startups and accessed their tweeting behavior and audiences' reactions from their early history. Early results point to the importance of managing self-presentation in the online environment, and nuanced consequences of how ventures present themselves in terms of their technological vs. business identities.

**"The value of media is in the eye of the beholder."** Together with my doctoral student Friderike Bruchmann, I study how the media attention of a startup's business angels influences the startup's likelihood of raising venture capital funding. We find that the media can have both positive and negative effects in this regard, depending on the date and context of media coverage (where we differentiate between investment-related and popular news). Results point to non-obvious effects of media and warn entrepreneurs to carefully manage their early investors – and especially not to be blinded by "all that shines"!

**"Is corporate social responsibility really corporate?"** Intrigued by counterintuitive results of research showing that family businesses do less in terms of corporate social responsibility practices (CSR), we look beyond their firms into the families behind them to understand whether the private social engagement of families (owning a family foundation) explains this conundrum. We confirm this hypothesis in a sample of US publicly listed family businesses and show that the effect depends on the level of family's identification with the business (whether the business holds the family's name) and the generation of the family in charge of the business.

#### **Curriculum vitae**

Hana Milanov has been Professor of International Entrepreneurship at TUM School of Management, Technical University of Munich, since 2012. In 2014 she was elected TUM Senior Vice President for International Alliances and Alumni, and served the university on the Management Board until 2017. Since 2012 she has also served as the Academic Director of the Executive MBA in Innovation and Business Creation at TUM. Prior to TUM, she worked at IE Business School in Madrid, Spain, where she still teaches on Executive MBA programs. She completed her doctoral studies in Entrepreneurship and Strategy at Kelley School of Business, Indiana University in the United States. She is experienced in teaching undergraduate, graduate, MBA, Executive MBA and doctoral programs across four countries (Croatia, Germany, Spain, United States). She actively teaches on graduate programs, applying a varied portfolio of teaching approaches (interactive, discussion-based, case-based seminars, workshops and experiential learning). She has also developed teaching materials and contributed to teaching conferences, as well as more tailored executive programs.

Hana's research is positioned at the intersection of entrepreneurship, social networks and international business, with an increasing interest in cognition and gender issues. Some of the questions she seeks to answer are: How do entrepreneurs use their networks and alliances for opportunity identification and exploitation? How do their networks evolve over time, and with what consequences? How do young ventures achieve early legitimation with various audiences? And what implications does this have for their position in the industry structure, resource acquisition and ultimate performance? The research contexts include hightech ventures and the venture capital industry, as well as microfinance entrepreneurs. Her work has been published in leading international academic journals such as the Strategic Management Journal, the Journal of Business Venturing, and the Academy of Management Perspectives.





### Prof. Dr. Dr. Holger Patzelt Professor of Entrepreneurship

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#### Areas of interest

- Entrepreneurial decision-making
- Opportunity recognition
   and exploitation
- Entrepreneurial strategy
- Entrepreneurial failure
- Managing entrepreneurial projects in large corporations

#### Selected current research projects

*"Startup EKG."* We explore the development of organizational cultures and organizational identity in entrepreneurial ventures using a longitudinal study of more than 100 startups.

*"Project success panel."* We investigate how large firms can facilitate team members' transitions from one entrepreneurial project to the next.

**"Compassion venturing for refugees."** – We analyze how spontaneous ventures emerged in the context of the German refugee crisis and the benefits that these ventures provided to refugees.

#### **Curriculum vitae**

Holger Patzelt has been Professor of Entrepreneurship and Chair of Entrepreneurship at TUM School of Management, Technical University of Munich, since 2010. Since 2013 he has also served as the School's Vice Dean of Academic Affairs. Prior to TUM, he worked at the Max Planck Institute of Economics in Jena, Germany, as a Post-doc and Associate Director of the Entrepreneurship, Growth and Public Policy Group. He completed his doctoral studies in Entrepreneurship at the University of Bamberg, Germany, and his doctoral studies in Biosciences at the University of Heidelberg, Germany.

In his research, Holger draws on perspectives from psychology, business strategy and organization theory. His interests include entrepreneurial decision-making and opportunity recognition, strategy of young ventures, managing entrepreneurial projects in large firms and entrepreneurial failure. His research has been published in leading international academic journals in the field of both social sciences, such as the Academy of Management Journal, the Journal of Management, the Journal of Business Venturing, and Entrepreneurship: Theory and Practice, and natural sciences, such as Nature and the Proceedings of the National Academy of Sciences (PNAS). Since 2017 he has served as an Associate Editor for Entrepreneurship: Theory and Practice.





### Prof. Dr. Sebastian Pfotenhauer Professor of Innovation Research, Munich Center for Technology in Society (MCTS)

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#### Areas of interest

- National and regional innovation strategies
- Innovation policy
- Innovation models and theory
- STI in international settings
- Responsible innovation
- Science and technology studies (STS)

#### Selected current research projects

**Regional Innovation Cultures:** Funded by the German Research Foundation (DFG), we compare five German city-regions (Berlin, Dortmund, Dresden, Karlsruhe and Munich) in terms of local social, cultural, political and economic differences that affect regional innovation strategy and performance.

**Responsible Innovation in Trans-nationalen Governance Settings:** In a collaboration with the OECD Directorate for Science, Technology and Innovation, we study the emergence and harmonization of international practices in responsible innovation, their transferability and their scalability.

**Cultivating Engagement:** Funded by the European H2020/EIT Food consortium, we study new citizen engagement and open innovation practices in food innovation for the case of indoor vertical farming.

**Testing the Future:** We explore "test-beds" and "living labs" as emerging innovation approaches that aim to test new and advance technologies in real-world conditions, with a particular focus on energy transitions and autonomous driving,

**Complex International Science, Technology, and Innovation Partnerships (CISTIPs):** This project studies the emergence of CISTIPs as a policy instrument for capacity-building across different sectors and configurations.

#### **Curriculum vitae**

Sebastian Pfotenhauer is Assistant Professor of Innovation Research and head of the Innovation, Society and Public Policy Research Group at the Munich Center for Technology in Society (MCTS) and TUM School of Management, both part of the Technical University of Munich. His research interests include: regional innovation cultures; the global circulation of innovation models; institutional and national innovation strategies; science and innovation in international settings; scientific and technological capacitybuilding; complex socio-technical transformations; and responsible innovation. Before joining TUM, Sebastian was Research Scientist and Lecturer with the MIT Technology & Policy Program and the MIT Sociotechnical Systems Research Center, where he continues to hold an affiliate appointment, as well as Research Fellow at the Harvard Program on Science, Technology and Society. He has served as a consultant on innovation policy to various regional and national governments, and for the Organization for Economic Co-operation and Development (OECD) in Paris, France.

His three most recently awarded research projects are "Understanding regional innovation cultures: A comparison of five German city-regions and their adoption of global innovation ,best practices'" (DFG Grant); "Cultivating Engagement: Citizen Participation and Open Innovation in Vertical Farming" (H2020/EIT Food); and "Technoscientific Constitutionalism: A Joint DFG-NSF Conference" (DFG/NSF Grant). He is also a co-investigator in the Harvard-led NSF project "Traveling Imaginaries of Innovation: The Practice Turn and its Transnational Implementation." Previously, he co-led the NSF-funded collaborative project (MIT/JHU) "Technology, Collaboration, and Learning: Modelling Complex International Innovation Partnerships"). His work has appeared in journals such as Social Studies of Science, Research Policy, Nature, and Issues in Science and Technology. He holds an S.M. in Technology Policy from MIT and a Ph.D. in Physics from the University of Jena, Germany, and received post-doctoral training at MIT and Harvard. He enjoys teaching graduate classes in technology and innovation policy, responsible innovation and STS. Time permitting, he also plays the violin in various ensembles.

### **Publications**

2015-2018, peer-reviewed journals and books

Alexy, O.; Bascavusoglu-Moreau, E.; Salter, A. J. 2016. Toward an aspiration-level theory of open innovation. *Industrial and Corporate Change*, 25(2): 289-306.

Alexy, O.; West, J.; Klapper, H.; Reitzig, M. 2018. Surrendering Control to Gain Advantage: Reconciling Openness and the Resource-based View of the Firm. Strategic Management Journal, 39(6): 1704-1727.

Ann C. 2016. Munich Commentary on the German Civil Code, Commenatry on §§ 2042-2063 GCC (Münchner Kommentar zum BGB. Kommentierung §§ 2042-2063 BGB). C.H.Beck: Munich.

Ann C.; Maute L. 2016. Technology Protection and Trademarks (Technologieschutz und Marken). Liber Amicorum in Honour of Karl-Heinz Fezer. C.H.Beck: 185-193.

Ann C. 2016. Patentwert und Patentnichtigkeit - Wieviel Rechtssicherheit dürfen Patentinhaber beanspruchen? Mitteilungen der deutschen Patentanwälte: 245-252.

Ann, C. 2016. Patent Invalidation and Legal Certainty - What Can Patent Holders Expect?

Ann, C. 2016. EU Trade Secret Directive – When is the new German law coming, how does it look like, which questions are still open? (EU-Richtlinie zum Schutz vertraulichen Know-hows – Wann kommt das neue deutsche Recht, wie sieht es aus, was ist noch offen?). Gewerblicher Rechtsschutz und Urheberrecht. *Praxis im Immaterialgüter und Wettbewerbsrecht:* 465-467.

Ann, C.; Hauck, R.; Obergfell, E.I. 2017. Wirtschaftsprivatrecht kompakt (Business Law Compact).

Ann, C. Commentary on Inheritance Law, NomosKommentar BGB, Volume 5: Commentary on §§ 2032-2041 GCC, 5th Edition in preparation for January 2018, Nomos Publishing House: Baden-Baden

Baldwin, C.; Henkel, J. 2015. Modularity and intellectual property protection. Strategic Management Journal, 36(11): 1637-1655.

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Block, J.; Henkel,; J., Schweisfurth, T.; Stiegler, A. 2015. Commercializing user innovations by vertical diversification: The user-manufacturer innovator. *Research Policy*, 45: 244-259.

Breugst, N.; Shepherd, D. A. 2017. If you fight with me, I'll get mad! A social model of entrepreneurial affect. *Entrepreneurship Theory and Practice*, 41(3): 379-418.

Breugst, N.; Patzelt, H.; Rathgeber, P. 2015. How should we divide the pie? Equity distribution and its impact on entrepreneurial teams. *Journal of Business Venturing*, 30(1): 66-94.

Breugst, N.; Preller, R.; Patzelt, H.; Shepherd, D. A. 2018. Information reliability and team reflection as contingencies of the relationship between information elaboration and team decision quality. *Journal of Organizational Behavior*.

Dattée, B.; Alexy, O.; Autio, E. 2018. Maneuvering in Poor Visibility: How Firms Play the Ecosystem Game when Uncertainty is High. Academy of Management Journal, 61(2): 466-498.

Domurath, A.; Behrens, J.; Patzelt, Holger. 2015. Scientists' commitment to underperforming research projects: Linking past success and social environment. *R&D Management* 45(5): 569-588.

Domurath, A.; Patzelt, H. 2016. Entrepreneurs' assessments of early international entry: The role of foreign social ties, venture absorptive capacity, and generalized trust in others. *Entrepreneurship Theory & Practice*, 40(5): 1149-1177.

Filitz, R.; Henkel, J.; Tether, B. S. 2015. Protecting aesthetic innovations? An exploration of the use of registered community designs. *Research Policy*, 44(6): 1192-1206.

Hauswald, H.; Hack, A.; Kellermanns, F.; Patzelt, H. 2016. Attracting new talent to family firms: Who is attracted and under what conditions? *Entrepreneurship Theory & Practice*, 40(5): 963-989.

Henkel, J.; Rønde, T.; Wagner, M. 2015. And the winner is – acquired. Entrepreneurship as a contest yielding radical innovations. *Research Policy* 44(2): 295–310.

Hird, M.; Pfotenhauer, S.M. 2017. How complex international partnerships shape domestic research clusters: Difference-in-difference network formation and research re-orientation in the MIT Portugal Program. *Research Policy*, 46(3): 557-572.

Hoenig, D.; Henkel, J. 2015. Quality signals? The role of patents, alliances, and team experience in venture capital financing. *Research Policy*, 44(5): 1049–1064.

## Innovation & Entrepreneurship

## **Publications**

2015-2018, peer-reviewed journals and books

Jell, F.; Block, J.; Henkel, J.; Spiegel, F.; Zischka, H. 2015. Cross-functional patent management in family firms. *Journal of Business Economics*, 85(2): 181-203.

Jell, F.; Henkel, J.; Wallin, M. 2017. Offensive patent portfolio races. Long Range Planning, 50(5).

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Milanov, H.; Justo, R.; Bradley, S. 2015. Making the most of group relationships: The role of gender and boundary effects in microcredit groups. *Journal of Business Venturing*, 30(6): 822-838.

Patzelt, H.; Behrens, J.; Wolfe, M.; Shepherd, D. 2018. Perceived project transition support and employees' assessments of entrepreneurial project performance. *Journal of Business Venturing,* forthcoming.

Salter, A.; Ter Wal, A. L. J.; Criscuolo, P;Alexy, O. 2015. Open for Ideation: Individual-Level Openness and Idea Generation in R&D. Journal of Product Innovation Management, 32(4): 488-504.

Shepherd, D. A.; Williams, T. A.; Patzelt, H. 2015. Thinking about entrepreneurial decision making: Review and research agenda. *Journal of Management*, 41(1): 11-46.

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Shepherd, D. A.; Patzelt, H. 2015. The "heart" of entrepreneurship: The impact of entrepreneurial action on health and health on entrepreneurial action. Journal of Business Venturing Insights, 4: 22-29.

Shepherd, D. A.; Patzelt, H. 2015. Harsh evaluations of entrepreneurs who fail: The role of sexual orientation, use of environmentally friendly technologies, and observers' perspective taking. *Journal of Management Studies*, 52(2): 253-284.

Ter Wal, A. L. J.; Alexy, O.; Block, J.; Sandner, P. G. 2016. The Best of Both Worlds: The Benefits of Open-specialized and Closed-diverse Syndication-Networks for New Ventures Success. Administrative Science Quarterly, 61(3): 393-432.

Wiklund, J.; Hatak, I.; Patzelt, H.; Shepherd, D. A. 2018. Mental disorders in the entrepreneurship context: When being different can be an advantage. *Academy of Management Perspectives*, 32(2): 182-206.

Wiklund, J.; Patzelt, H.; Dimov, D. 2016. Entrepreneurship and psychological disorders: How ADHD can be productively harnessed. *Journal of Business Venturing Insight*, 6: 14-20.

# Innovation & Entrepreneurship

## **Editorships**

2015-2018

#### **Prof. Dr. Oliver Alexy**

Associate Editor

Innovation: Organization & Management (2016-)

Editorial Review Board

- Academy of Management Review (2017-)
- Journal of Business Venturing (2017-)
- Organization Science (2015-)
- IEEE Transactions on Engineering Management (2010-2017)

#### Prof. Dr. jur. Christoph Ann, LL.M.

- Publication Series "Intellectual Property and Competition" ("Geistiges Eigentum und Wettbewerb (GEW)", Carl Heymanns Publishing House, Cologne, Editorial Board Member with Prof. Dr. Anja Steinbeck)
- Publication Series of the Munich Intellectual Property Law Center (MIPLC), Nomos Publishing House, Baden-Baden, Editorial Board Member (with Prof. Dres. Robert Brauneis, Josef Drexl, Thomas Möllers and Joseph Straus)
- Commentary on Inheritance Law: NomosKommentar BGB, Volume 5, 5th Edition in preparation for January 2018, Nomos Publishing House, Baden-Baden, Co-editor (with Prof. Dr. Ludwig Kroiß and Prof. Dr. Jörg Mayer)
- Publication Series "Licenses and Licensing Agreements' Law" ("Lizenzen und Lizenzvertragsrecht" (until 2015: "Publication Series on Technology Transfer"), Nomos Publishing House, Baden-Baden, Editorial Board Member (with Prof. Dr. Christian Osterriet)

#### Prof. Dr. Nicola Breugst

- Journal of Business Venturing, Member of the Editorial Review Board
- Entrepreneurship Theory and Practice, Member of the Editorial Review Board
- Small Business Economics, Member of the Editorial Review Board

#### Prof. Dr. Joachim Henkel

- Academy of Management Journal, Member of the Editorial Review Board
- Industrial and Corporate Change, Associate Editor
- Research Policy, Advisory Editor

#### Prof. Hana Milanov, Ph.D.

 Journal of Business Venturing, Member of the Editorial Review Board

#### Prof. Dr. Dr. Holger Patzelt

- Academy of Management Journal, Member of Board of Reviewers
- Journal of Business Venturing, Member of Board of Reviewers
- Entrepreneurship: Theory and Practice, Member of Board of Reviewers
- Foundations and Trends in Entrepreneurship, Member of Board of Reviewers
- Associate Editor at Entrepreneurship: Theory and Practice

## **Innovation &** Entrepreneurship

## Visitors

2015-2018

Prof. Thomas Åstebro, Ph.D. Crowdfounding, Research Talk (T.UM SoM Seminar), 03.05.2017, HEC Paris

Prof. Kean Birch, Ph.D. Innovation and Rentiership, Research Talk (MCTS Colloquium), 22.5.2017, York University

Prof. Dr. Jörn Block Entrepreneurship and family firms, Research Talk (TUM SoM Seminar), 20.06.2017, Universität Trier

Margarita Boenig-Liptsin, Ph.D. Digital Statehood, Digital Literacy, Innovation Policy, Research Talk (MCTS Colloquium), 15.3.2016,

Prof. Geoffrey Bowker, Ph.D. Politics of Data Infrastructures, MCTS Munich Colloquium on Technology in Society (Research Talk) & Research Workshop, 15.1.2017, University of California Irvine

Prof. Sen Chai, DBA

Harvard Kennedy School

Failure in innovation projects, Research Talk (TUM SoM Seminar), 29.11.2017, ESSEC Business School

Prof. Linus Dahlander, Ph.D. Networks, distributed innovation, Research Talk (TUM SoM Seminar), 26.01.2016, ESMT Berlin

Prof. Dr. Anne Domurath International entrepreneurship, Research Visit, 11.12.2016, Wilfried Laurier University

Prof. Gary Dushnitsky, Ph.D. Crowdfunding, Research Talk (TUM SoM Seminar), 16.10.2017, London Business School

#### Prof. Dr. Michael Gielnik

Training good entrepreneurs, Research Talk (TUM SoM Seminar), 23.06.2016, Leuphana University Lüneburg

#### Prof. Dr. Benoit Godin

Conceptual History of Innovation, MCTS Munich Colloquium on Technology in Society (Research Talk) & Research workshop, 20.5. 2016, INRS Montreal

**Prof. Denis Grégoire, Ph.D.** Cognition in entrepreneurship, Research Talk (TUM SoM Seminar) & Ph.D. Course (Cognition in Entrepreneurship) May to June 2016, Syracuse University

**Prof. Dr. Christina Guenther** Entrepreneurial teams, Research Talk (Brownbag), 05.09.2017, WHU – Otto Beisheim School of Management

#### Davide Hahn

Entrepreneurial intent, Visiting Ph.D. Student, October-December 2016, Universität Bergamo und Pavia

**Prof. Steven Hilgarner, Ph.D.** Risk models, credibility, sociotechnical change, MCTS Munich Colloquium on Technology in Society (Research Talk) & Research workshop, 25.9.2017 to 22.11.2017, Cornell University

**Prof. Sheila Jasanoff, Ph.D., J.D.** Comparative politics of innovation, innovation and public reason, risk analysis, MCTS Munich Colloquium on Tech-nology in Society (Research Talk) & Research workshop, December 11-13, 2017, Harvard Kennedy School

Prof. Paul Jensen, Ph.D.

Intellectual property rights, Research Talk (TUM SoM Seminar), 25.02.2016, University of Melbourne

Prof. Dr. Nadine Kammerlander

Family firms, Joint Research Seminar Day of her group with Entrepreneurship Research Institute, 11.07.2017, WHU - Otto Beisheim School of Management

Prof. Jerôme Katz, Ph.D. Entrepreneurship, Research Visit & Ph.D. Course (Introduction to Entrepreneurship), February to April 2017, St. Louis University

**Prof. Dr. Andreas König** CEO communication styles, Research Talk (TUM SoM Seminar), 16.01.2017, Universität Passau

Ludvig Levasseur Entrepreneurship, Research Visit, January to February 2017, Paris, Dauphine

**Prof. Kyle Longest** Sociology and Entrepreneurship, sabbatical, supported by the Bavarian State Ministry of Education, Science, and the Arts, September 1, 2014 to December 30, 2015, from Furman University, Greenville, SC, USA

Prof. Dr. Maximilian Mayer

Internet Policy and Economics in China, International Relations, Research Talk (MCTS Colloquium), 13.1.2017, Tongji University

Matthew Sample, Ph.D. Technology (Neuro-)Ethics, Research Talk (MCTS Colloquium), 10.3.2016, Montreal Clinical Research Institute

Dr. Henry Sauermann Strategic Management, Guest lecturer and researcher in December 2015, from Associate Professor of Strategic Management at Georgia Tech

#### Antonia Schickinger

Family firms, Research Talk (Brownbag), 02.03.2017, WHU - Otto Beisheim School of Management

Dr. Nona Schulte Römer

Innovation, users, publics, Research Talk (MCTS Colloquium), 25.10.2017, Helmholtz Centre for Environmental Research Leipzig

Prof. Jeremy Short, Ph.D. Behavioural Politics and (Post-)Democracy, Research Talk (MCTS Colloquium), 12.10.2017, Humboldt University Berlin

Prof. Dr. Holger Straßheim Behavioral Politics and (Post-) Democracy, Research Talk (MCTS Colloquium), 12.10.2017, Humboldt University Berlin

## **Innovation &** Entrepreneurship

## **Visitors**

2015-2018

#### Prof. Toshiko Takenaka, Ph.D.

Intellectual Property Law Visiting Professorship, supported by the Bavarian State Ministry of Education, Science and the Arts (Lecture ,Intellectual Property Management in the Global Market Place'), 07.11.2016 to 16.12.2016, University of Washington

#### Prof. Dr. Sharon Tal-Itzkovitch

Market approaches for entrepreneurs, Guest lecturer, "Opportunity recognition and techno-logy", May and June 2017, Technion, Israel Institute of Technology

#### Anne Tryba

Entrepreneurial teams, Research Visit, September-December 2017, Université de Luxembourg, Centre for Research in Economics and Management

Prof. Chris Tucci, Ph.D. Corporate venture capital, Research Talk (TUM SoM Seminar), 15.09.2016, EPFL

## Prof. Karl Wennberg, Ph.D. Entrepreneurship and status, Research Talk (TUM SoM Seminar), 14.12.2016, Stockholm School of Economics

**Prof. Marilyn Uy** Psychology of Entrepreneurship Research talk series contributor in June 2015, from Nanyang Technological University, Singapore

#### **Eric von Hippel**

MIT Sloan School of Management Guest lecturer and researcher in March 2016 Innovation research

### Prof. Kelvin Willoughby, Ph.D., Ph.D., LL.M. (I.P.) Endogenous Innovation, Outward-bound

International Patenting and National Economic Development, Research Visit, June-July 2017, Skolkovo Institute of Science and Technology, Moscow, Russia

## TUM School of Management Academic Department: Operations & Supply Chain Management



#### Who we are

Management of production or service operations is one of the central tasks in any organization. The goal is to provide results of the expected quality at the right time and at low cost. New technological developments and increasingly dynamic processes lead to interesting challenges for operations and supply chain management. In order to be most successful in this context, the efficient use of technical and human resources within an organization as well as coordination along the supply chain are ever more important.

The TUM Operations & Supply Chain Management Department is engaged in research and education related to the analysis, configuration and optimization of processes within and between business/non-profit entities. This involves the use of quantitative methods and software systems.

The Departments research has many connections with other disciplines. It maintains close cooperation with industrial partners, for instance from the automotive, healthcare and retail sector. This interdisciplinary and practical focus ensures that research addresses the most relevant real-world challenges. The Department's teaching activities offer students the necessary theoretical foundations and also include more advanced courses, focused for instance on the above-mentioned application areas. The results of our research are published in renowned international peer-reviewed journals.

#### **Organization and Chairs**

- Production and Supply Chain Management
- Operations Management
- Logistics and Supply Chain Management
- Operations and Supply Chain Management
- Operations Research
- Corporate Management, Logistics and Production
- Prof. Dr. Martin Grunow Prof. Dr. Rainer Kolisch Prof. Dr. Stefan Minner Prof. Dr. Maximilian Schiffer Prof. Dr. Andreas S. Schulz Prof. Dr. Dr. h.c. mult. Horst Wildemann





## Prof. Dr. Martin Grunow Professor of Production and Supply Chain Management

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#### Areas of interest

- Supply chain management
- Integration of product and process design with supply network design
- Sales and operations planning and advanced planning systems (APS)
- Production planning and scheduling
- New product introduction and ramp up

#### Selected current research projects

**Concentrates vs. Powders:** We quantify the economic and ecological advantages of substituting powders with concentrates in cooperation with the TUM Department of Food Process Engineering and Dairy Technology and two SMEs. While energy for drying is saved at the processing stage, the environmental impact is increased at the distribution stage by larger shipment volumes and increased product perishability. For different transportation distances, we identify the optimal dairy products and processing technology.

**Modular Helicopters:** The product structure to a large extent determines the supply chain structure. We develop a design methodology integrating the product domain and the supply chain domain. In particular, we investigate the implications of modular design on multiple sourcing and IPR in global production networks.

#### **Curriculum vitae**

Martin Grunow is Professor of Production and Supply Chain Management at the Technical University of Munich. He is head of the working group Supply Chain Management at the German OR Society. Previously he held a Professorship in Operations Management at Technical University Denmark. Before that, he worked at Technical University Berlin and in the R&D Department of Degussa, a multinational company producing special chemicals. His research interests are in production and logistics management, with a focus on the process, electronics and automotive industries.

Martin has coauthored papers in the European Journal of Operational Research, CIRP Annals, Computers & Chemical Engineering, Flexible Services and Manufacturing Journal, International Journal of Production Economics, International Journal of Production Research, and OR Spectrum. For FSMJ and OR Spectrum, he also acts as an editor. For five years, Martin Grunow has been on the program committee of the Strategic Research Council Denmark and the Innovation Fund Denmark. He has also been on the program committee of more than 30 international conferences and has organized multiple special tracks. He is an Associate Member of The International Academy of Production Engineering.





## Prof. Dr. Rainer Kolisch Professor of Operations Management

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#### Areas of interest

- Project management and scheduling
- Service operations
- Airport operations
- Health care operations

## Selected current research projects

**Project scheduling with flexible resource profiles:** The project involves developing new models and methods in order to schedule a project such that the start, the duration and the resource profiles of the activities are planned. Applications include engineer-to-order manufacturing and the scheduling of medical residents' training at university hospitals.

**Baggage Flow at Hub Airports:** In cooperation with Munich Airport, the project develops models, methods and systems in order to plan baggage flow at Terminal 2.

### **Curriculum vitae**

Rainer Kolisch has been a Full Professor for Operations Management at TUM School of Management since 2002. He studied Industrial Engineering, majoring in Production Management, at the Technical University of Darmstadt and obtained his doctoral degree and his "habilitation" from Christian-Albrechts-Universität zu Kiel. Before joining TUM, Rainer held faculty positions at the Technical University of Darmstadt and Technical University of Dresden. From 2015 to 2016, he was Visiting Professor at the Department of Systems and Industrial Engineering of North Carolina State University.

Rainer's primary research interests are project management and scheduling, as well as service operations, particularly in airports and healthcare. Recent projects include baggage flow planning at airports and patient flow planning at hospitals.

Rainer has published in leading international journals, such as Management Science, Journal of Operations Management, Production and Operations Management, Transportation Science, IIE Transactions, Naval Research Logistics, and the European Journal of Operational Research. He has served as Associate Editor of several journals, including Omega and Journal of Scheduling, and is currently Editor-in-chief of OR Spectrum, Editor of European Journal of Decision Processes, and Member of the Editorial Board of Operations Research for Health Care.





## Prof. Dr. Stefan Minner Professor of Logistics and Supply Chain Management

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#### Areas of interest

- Inventory management
- Global supply chain design
- Transportation
   optimization
- Supply chain planning and coordination
- Operations research
   and business analytics

#### Selected current research projects

**Logistics for automotive supply:** In cooperation with École Centrale Paris and sponsored by Faurecia, a leading Tier-1 automotive supplier, we investigate the impact of product variety on automotive supply chains and manufacturing processes. The project develops strategies and optimization tools for mitigating the negative cost impact of variety.

**COSIMA:** In cooperation with the University of Vienna and sponsored by DFG, we develop innovative solution methods for consistent vehicle routing and stochastic inventory management. Applications range from urban retail distribution to vendor-managed inventories in B2B supply chains.

*City Crowd Logistics:* Last-mile delivery is the most complex and costly part of goods distribution in urban logistics and has received increasing importance due to growth of e-commerce. We develop innovative business and organization models for designing platforms to crowd source last-mile services..

**Integrated procurement and inventory management:** We develop forecasting and replenishment decision support based on Big Data and machine-learning techniques. Applications are in the area of commodity procurement with a chemical company and freight purchasing.

### **Curriculum vitae**

Stefan Minner has been a Full Professor for Logistics and Supply Chain Management at TUM School of Management, Technical University of Munich, since 2012. He studied Business Administration, majoring in Operations Research at the University of Bielefeld and obtained his doctoral degree and "habilitation" from the Otto-von-Guericke-University of Magdeburg. From 2000-2001 he was a postdoctoral researcher at the University of Calgary. Before joining TUM, he held faculty positions at the Universities of Paderborn, Mannheim and Vienna.

Stefan's primary research interests are logistics network design, transportation optimization and inventory management. Recent projects include logistics for the automotive industry, retail operations, as well as last-mile city logistics and urban mobility. He was President of the International Society for Inventory Research (ISIR). He is also Vice-Chairman of the Advisory Board of the German Logistics Association (BVL) and a Member the Research Committee of the European Logistics Association (ELA).

Stefan has published in leading international journals such as Management Science, Operations Research, Manufacturing & Service Operations Management, Production and Operations Management, European Journal of Operational Research, Transportation Research-B, OR Spectrum, and IIE Transactions. He received the Service Award of the International Society for Inventory Research (ISIR) and is a Fellow of the Society since 2016. For his dissertation he received the scientific award for applied research of the German Operations Research Society (GOR), and the dissertation award of the Faculty of Economics and Management, Otto-von-Guericke-University of Magdeburg. Several of his former doctoral students hold faculty positions at national and international universities.





## Prof. Dr. Maximilian Schiffer Professor of Operations and Supply Chain Management

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#### **Areas of interest**

- Mobility Systems
- AI & Machine Learning
- Supply Chain
   Management
- Transportation
- Production Planning
- Power networks

#### Selected current research projects

**Autonomous Mobility on Demand Systems:** We study the impact of autonomous mobility on demand (AMoD) systems on city logistics and passenger transportation. Herein, we develop mathematical models and algorithms from a system perspective to assess potential benefits but also develop real-time algorithms. Further, we focus on smart grid topics and develop models that consider the interdependencies between an AMoD system and the power network.

*Warehouse Operations:* The importance of efficiently operating a warehouse became increasingly important in recent years, especially with the rise of e-commerce. We develop the first generic exact algorithms for picker routing in warehouses that can be operated in real-world warehouses of online retailers and show computational times of only a few seconds. Further we develop similar algorithms for robotized warehouses and analyze design aspects in warehouses in general.

**Spatio-Temporal Forecasting:** We enhance neural networks usually used for pattern recognition to be suitable for spatio-temporal forecasts in every kind if system. Doing so, we succeed in capturing a new information density in modern forecasting techniques.

*Value-based Production Planning:* We develop value-based end-to-end production planning systems to maximize a companie's profit which is not necessarily correlated with its throughput. Our models and algorithms are applied in practice in the copper industry.

#### **Curriculum vitae**

Maximilian Schiffer studied business administration and electrical power engineering at RWTH Aachen University and received his doctoral degree in operations research from RWTH Aachen in 2017. In 2018 he held a postdoctoral position at RWTH Aachen University and a visiting scholar position in the Autonomous Systems Laboratory at Stanford University. Max is an associate member of the GERAD, Canada. In September 2018, Max was appointed as faculty member in the Operations and Supply Chain Management Department of TUM School of Management and in TUM's newly created Center for Energy Markets.

Max's research spans across different fields of operations research and management. These include a wide range of transportation and logistics topics, e.g., electric vehicles and autonomous systems, but also topics from production planning, supply chain management, and data science. In these fields, Max develops state-of-the-art algorithms that are suitable for real-world applications.





### Areas of interest

- Healthcare
- Humanitarian operations
- Network design and analysis
- Project planning
   and scheduling
- Systems optimization
- Machine learning

## Prof. Dr. Andreas S. Schulz Professor of Operations Research

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#### Selected current research projects

**Kidney transplantation** is the most effective treatment for end-stage renal disease, however it can be very difficult for a patient to find a compatible donor. Recently kidney exchange programs (KEP) have provided a way to increase the number of live kidney donations. With KEP, two incompatible patient-donor pairs are matched such that the donor from Patient A donates to Patient B and the donor from Patient B donates to Patient A. These successful programs are not found in Germany due to restrictive legislature. To motivate KEP in Germany, we are studying the performance of mathematical models for kidney exchange under variations to the German law, and demonstrating that KEP have the potential to help many of the thousands of Germans suffering from kidney disease.

In New York state, if a **homeless person** needs a place to stay, the state is required by law to provide shelter. If all of the homeless shelters in a regional area are full, then homeless persons are placed in hotels. In practice, it is desirable to avoid hotel placements because they are more costly than shelter placements and provide fewer resources for homeless persons. Working with multi-year data supplied by the Western New York Homeless Alliance, we are investigating how techniques from stochastic queuing theory can be applied to streamline shelter assignment and decrease the number of hotel placements for persons experiencing homelessness.

**Fare evasion** causes significant losses to the operators of public transit systems. Transantiago, the operator of the bus network of Chile's capital Santiago, suffers from particularly high evasion rates, estimated to lie between 20 and 30 percent. In collaboration with a group at Universidad de Chile and local transportation authorities, the Operations Research group at TUM develops mathematical models and algorithms that help reduce evasion rates by optimizing the distribution of ticket inspections in the network. The project makes use of insights from game theory to take into account the strategic behavior of fare-evading passengers.

### **Curriculum vitae**

Andreas S. Schulz joined TUM in the summer of 2015 to lead the creation of a new interdisciplinary research center between the Department of Mathematics and the School of Management. He has a joint appointment in both departments and is holder of the Chair for Operations Research. He has been a member of the faculty of the Massachusetts Institute of Technology (MIT) since 1998, most recently as the Patrick J. McGovern Chair of Management and Professor of Mathematics of Operations Research. Earlier he was Head of the Operations Research & Statistics Group at MIT's Sloan School. He has held visiting research professorships at the Institute of Theoretical Computer Science of ETH Zurich, the Department of Quantitative Economics at Maastricht University, the Department of Mathematics of TU Munich, the Mathematics Department of TU Berlin and the Sauder School of Business at the University of British Columbia.

Andreas obtained his Ph.D. in Mathematics from the Technische Universität Berlin in 1996. In 2014 the Alexander von Humboldt Foundation bestowed the Alexander von Humboldt Professorship upon him. Previously he had already received the Humboldt Research Award in recognition of his lifetime achievements. In the year 2000, the German Academy of Sciences Leopoldina and the Berlin-Brandenburg Academy of Sciences and Humanities named him one of 20 founding members of "Die Junge Akademie". Other honors include the Best Paper Award of the Transportation Science & Logistics Society of INFORMS, the Glover-Klingman Prize, the Carl-Ramsauer-Prize and awards for excellence in teaching.

Andreas has been on the editorial boards of several scientific journals, including ACM Transactions on Algorithms, Discrete Optimization, INFORMS Journal on Computing, Journal of Scheduling, and Operations Research.





### Prof. Dr. Dr. h.c. mult. Horst Wildemann Professor of Corporate Management, Logistics and Production

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#### Areas of interest

- Corporate management
- Logistics
- Production

#### Selected current research projects

**Modeling a demand and gap analysis process to increase the productivity in SMEs with "Industrie 4.0:** Small companies require support with the selection and implementation of Industry 4.0 solutions. We are developing an IT tool to identify productivity gaps. A model classifies SMEs regarding relevant KPIs, characteristics and actual degree of implementation of Industry 4.0 solutions and technologies, and delivers individual hints for improvement.

*Gamification for manufacturing and assembly:* Manufacturing and assembly workspaces are characterized by monotonous activities and demotivating environments for employees. This research project investigates opportunities for solving this problem by implementing gamification contents in this setting. The goal of the project is to raise workers' motivation and attention in order to increase productivity and product quality, as well as employee satisfaction.

#### **Curriculum vitae**

Horst Wildemann studied Mechanical Engineering (Master of Engineering) and Business Administration (Master of Commerce) in Aachen and Cologne. In 1974, after several years working as an engineer in the automotive industry, he gained a Ph.D. (Dr. rer. pol.) in Economics. He then attended the International Management Institute in Brussels and gained experience at several American universities. In 1980 he qualified as a University Lecturer (Dr. hab.) at the University in Cologne. Since 1980 he has been lecturing as a Full Professor for Business Administration in the Universities of Bayreuth, Passau and since 1989 at the Technical University of Munich. He has been asked for a Professorship at the Universities of Stuttgart Hohenheim, Dortmund, the Free and the Technical University of Berlin, University of Southern California, Los Angeles, University of Indianapolis, Indianapolis, and also the University of St. Gallen.

In addition to teaching, Horst is an executive at a consulting company for corporate planning and logistics with over 60 employees. Drawing on his practical experience, he has written 40 books and more than 700 essays, in which he shows new ways for the profitable creation of a successful company. He acts as a consultant, Member of the Board of Directors and Member of the Advisory Board of leading industrial enterprises. He was awarded the "Staatsmedaille" of the Bavarian State and the Federal Cross of Merit, First Class, of the Federal Republic of Germany. He has received honorary doctorates from the Universities of Klagenfurt, Passau and Cottbus. He was admitted to the Logistics Hall of Fame in 2004. In addition, he was awarded the "Bayerischer Verdienstorden" in 2006 and the Badge of Honor "Bundesververeinigung Logistik" in 2008.

### **Publications**

2015-2018, peer-reviewed journals and books

Albers, S.; Bichler, M.; Brandt, F.; Gritzmann, P.; Kolisch, R. 2017. Algorithmic Economics und Operations Research. *Informatik-Spektrum*, 40(2): 165-171.

Albinski, S.; Fontaine, P.; Minner, S. 2018. Performance analysis of a hybrid bike sharing system: A service-level-based approach under censoreddemand observations. Transportation Research Part E: *Logistics and Transportation Review*, 116: 59-69.

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Bohner, Ch.; Minner, S. 2017. Supplier Selection under Failure Risk, Quantity and Business Volume Discounts. *Computers & Industrial Engineering* 104(2): 145-155.

Brech, C.; Ernst, A.; Kolisch, R. 2018. Scheduling Medical Residents' Training at University Hospitals European. Available online: European Journal of Operational Research.

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De Kok, T.; Grob, C.; Laumanns, M.; Minner, S.; Rambau, J.; Schade, K. 2018. A Typology and Literature Review on Supply Chain Inventory Management. *European Journal of Operational Research.* 

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Du, J. Y.; Brunner, J.; Kolisch, R. 2016. Obtaining the optimal fleet mix: A case study about towing tractors at airports. Omega.

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Fontaine, P.; Minner, S. 2017. A Dynamic Discrete Network Design Problem for Maintenance Planning in Traffic Networks. Annals of Operations-Research, 253(2): 757-772.

Fontaine, P.; Minner, S. 2018. Benders Decomposition for the Hazmat Transport Network Design Problem. European Journal of Operational Research

Frey, M.; Kiermaier, F.; Kolisch, R. 2017. Optimizing inbound baggage handling at airports. Transportation Scienc, Vol. 51 (4), 1210-1225.

Frey, M.; Kolisch, R.; Artigues, C. 2017. Column Generation for Outbound Baggage Handling at Airports. Transportation Science, 51(4): 1226-1241.

Fügener, A.; Schiffels, S.; Kolisch, R. 2017. Overutilization and underutilization of operating rooms - insights from behavioral health care operationsmanagement. *Health Care Management Science*, 20(1): 115-128.

Fügener, A.; Edenharter, G.; Kiefer, P.I.; Mayr, U.; Schiele, J.; Steiner, F.; Kolisch, R.; Blobner, M. 2016. Improving Intensive Care Unit and Ward Utilization by Adapting Master Surgery Schedules. A case study. *Anesthesia & Analgesia Case Reports*, 6(6): 172-180.

Gan, T.-S.; Grunow, M. 2016. Concurrent product and supply chain design: a literature review, an exploratory research framework and a process for modularity design. *International Journal of Computer Integrated Manufacturing*, 26(12): 1255-1271.

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Keilhacker, M.; Minner, S. 2017. Supply chain risk management for critical commodities: A system dynamics model for the case of the rare earth-Elements. *Resources, Conservation & Recycling*, 125(10): 349-362.

### **Publications**

2015-2018, peer-reviewed journals and books

Kolisch, R.; Dahlmann, A. 2015. The dynamic replica placement problem with service levels in content delivery networks: A model and a simulatedannealing heuristic. OR Spectrum, 37(1): 217-242.

Kouki, C.; Jemai, Z.; Minner, S. 2015. A Lost Sales (r,Q) Inventory Control Model for Perishables with Fixed Lifetime and Lead Time. International Journal of Production Economics, 168: 143-157.

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Marx, M.; Dumpler, J.; Kulozik, U.; Depping, V.; Stefansdottir, B.; Grunow, M. 2016. Milch- und Molkenkonzentrate. Ökologisch und ökonomischsinnvoll - Teil 2. *Molkerei-Industrie:* 46-48.

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Orlin, J. B.; Schulz, A. S.; Udwani, R. 2015. Robust Monotone Submodular Function Maximization. CoRR, Journal volume:abs/1507.06616

Öner-Közen, M.; Minner, S. Dynamic Pricing, Leadtime Quotation and Due-Date-Based Priority Dispatching, International Journal of Production Research, forthcoming.

Öner-Közen, M., Minner, S. 2017. Impact of Priority Sequencing Decisions on On-Time Probability and Expected Tardiness of Orders in Make-To-Order Production Systems with External Due-Dates, *European Journal of Operational Research*, 263(2): 524-539.

Öner-Közen, M.; Minner, S.; Steinthaler, F. 2017. Efficiency of Paced and Unpaced Assembly Lines under Consideration of Worker Variability -Asimulation Study. Computers & Industrial Engineering, 111(9): 516-526.

Pförringer, D.; Breu, M.; Crönlein, M.; Kolisch, R.; Kanz, K.-G. 2018. Closure simulation for reduction of emergency patient diversion: a discreteagent-based simulation approach to minimizing ambulance diversion. *European Journal of Medical Research*, 23(32).

Scheiper, B.; Schiffer, M., and Walther, G. 2018. The flow refueling location problem with load flow control. Omega, (in press)

Schiffels, S.; Fliedner, T.; Kolisch, R. 2018. Behavioral project portfolio decision making: Insights from an experimental study. Decision Sciences.

Schiffer, M. and Walther, G. 2018. An adaptive large neighborhood search for the location-routing problem with intra-route facilities. *Transportation Science*, 52(2): 229-496.

Schiffer, M.; Schneider, M.; Walther, G.; and Laporte, G. 2018 Vehicle routing and location-routing with intermediate stops: A review. *Transportation Science*, (in press).

Schiffer, M.; Schneider, M.; and Laporte, G. 2018. Designing sustainable mid-haul logistics networks with intra-route multi-resource facilities. *European Journal of Operational Research*, 265(2): 517-532.

Schiffer, M. and Walther, G. 2018. Strategic planning of electric logistics fleet networks: A robust location routing approach. Omega, 80: 31-42.

Schiffer, M. and Walther, G. 2017. The electric location routing problem with time windows and partial recharging. *European Journal of Operational Research*, 260(3): 995-1013.

Schiffer, M.; Stütz, S.; and Walther, G. 2018. Behaviour of Lithium-Ion Batteries in Electric Vehicles. *Green Energy and Technology.* Chapter Electric Commercial Vehicles in Mid-Haul Logistics Networks: 153-173.

Shen, B.; Choi, T.-M.; Minner, S. 2018. A Review on Supply Chain Contracting with Information Considerations: Information Updating and Information Asymmetry. International Journal of Production Research.

## **Publications**

2015-2018, peer-reviewed journals and books

Silbermayr, L.; Minner, S. 2016. Dual sourcing under disruption risk and cost improvement through learning. *European Journal of Operational Research*, 250(1): 226-238.

Stefansdottir, B.; Depping, V.; Grunow, M.; Kulozik, U. 2018. Impact of shelf life on the trade-off between economic and environmental objectives:a dairy case. *International Journal of Production Economics:* 136-148.

Stefansdottir, B.; Grunow, M. 2018. Selecting new product designs and processing technologies under uncertainty: two-stage stochastic modeland application to a food supply chain. *International Journal of Production Economics*, 201: 89-101.

Stefánsdóttir, B.; Grunow, M.; Akkerman, R. 2017. Scheduling setups and cleanings: classification and generic modelling approach. *European Journal of Operational Research*, 261(3): 849-865.

Taube, F; Minner, S. 2017. Data-Driven Assignment of Delivery Patterns with Handling Effort Considerations in Retail. Computers & Operations Research.

Tavaghof-Gigloo, D.; Minner, S.; Silbermayr, L. 2016. Mixed integer linear programming formulations for flexibility instruments in capacity planningproblems, *Computers and Industrial Engineering*, 97: 101-110.

Tonke, D.; Grunow, M. 2018. Maintenance, shutdown, and production scheduling in semiconductor robotic cells. International Journal of Production Research, 56(9): 3306-3325.

Tritschler, M.; Naber, A.; Kolisch, R. 2017. A hybrid metaheuristic for resource-constrained project scheduling with flexible resource profiles. *European Journal of Operational Research*, 262(1): 262-273.

Turan, B.; Minner, S.; Hartl, R.F. 2017. A VNS approach to multi-location inventory redistribution with vehicle routing. *Computers & Operations-Research*, 78(2): 526-536.

Turgut, Ö.; Taube, F.; Minner, S. 2018. Data-Driven Retail Inventory Management with Backroom Effects. OR Spektrum.

## **Editorships**

2015-2018

## Prof. Dr. Martin Grunow

- OR Spectrum, Editor
- Flexible Services and Manufacturing Journal, Associate Editor
- Business Research, Editorial Board
   Operations and Information Systems
- Produktion und Logistik, book series, Gabler Verlag, Editor

## Prof. Dr. Rainer Kolisch

- OR Spectrum: Editor-in-Chief
- European Journal of Decision Processes: Editor
- Operations Research for Health Care: Editorial Board Member
- Review of Managerial Science: Editorial Board Member
- Decision Making in Manufacturing and Services: Editorial Board Member

## Prof. Dr. Stefan Minner

- Editor-in-Chief, Logistics Research, 2013. Editor-in-Chief, International Journal of Production Economics, since 2018
- Member of the Editorial Board, European Journal of Operational Research, since 2015
- Member of the Editorial Board, Review of Managerial Science, since 2006
- Editor-in-Chief, Business Research, until 2016
- Department Editor Operations and Information Systems, Business Research, until 2016

### Prof. Dr. Andreas S. Schulz

 ACM Transactions on Algorithms Editorial Board Member

## **Visitors**

2015-2018

#### Dr. Ashwin Arulselvan

Lecturer, Management Science Talk "Economic lot sizing problem with remanufacturing option" 12.02.17 to 16.02.17, University of Strathclyde, Glasgow (UK)

Marjolein Buisman Sustainability in dairy supply chains 1/2 year, 2014-2015, Wageningen University, The Netherlands

#### Dr. Sergei Chubanov

Talk "Polynomial projection algorithm with applications in combinatorial optimization" 29.05.2016 to 31.05.2016, Universität Siegen

#### **Nesim Erkip**

August-Wilhelm Scheer Visiting Professor October 1, 2017-March 31, 2018, Bilkent University, Ankara, Turkey

#### Ruben Hoeksma

Postdoctoral Researcher Talk "Posted price mechanisms for a random stream of customers" 14.03.17 to 25.03.17, University of Chile, Santiago (Chile)

#### Takayuki Kataoka

Operations Management Sabbatical September 1, 2014 to August 31, 2015, Kinki University, Hiroshima, Japan

#### Prof. John J. Kanet

Visiting Professor: May - July 2016 August-Wilhelm Scheer Guest Professor: June – December 2017 University of Dayton, U.S.A.

#### Shanshan Li

Sourcing Strategy under Disruption Visiting Ph.D student from September 1, 2017 to August 31, 2018, Southeast University, Nanjing, China

Qiao Lianbao Supply Chain Design Visiting Ph.D. student July 1, 2015 to June 30, 2016, Nanjing University, China

#### **Tom McCormick**

Professor, Operations and Logistics Division Talk "Computing closest vectors in zonotopal lattices" 25.03.2017 to 29.03.2017, Sauder School of Business, University of British Columbia, Vancouver, Canada

#### Indrajit Mukherjee

Quality Management DAAD visiting scholar April 1 to August 31, 2015, IIT Bombay, India

#### **Matias Schuster Puga**

Supply Chain Design and Inventory Management Visiting Ph.D. student from January 1, 2016 to June 30, 2016, UC Louvain, Belgium

#### José Soto

Assistant Professor Talk "Independent Sets of Rectangles Intersecting a Diagonal Line" 24.10.2016 to 29.10.2016 Talk "Strong algorithms for the ordinal matroid secretary problem" 26.07.17 TUM Visiting Professor June-July 2017; University of Chile, Santiago (Chile)

#### José Verschae

Assistant Professor 16.02.2016 to 21.02.2016 , University of Chile, Santiago (Chile)

#### Andrés Perlroth Vitiriol

25.06.17 to 11.07.17 Stanford Graduate School of Business, USA

#### **Dr. Andreas Wiese**

Talk "Better Approximation Guarantees for Geometric Packing Problems" 29.02.2016, MPI Saarbrücken

#### **Pedro Amorim**

Professor December 2017, University of Porto, Portugal

#### Renzo Akkerman

Professor January, March, May, July 2017, February 2018, Wageningen University, Netherlands

Stephen Graves Professor July 2017, MIT, Boston, USA

Bernardo Amado Lobo Professor February 2016, University of Porto, Portugal

Wenyang Song Professor March 2016- March 2017, Beihang University, China

S. Karthik Sundaram DAAD Scholar May to July 2016, National Institute of Technology Tiruchirappalli, India

## TUM School of Management Academic Department: Finance & Accounting



#### Who we are

The Academic Department of Finance & Accounting spans the traditional fields of corporate finance, management accounting and financial accounting. We conduct empirical, theoretical and experimental research in these fields. Moreover, the Department runs several industry cooperation projects. The Department is home to the Center for Entrepreneurial and Financial Studies (CEFS), focused on entrepreneurial finance, in particular topics such as venture capital, private equity, family businesses and the financing of small and medium sized enterprises. In addition, the Center for Energy Markets (CEM) has recently been founded, focused on the economic and financial analysis of the wider area of energy markets.

#### **Organization and Chairs**

- Entrepreneurial Finance
- Entrepreneurial Finance 2
- Financial Accounting
- Management Accounting
- Financial Management and Capital Markets
- Corporate Governance and Capital Market Law
- Corporate Management
- Investment, Finance and Risk Management in Energy Markets
- Prof. Dr. Dr. Dr. h.c. Ann-Kristin Achleitner Prof. Dr. Reiner Braun Prof. Dr. Jürgen Ernstberger Prof. Dr. Gunther Friedl Prof. Dr. Christoph Kaserer Prof. Dr. Philipp Maume Prof. Dr. Alwine Mohnen Prof. Dr. David Wozabal





## Prof. Dr. Dr. Dr. h.c. Ann-Kristin Achleitner Professor of Entrepreneurial Finance

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#### **Areas of interest**

- Private equity
- Venture capital
- Family firms
- Financing of innovations
- Impact of ownership structures

#### Selected current research projects

*Foundation ownership and shareholder value: An event study* (with Dmitry Bazhutov, André Betzer, Jörn Block and Florian Hosseini): Some of the largest firms in Germany are partly owned by foundations. So far, little research exists into the shareholder value effects of foundation ownership. This study aims to close this gap using an event study method. First results show interesting insights into market reactions to share increases and decreases by foundations.

*Hybrid organizations at the interface of profit and non-profit orientation* (with Jörn Block): In a joint project with Professor Jörn Block from the University of Trier, we look at foundation-owned firms and their activities at the interface of profit orientation and public welfare orientation. As there are large differences in the structure and general aims of foundations, the use of profits varies greatly. We can develop a scale in order to measure the hybridity and can give advice for both further research and practitioners.

#### **Curriculum vitae**

Ann-Kristin Achleitner is Professor of Entrepreneurial Finance at TUM School of Management, Technical University of Munich (TUM) in Germany. She has held the Chair of Entrepreneurial Finance since 2001 and is Founder and since 2003 Scientific Co-Director of the Center for Entrepreneurial and Financial Studies (CEFS) at the Technical University of Munich (TUM). From 1995 to 2001 she was Full Professor of Banking and Finance at the European Business School (ebs), Oestrich Winkel, and also worked as a consultant for McKinsey & Company and MS Management Service, St. Gallen. She earned her degrees and her Ph.D. in both Law and Business Administration from the University of St. Gallen (HSG) in Switzerland. In 2017 she was awarded an honorary doctorate from the Leuphana University of Lüneburg, Germany.

Ann-Kristin conducts research in the area of entrepreneurial finance with a focus on the financing of innovation, venture capital, private equity, and family businesses and foundation-owned firms. She is engaged in the field of social entrepreneurship and is a founding member of the Social Entrepreneurship Academy (SEA). She is a Member of the Supervisory Boards of Deutsche Börse, Linde, and Muenchener Rueckversicherungs-Gesellschaft, and serves on the Board of Directors of ENGIE. Recently she joined the international advisory board of Investcorp. Apart from this, she is frequently consulted as expert and has advised the European Union, the German and Swiss governments and the Bavarian State. At present, she is a member of the Trilateral Commission, the Economic Advisory Council of the French Embassy in Berlin and the Europe Policy Group/New Concept for Europe Initiative of the World Economic Forum (WEF). In the past, she has been a member of the Government Commission "Regierungskommission Deutscher Corporate Governance Kodex" (the German Corporate Governance Code) and the Expert Commission "Research and Innovation" (EFI) of the German Federal Government, where she served as Vice-Chairwoman from 2009 to 2011, and a member of Commissioner Navracsics's High Level Group on the European Institute of Innovation & Technology (EIT).

Ann-Kristin earned several awards for both her research and her teaching, including the Officer's Cross of the Order of Merit of the Federal Republic of Germany in 2014. She is a member of acatech (National Academy of Science and Engineering). She is a member of the Förderkreis Gründungs-Forschung e.V. (FGF) and served as their president from 2007 till 2009. She has published and edited more than 30 books and published papers in leading journals such as Research Policy, Review of Finance and VOLUNTAS. Several of her former research assistants hold professorships at universities.





## Prof. Dr. Reiner Braun Professor of Entrepreneurial Finance

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#### **Areas of interest**

- Private equity
- Venture capital
- Behavioral
   entrepreneurial finance
- Innovation funding
- Startup financing

#### Selected current research projects

*The Levered Returns of Leveraged Buyouts: The Impact of Competition* (with Nicholas G. Crain and Anna Gerl): In this study we investigate how credit cycles and competition for buyout targets between private equity funds drive the relationship between deal leverage, pricing and performance. In a further step, we evaluate the effects of debt on the investment behavior of general partners in the private equity industry.

Adverse selection and the performance of private equity coinvestments (with Tim Jenkinson and Christoph Schemmerl): Co-investments are becoming a significant part of the private equity investment landscape. This research project aims at examining whether risk-return profiles of co-investments differ from traditional private equity fund investments. Furthermore, potential return drivers such as investment expertise and network relationships are analyzed from various perspectives.

#### **Curriculum vitae**

Reiner Braun is Professor of Entrepreneurial Finance at TUM School of Management, the Technical University of Munich (TUM) in Germany. He has held the Chair of Entrepreneurial Finance since 2015 and has been Scientific Director at the Center for Entrepreneurial and Financial Studies (CEFS) at TUM since 2015. He is Academic Program Director of the International Master in Industrial Management at TUM School of Management. From 2013 to 2015 he was Professor of Entrepreneurial Finance at Friedrich-Alexander University Erlangen-Nürnberg (FAU).

Reiner conducts research in the area of entrepreneurial finance with a focus on private equity, venture capital and behavioral entrepreneurial finance. He is a member of the Committee "Attractiveness of IPO candidates and their IPO maturity" of the task force "More IPOs of high-growth companies in Germany", organized by the Federal Ministry of Economics and Technology (BMWi). He is Founding Partner at Captona Beteiligungsgesellschaft. In addition, he is active in the TU München Alumni Business Angel Network and was a Member of the Advisory Board of Wirtschaftswoche Best of Consulting.





## Prof. Dr. Jürgen Ernstberger Professor of Financial Accounting

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#### **Areas of interest**

- Auditing and external assurance
- Real effects of financial reporting on business decisions
- Enforcement of accounting standards
- Corporate governance
- Corporate social oesponsibility (CSR)

### Selected current research projects

Academic Practitioner Auditors: Effects of Publishing Practice-oriented Research on Audit Quality and Audit Fees (J. Ernstberger, M. Prott and C. Koch): Many criticize the widening gap between academic research and practice. In this study we explore the benefits of bridging this gap by examining how an engagement in (practice-oriented) research influences the day-to-day work of auditors.

**Regulatory Approaches to Corporate Social Responsibility Disclosure: International Evidence on the Economic Consequences** (J. Ernstberger and J. Maniora): In recent years, firms worldwide have increasingly disclosed information on corporate social responsibility (CSR), and several regulators have recently issued regulations on this disclosure. This study examines the capital market effects of different regulatory approaches on CSR disclosure around the world.

How Do the Content and Rhetoric of Initial Coin Offering Disclosures INFLUENCE Funding **Decisions?** (J. Ernstberger and S. Romeike): Raising money in initial coin offerings (ICOs) is currently one of the biggest trends in startup funding. In this project we examine the effects of content and rhetoric in ICO whitepapers on the funding raised in ICOs.

*Who Makes Partner in Big 4 Audit Firms?* (B. Downar, J. Ernstberger and C. Koch): The up-or-out tournament structure of professional service firms may create undue pressure for commercial success. To address this topic, we empirically analyze the determinants of becoming a partner in Big 4 audit firms.

#### **Curriculum vitae**

Jürgen Ernstberger studied Business Administration at the University of Regensburg and Copenhagen Business School. From 2002 to 2004 he worked as a Research Assistant and was a Ph.D. student at the Chair of Financial Accounting and Auditing (Prof. Dr. Gerhard Scherrer), earning a doctorate (Dr.rer.pol.). At the Chair of Financial Accounting and Auditing (Prof. Dr. Axel Haller) he continued as Assistant Professor and successfully qualified as Professor (Dr. rer.pol.habil.) at the University of Regensburg in 2008. In Winter Semester 2008/2009 he held an interim position as Professor for Financial Accounting and Auditing at the Georg-August-University Göttingen. From 2009 to 2014 he held the Chair of Accounting and Auditing at the Ruhr-University Bochum and was Visiting Professor at the Rotman School of Management in Toronto. In October 2014 he was appointed Full Professor for Financial Accounting and Academic Program Director for the Bachelor Program in Management and Technology at TUM School of Management.





## Prof. Dr. Gunther Friedl Professor of Management Accounting

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#### Areas of interest

- Management accounting
- Corporate governance
- Management
   compensation
- Performance
   measurement
- Corporate valuation
- Public regulation
- Patent valuation

#### Selected current research projects

*Executive compensation:* In cooperation with DSW, we analyze the development and consequences of executive compensation in Germany.

**GeoFlex:** In cooperation with Munich School of Engineering and the University of Bayreuth, we analyze the flexibility potential of thermal power plants used for deep geothermal projects. We identify if and how deep geothermal plants are suitable for compensating the residual power demand in an adjustable way and determine the value of this option.

#### **Curriculum vitae**

Gunther Friedl has been Dean of TUM School of Management at Technical University of Munich since 2010. He joined TUM as a Full Professor of Management Accounting in 2007. He holds both a Diplom (M.Sc.) in Business Administration from the University of Munich and a Diplom (M.Sc.) in Physics from the Technical University of Munich. He received his Ph.D. and "habilitation" in Business Administration from the University of Munich. Before joining Technical University of Munich, Gunther was Full Professor at the University of Mainz. He has been Visiting Scholar at Stanford University and Guest Professor at the Warsaw School of Economics.

Gunther's teaching focuses on topics such as cost and management accounting, financial accounting, value-based management and corporate valuation at the undergraduate and graduate level, as well as for executive programs. For his teaching Gunther has received several rewards, including a Best Teaching Award for the TUM Executive MBA. In 2012 he was named German Professor of the Year.

Gunther is author and co-author of several textbooks and monographs on management accounting. His current research interests lie in the area of executive compensation, performance measurement and valuation. His work has been published in journals such as the European Journal of Operational Research, OR Spectrum, Research Policy, and the Schmalenbach Business Review.

His research on executive compensation has been covered in the media by the likes of Handelsblatt, the Financial Times, Frankfurter Allgemeine Zeitung, Huffington Post, ARD and ZDF.





## Prof. Dr. Christoph Kaserer Professor of Financial Management and Capital Markets

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#### **Areas of interest**

- Capital market research
- Corporate finance
- Asset management
- Financial market regulation

#### Selected current research projects

*Implied Cost of Capital:* There is a new strand of literature that aims at extracting the expected return of stocks and other asset classes from current market prices. In a large research project, the Institute is working on refinements of this methodology and on extending it into new fields of application. For instance, the method can be applied to improve traditional asset pricing models, such as the Fama-French-Model, to overcome the shortcomings of the Markowitz-Model of portfolio selection, as well as improving the understanding of corporate financial decisions. The Chair also manages the website www.marktrisikoprämie. de where worldwide cost of capital estimations are presented on a continuous basis.

**Cryptocurrencies:** Bitcoin, and with it an increasing number of "cryptocurrencies", have gained substantial attention over the last years. At the same time, their economic role and technical feasibility is a matter of fervid discussion. Do cryptocurrencies have a sustainable function as competing private irredeemable monies? And what is the appropriate regulation, from a legal as well as a monetary policy perspective, of these digital currencies? In this research project we contribute to this discussion by setting up a large database on cryptocurrencies and testing different models aiming at explaining the price dynamics of these virtual currencies.

#### **Curriculum vitae**

Christoph Kaserer is Full Professor of Finance at the Technical University of Munich (TUM). His area of expertise is empirical capital market research, corporate finance, financial market regulation and asset management. He is also active as an expert for the German government and also public and private institutions. He is currently an economic advisor to the European Securities Markets Authority (ESMA). He is also regularly invited to parliamentary hearings and court trials as an expert witness.

Before joining TUM, Christoph was Full Professor of Financial Management and Accounting at Université de Fribourg, Switzerland from 1999. From 2005 to 2010 he was Dean of TUM School of Management. He holds a degree in Economics from the University of Vienna and a Ph.D. in Finance from the University of Würzburg.





## Prof. Dr. Philipp Maume, S.J.D. Assistant Professor of Corporate Governance and Capital Markets Law

Web: Email: www.law.wi.tum.de philipp.maume@tum.de

#### Areas of interest

- German and European corporate governance
- Intellectual property in corporate finance
- Digitisation and the finance industry
- The overlap of securities regulation and competition law

#### Selected current research projects

**The interplay between capital markets regulation and competition law:** Spectacular cases such as the LIBOR scam or the Porsche/VW takeover have raised questions of overlaps of anticompetitive or abusive conduct and securities regulation. Policymakers have not addressed this issue yet. What are the implications for the design of the overlapping rules, their enforcement and market conduct supervision in general?

The regulation of technology in the financial markets (fintech): The finance industry is facing enormous challenges caused by digitization. Among other things, algorithm-based software provides financial advice to clients and makes independent investments decisions ("robo-advisory"). Established tech companies are entering the financial markets and starting to offer their own financial services ("techfin"). Regulators are wondering how to adjust their approaches to supervision in order to ensure market participant compliance in digitized environments ("regtech"). All these developments raise one question: Is our existing set of capital market regulation able to address these changes properly?

#### **Curriculum vitae**

Philipp Maume studied Law at Albert-Ludwigs-University Freiburg (Germany) and La Trobe University Melbourne (Australia). After his practical legal training at the Higher Regional Court Karlsruhe, he joined TUM School of Management as a Senior Researcher in 2005. In 2009 he was awarded a Doctor of Philosophy (Ph.D.) by the University of Augsburg. In 2010 he moved to Australia for a research project on information rights and corporate law. In 2013 he was awarded a Doctor of Juridical Science (S.J.D.) by La Trobe University, Melbourne. During his candidature he was a sessional staff member at La Trobe University School of Law and a Research Assistant at Monash University Department of Business Law and Taxation, Melbourne. In October 2013 he was appointed Assistant Professor for Corporate Governance and Capital Markets Law at TUM School of Management.





## Prof. Dr. Alwine Mohnen Professor of Corporate Management

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#### Areas of interest

- Corporate management
- Personnel economics
- Behavioral and
   experimental economics
- Compensation: monetary and nonmonetary incentives
- Sustainability

#### Selected current research projects

Incentives for creativity: Subjective vs. objective measurement of creative performance

- Monetary versus non-monetary incentives
- Sustainability and incentives

Family businesses and their incentive structures

### **Curriculum vitae**

Alwine Mohnen is Full Professor for Corporate Management at TUM School of Management since 2011. She studied Economics at the Rheinische Friedrich-Wilhelms-University of Bonn. After her diploma she worked as Research Assistant at the University of Vienna/Austria and received her Ph.D. (with distinction) from the University of Cologne. As a Post-doc she was a Visiting Scholar at Stanford University financed by a DFG Grant for one year and worked as Adjunct Professor at the CEU Business School of the Central European University at Budapest/Hungary. In 2008 she earned her "habilitation" from the University of Cologne. After that, she started as a Full Professor at the School of Business and Economics, RWTH Aachen. After several offers (University of Tübingen, Karlsruhe Institute of Technology KIT, University of Basel) she accepted an offer from TUM in 2011. She built up and is now Head of the experimental laboratory at TUM School of Management, designed for research in Behavioral Economics and Experimental Economics. Furthermore, she is Speaker of the Faculty Graduate Center, building up a doctoral program for Ph.D. candidates of the school. Since 2009 she has been Research Affiliate at the Institute for the Study of Labor IZA, Bonn.

Alwine has published in the Journal of Labor Economics, Journal of Economic Psychology, Review of Accounting Studies, Zeitschrift für Betriebswirtschaft, Applied Energy and elsewhere. For her dissertation entitled "Investment decisions, motivation and performance measurement", supervised by Herbert Hax, she received the dissertation award of the University of Cologne. Her research interests include behavioral economics, experimental economics, performance measurement, personnel economics, and incentives and sustainability.





## Prof. Dr. David Wozabal Assistant Professor of Investment, Finance & Risk Management in Energy Markets

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#### Areas of interest

- Energy finance
- Energy markets
- Risk management
- Stochastic optimization

#### Selected current research projects

**Optimal Marketing Strategies for Intermittent Renewables on the Spanish Spot Market for Electricity:** We are developing a multi-stage stochastic programming formulation for spot market bidding of a Virtual Power Plant (VPP) operating on the Spanish spot market for electricity. The VPP markets electricity produced in a wind farm by bidding on the dayahead market and on six staggered auction based intraday markets. Uncertainty enters the problem via stochastic prices and uncertain production quantities. We set up the problem of bidding for one day of operation as a Markov decision process and conduct an extensive out-of-sample comparison, demonstrating that the resulting policy clearly outperforms deterministic planning as well as a proprietary stochastic programming approach developed used in the industry.

**Optimal gas storage valuation and futures trading in incomplete markets:** This study examines the problem of optimal gas storage valuation in incomplete markets. The problem is modeled as a Markov decision process where the decisions are the trades on the market for gas futures, and can be regarded as a stochastic version of the popular rolling intrinsic valuation. We model risk preferences by the nested Conditional Value-at-Risk and show that the rolling intrinsic solution is optimal for the case of extreme risk aversion. To solve the problem we build a discrete scenario lattice using quantization techniques and solve the problem with approximate dual dynamic programming.

#### **Curriculum vitae**

David Wozabal's research interests encompass energy finance, stochastic optimization and risk management. His current research revolves around solution methods for large-scale stochastic optimization problems which arise in pricing and the operational problems faced by energy firms. Another branch of research focuses on structural change in European energy markets, dealing with modelling of energy prices, questions of market efficiency, policy design, technical and commercial feasibility of new technologies and new business models in the energy sector.

David obtained a Ph.D. in Statistics and a M.Sc. in Mathematics and Business Informatics from the University of Vienna. He worked as a post-doctoral researcher at the University of Vienna, the Vienna University of Economics and Business and as a Visiting Professor at TUM School of Management. He joined TUM School of Management as Assistant Professor in February 2014.

## **Publications**

2015-2018, peer-reviewed journals and books

Achleitner, A.-K.; Block, J. 2018. Hybride Organisationen an der Schnittstelle zwischen Gewinn- und Gemeinwohlorientierung. Stiftungsunternehmen: Theorie und Praxis, 3-20.

Achleitner, A.-K. 2015. Überlegungen zur Auswahl von Aufsichtsräten und positiv gelebter Diversität. Auswahl von Männern und Frauen als Führungskräfte: Perspektiven aus Wirtschaft, Wissenschaft, Medien und Politik, 193-202.

Achleitner, A.-K. 2016. Private Equity – Challenges and Strategies for the Future. *Financial Yearbook*.

Achleitner, A.-K.; Braun, R. 2016. Entrepreneurial Finance – Ein Überblick. Handbuch Entrepreneurship, 319-342.

Achleitner, A.-K.; Braun, R.; Lutz, E.; Tappeiner, F. 2018. Private Equity Group Reputation and Financing Structures in German Leveraged Buyouts. *Journal of Business Economics*, 88(3-4): 363-392.

Achleitner, A.-K.; Braun, R.; Metzger, G.; Schmidt, M. 2016. The Impact of The Financial Crisis on Financing Technology Ventures. International-Journal of Entrepreneurship and Small Business, 29(1): 4-24.

Achleitner, A.K.; Braun, R.; Puche, B. 2015. International Evidence on Value Creation in Private Equity Transactions. *Journal of Applied Corporate Finance* 27(4): 105-122.

Achleitner, A.-K.; Heister, P.; and Spiess-Knafl, W. 2015. Kapitaleinwerbung aus Sicht eines Sozialunternehmens. Entrepreneurial Marketing, 121-134.

Achleitner, A.-K; Jarchow, S.; and Theinert. S. 2017. Die Bedeutung der europäischen Idee für Unternehmensgründungen. Die Bedeutung der europäischen Idee für Unternehmensgründungen. Europa in der Krise, 105-114.

Asmus, S.; Karl, F.; Mohnen, A.; Reinhart, G. 2015. The Impact of Goal-setting on Worker Performance - Empirical Evidence from a Real-effort Production Experiment. *Procedia CIRP*, 26: 127–132.

Axjonow, A.; Ernstberger, J.; Pott, C. 2016. Auswirkungen der CSR-Berichterstattung auf die Unternehmensreputation. *uwf UmweltWirtschafts-Forum*, 24(2-3): 215-221.

Berg, T.; Kaserer, C. 2015. Does contingent capital induce excessive risk-taking? Journal of Financial Intermediation, 24(3): 356-385.

Bielstein, P.; Fischer, M.; Kaserer, C. 2018. The cost of capital effect of M&A transactions: Disentangling coinsurance from the diversification discount. *European Financial Management*, 24(4): 650-679.

Birkenhäuser, S.; Kaserer, C.; Urban, D. 2017. Did UEFA's Financial fair play harm competition in European football leagues? *Review of Managerial Science*, forthcoming.

Bock, C.; Huber, A.; Jarchow, S. 2018. Growth Factors of Research-based Spin-Offs and the Role of Venture Capital Investing. *The Journal of Technology Transfer*, 43(5): 1375-1409.

Braun, R.; Jenkinson, T.; Stoff, I. 2017. How persistent is private equity performance? Evidence from deal-level data. *Journal of Financial Econo*mics, 123(2): 273-291.

Braun, R., Puche, B. 2018. Deal Pricing and Returns in Private Equity. Journal of Alternative Investments, forthcoming.

Braun, R.; Stoff, I. 2016. The cost of Private Equity Investing and the Impact of Dry Powder. Journal of Private Equity, 19(2): 22-33.

Broneske, G.; Wozabal, D. 2017. How Do Contract Parameters Influence the Economics of Vehicle-to-Grid? *Manufacturing & Service Operations Management*, 19(1): 150-164.

Buchner, M.; Friedl, G. 2017. Eine kritische Würdigung der Bewertungsvereinfachungen im Rahmen des AWH-Standards. Der Betrieb, 70: 2621-2628.

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## **Publications**

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Söffge, F., Braun, R. 2017. Corporate raiders at the gates of Germany? Value drivers in buyout transactions. The Journal of Private Equity, 20(2): 28-45.

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Wozabal, D.; Graf, C.; Hirschmann, D. 2015. The Effect of Intermittent Renewables on the Electricity Price Variance. OR Spectrum, 38(3): 687-709.

## **Editorships**

2015-2018

## Prof. Dr. Jürgen Ernstberger

- International Journal of Accounting, Auditing, and Performance Evaluation, Editorial Board Member
- The International Journal of Accounting, Editorial Board Member

## **Prof. Dr. Gunther Friedl**

• Department Editor for Controlling & Taxation at Junior Management Science (JUMS)

## Prof. Dr. Christoph Kaserer

- Review of Managerial Science, Editorial Board Member
- Corporate Finance, Editorial Board Member
- Member of the editorial board of: - Corporate Finance
  - Review of Managerial Science
  - Zeitschrift für Bankrecht und Bankwirtschaft

## Prof. Dr. David Wozabal

- Mathematical Programming Series B, Managing Guest Editor of the Special Issue on the interface between optimization and probability (together with Raimund Kovacevic and Roger Wets)
- Associate Editor Operations Research Spectrum
- Associate Editor Operations Research (Department: Optimization)

### **Visitors**

2015-2018

Prof. Tim Adam Humboldt University Berlin

Prof. Dr. Markus Arnold Universität Bern

Prof. Matthias Bühlmaier Hong Kong University

Prof. Martin Brown University of St. Gallen

Prof. Tim Eiser Erasmus University Rotterdam

Prof. Rüdiger Fahlenbrach EPFL Lausanne

**Prof. Miguel Ferreira** Nova School of Business and Economics

Prof. Mireia Giné IESE Business School

Prof. Vidhan Goyal Hong Kong University of Science and Technology

Prof. Moqui Groen-Xu London School of Economics

Prof. Anne Heinrichs Columbia Business School

Prof. Heiko Jakobs University Duisburg-Essen

**Prof. Dr. Christian Kraus** Hochschule für angewandte Wissenschaften Würzburg-Schweinfurt

Prof. Dr. Christian Leuz University of Chicago Booth School of Business

Prof. Daniel Metzger Stockholm School of Economics

Prof. Konrad Raff Norwegian School of Economics

Prof. Stefan Ruenzi University of Mannheim

Prof. Markus Schmid University St. Gallen

Prof. Jared Stanfield University of New South Wales

Prof. Jacob Thomas Yale University

Prof. Mathijs van Dijk Erasmus University of Rotterdam Prof. Michael Weber University of Chicago, Booth School of Business

Prof. Alexander Wagner University of Zurich

Prof. David Yermack New York University

## TUM School of Management Academic Department: Marketing, Strategy & Leadership



#### Who we are

The Academic Department of Marketing, Strategy & Leadership focuses on the planning and achievement of market and company targets. Its primary interest is the empirical investigation of attitudes, motivation and behavior amongst employees, management, customers and consumers.

#### **Organization and Chairs**

- Corporate Sustainability
- Marketing
- Strategic and International Management
- Psychology
- Research and Science Management
- Marketing and Consumer Research
- Strategy and Organization
- Marketing

Prof. Dr. Frank-Martin Belz Prof. Dr. Christoph Fuchs Prof. Dr. Thomas Hutzschenreuter Prof. Dr. Hugo M. Kehr Prof. Dr. Claudia Peus Prof. Dr. Jutta Roosen Prof. Dr. Isabell M. Welpe Prof. Dr. Christoph Ungemach





## Prof. Dr. Frank-Martin Belz Professor of Corporate Sustainability

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#### Areas of interest

- Sustainable innovation
- Sustainable
   entrepreneurship
- Qualitative research
- Case study research

#### Selected current research projects

*Sustainable Lifestyles 2.0:* End User Integration, Innovation and Entrepreneurship (EU-InnovatE). For further information see www.euinnovate.com and page 104 of the TUM Research Report.

### **Curriculum vitae**

Frank-Martin Belz has been Full Professor of Corporate Sustainability, Brewery and Food Industry Management, at TUM School of Management since 2003. He studied Business Administration at the University of Mannheim (Germany) and obtained his doctoral degree and "habilitation" from the University of St. Gallen (Switzerland). From 2004 to 2008 he was Academic Director of the Master in Consumer Affairs, a leading international master program at TUM School of Management. In 2009 he released the book "Sustainability Marketing: A Global Perspective", together with Ken Peattie, which received the prestigious VHB Award for Best Textbook of the Year. In 2012 and 2013 he was Distinguished Visiting Professor at Aalto University School of Business (Finland). Since 2014 he has been coordinator of the large-scale European research project "Sustainable Lifestyles 2.0: End User Integration, Innovation and Entrepreneurship (EU-InnovatE)".

Frank-Martin's primary research interest is entrepreneurship in the context of sustainable development. In terms of methodology, he is interested in qualitative research, specifically case study research. His research has been published in international journals such as Business Strategy and the Environment.





## Prof. Dr. Christoph Fuchs Professor of Marketing

Selected current research projects

Web: Email: www.marketing.wi.tum.de christoph.fuchs@tum.de

#### Areas of interest

- Customer empowerment
- New roles of consumers
- New product development
- Consumer behavior
- Product and process innovation

**The Power of Personal:** Since the time of the Industrial Revolution, technology has improved the wellbeing of both producers and consumers. However, this has come at the cost of a distancing between consumers and producers (and between consumers and production in general). This research program investigates the effects of reducing this distance – for example, by identifying producers to consumers and vice versa.

#### **Curriculum vitae**

Christoph Fuchs is Professor of Marketing at TUM School of Management and Visiting Professor at the Rotterdam School of Management, Erasmus University. His research interests include customer empowerment and integration, process and production innovation, and consumer response to novel marketing strategies and tactics. His research has appeared in premier marketing and management journals such as the Journal of Marketing, Journal of Marketing Research, and Management Science, and received prestigious awards including the Thomas P. Hustad Award for the best paper published in the Journal of Product Innovation Management in 2011.

Christoph serves on the editorial review boards of the International Journal of Research in Marketing and the Journal of Product Innovation Management. He regularly serves as reviewer for other leading journals, including the Journal of Marketing, the Journal of Marketing Research, and the Journal of Consumer Research.

Prior to joining TUM School of Management, he was Associate Professor of Marketing (tenured) at Erasmus University. He also taught at Aarhus University and the University of Vienna, where he earned his Ph.D. (with distinction). He has collaborated with several large-scale and small-scale firms across a variety of industries.





## Prof. Dr. Thomas Hutzschenreuter Professor of Strategic and International Management

Web: E-mail: www.simanagement.wi.tum.de th.sim@tum.de

#### Areas of interest

- Development of competitive and corporate strategies (growth strategies and portfolio development) including implementation concepts for structures and processes
- Development of governance structures for corporations, foundations, and universities
- Offshoring, business process outsourcing as well as mergers and acquisitions
- Transformation of
   established enterprises

### Selected current research projects

Internationalization of New Product Areas

Growth versus Efficiency Increase

Study of the Offshoring of Support Functions

Internationalization on Different Geographic Levels of Analysis

Internationalization of Emerging Market MNEs

Management and IT in MNEs

#### **Curriculum vitae**

Thomas Hutzschenreuter holds the Chair of Strategic and International Management at the Technical University of Munich (TUM). Before joining TUM, he taught at Handelshochschule Leipzig, Boston University and WHU – Otto Beisheim School of Management. He was Visiting Professor at Duke University, Fuqua School of Business, Bucerius Law School and Florida International University and has been invited to give keynotes and guest speeches by multiple international universities and institutions. He is Board Member of the Offshoring Research Network, a global research community. He has extensive experience in designing strategies and governance structures. He worked for leading large and medium-sized enterprises from different industries and conducted multiple research cooperation projects with renowned organizations.

Thomas has published in leading international journals such as Strategic Management Journal, Journal of International Business Studies, Journal of Management Studies, Journal of Management, Leadership Quarterly, and Strategic Organization. His research has received multiple national and international awards, such as the Haynes Prize for the Most Promising Scholar in International Business from the Academy of International Business, the Best Annual Paper Award from the Journal of Management Studies, and the Best Annual Paper Award from the Verband der Hochschullehrer für Betriebswirtschaft. He received the Best Teacher Award from the Bucerius Law School and WHU. The Handelsblatt research ranking has repeatedly listed him as one of the leading researchers in the field of strategic and international management.





## Prof. Dr. Hugo M. Kehr Professor of Psychology

Web: Email: www.psy.wi.tum.de kehr@tum.de

### Areas of interest

- Motivation and volition, basic and applied
- Unconscious motivation
- Intrinsic motivation and flow experience
- Visions and goals
- Leadership and self-management

## Selected current research projects

*Effects of personal and corporate visions:* Effects of personal and corporate visions: Visions are mental images of a desirable future. Their motivating potential is based on their ability to arouse implicit (,unconscious') motives. We explore the effects of personal and corporate visions on goal pursuit, performance and subjective wellbeing.

*Motivational integration:* In cooperation with the Munich University of Philosophy, we pursue an interdisciplinary approach to understanding human integration based on the 3C-Model of Motivation and the Organismic Model of the Self.

*Motivation assessment:* We are developing and testing efficient assessment tools for motivation and volition in basic and applied (research) settings.

## **Curriculum vitae**

Hugo teaches Basic Psychology and Organizational Behavior at undergraduate level and Leadership by Motivation and also Sex and Gender in the Office at graduate level. His current research, both basic and applied, is focused on motivational phenomena such as volitional depletion, intrinsic motivation and flow experience, the motivating potential of visions, and the impact of the sex motive in workplace settings. He serves on the Editorial Boards of Motivation Science, the German Journal of Human Resource Management, and the Zeitschrift für Arbeits- und Organisationspsychologie. He has also edited a special issue of Motivation and Emotion on "Implicit motives: Measures, mechanisms, management".





## Prof. Dr. Claudia Peus Professor of Research and Science Management

Web: Email: www.rm.wi.tum.de claudia.peus@tum.de

#### Areas of interest

#### • Leadership

- Research and science
   management
- HR excellence
- Digital transformation

#### Selected current research projects

*FührMINT:* Funded by the German Ministry of Education and Research, this project investigates individual and organizational success factors of leaders in academic STEM fields.

*Leaders Who Care:* As part of the Bavarian research network ForGenderCare, we investigate the relation between leaders' care responsibilities at home and their leadership style and leader effectiveness.

*Team Unbound:* Together with colleagues from INSEAD and LMU we investigate how the demands of multiple team membership can be managed effectively.

### **Curriculum vitae**

Claudia Peus is holder of the Chair of Research and Science Management and Vice Dean of Executive Education at TUM School of Management. In addition, she has been serving as Senior Vice President of Talent Management and Diversity of TUM since October 2017.

Claudia obtained her Ph.D. from Ludwig Maximilian University in Munich (LMU). Subsequently, she was a Visiting Scholar at the Sloan School of Management (Massachusetts Institute of Technology) and a Postdoctoral Fellow at Harvard University. In her research, she focuses on effective leadership and leadership development, research and science management, and international HR management. In approaching these topics she combines field studies with laboratory experiments and conducts international comparative studies. Her research has been published in leading international journals, including the Journal of Management, Journal of Organizational Behavior, The Leadership Quarterly and the Journal of Business Ethics. She also conducts training and coaching for executives of for-profit and non-profit organizations worldwide, including Allianz, BMW, Siemens and Fraunhofer.





## Prof. Dr. Jutta Roosen Professor of Marketing and Consumer Research

Web: Email: www.mcr.wi.tum.de JRoosen@tum.de

#### Areas of interest

- Consumers' perception
   of food products
- Visual attention, eyetracking and consumer choice
- Willingness-to-pay studies
- Food marketing
- Efficient consumer policy

### Selected current research projects

**Practicing Evidence – Evidencing Practice:** Evidence is continually growing in importance for political, societal and individual decisions. It is based on scientific data, but is also a social phenomenon. Interdisciplinary Research Group 2248 addresses the question: How and by whom is evidence created and used, and what impact does this have? Within Subproject 4, the Chair of Marketing and Consumer Research examines the field of tension between risk analysis and intuition in food safety. The objective of the project is the examination of different forms of evidence in the debate on food safety, considering evidence practices of the consumer public and the scientific public and their interaction and dynamics, as well as their role in the description of food safety.

**ENABLE:** ENABLE is an interdisciplinary cluster of several universities, research institutes and food companies that develop new strategies to promote healthier food choices in all stages of life. The Chair assesses the acceptance of new food products and the use of behavioral economics insights to improve food choices.

## **Curriculum vitae**

Jutta Roosen studied Agricultural Economics at the University of Bonn and Washington State University (USA) and received her Ph.D. in Economics from Iowa State University (USA) in 1999. Before joining the Technical University of Munich she served as Faculty Member at the Université cath. de Louvain (Belgium) and the University of Kiel. In her research, she focuses on questions of consumers' perception, in particular regarding food products, and analyzes the consequences for food markets. Her research allows for conclusions regarding marketing and an efficient consumer policy. She is a Member of the Consumer Commission of Bavaria and the ADAC Test Council.





## Prof. Dr. Christoph Ungemach Professor of Marketing

Web: Email: www.marketing.wi.tum.de Christoph.Ungemach@tum.de

#### Areas of interest

- Choice architecture
- Consumer behavior
- Judgment and decision making
- Decisions under conditions of risk and uncertainty
- Consumer analytics

### Selected current research projects

**Research areas:** Choice architecture, consumer behavior, judgment and decision-making, decisions under conditions of risk and uncertainty, and consumer analytics.

**Choice Architecture:** In collaboration with scholars at Columbia University and Duke University, Christoph Ungemach is investigating alternative choice architecture tools. His research has shown that, unlike traditional nudges, decision signposts can facilitate choices in line with both individual preferences and societal goals. This work has proved to be very useful, particularly in the domain of environmental decision-making, and offers important insights for the design of consumer labels.

Another strand of his research is devoted to understanding the cognitive processes underlying decision-making under conditions of risk and uncertainty. He has shown in his research that preferences can be altered by incidental experiences in systematic ways that challenge economic accounts. These findings are in line with decision-making models in which subjective values are constructed from comparisons with samples and experiences from our environment or from memory.

### **Curriculum vitae**

Christoph Ungemach joined TUM School of Management in November 2016. Prior to that, he was an Associate Research Scientist at Columbia University for three years, where he is still a Research Affiliate at the Center for Research on Environmental Decisions. He also worked as a Data Scientist for a technology startup in New York.

Christoph holds an advanced degree in Psychology from the Justus Liebig University Giessen and received his Ph.D. at the University of Warwick, where he was awarded a fellowship by the Economic and Social Research Council to conduct research on decision-making under conditions of risk and uncertainty. At Warwick he also worked as a postdoctoral researcher for three years. He has also been a Visiting Scholar at the University of Chicago Booth School of Business.

Christoph's research focuses on the behavioral science of decision-making. Working on the intersection of Economics and Cognitive Psychology, he seeks to understand the processes driving consumer choice across a variety of domains, including environmental and financial decisions. His current work investigates the application of choice architecture to help consumers making decisions that are better aligned with both their own preferences and societal goals.

The findings of his research have been published in leading international journals, including Management Science, Psychological Science and Judgment and Decision Making.





## Prof. Dr. Isabell M. Welpe Professor of Strategy and Organization

Web: Email:

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### **Areas of interest**

- Strategy
- Leadership
- Innovation
- Digitalization of business and society

### Selected current research projects

**"Digital Work Design – Turning Risks into Chances":** The goal of the project is to assess how digitalization influences work design. Moreover, the chances and risks of these changes are assessed and factors on the leadership and organizational level that help to turn these risks into chances identified.

**"Success with STEM - New Chances for women":** The goal of the three projects "PlayMINT", "MINT@Work" and "Master's with future" is the development of strategies for gender equality in education and research. In particular, it will be investigated what factors ultimately drive the attractiveness of STEM subjects and occupations, what are the underlying stereotypes in STEM professions and how female students can be promoted in entrepreneurial STEM careers.

### **Curriculum vitae**

Isabell M. Welpe holds the Chair for Strategy and Organization at the Technical University of Munich. In addition, she is Director of the Bavarian State Institute for Higher Education Research and Planning. Her research interests are in the domains of strategy, leadership, innovation and the digitalization of business and society.

In her current projects, Isabell focuses on the digital transformation of companies and the working world, and the future of leadership and work/organizational design against this background. She has published various studies, including on the projects "The Future of Work and Life Design", "Social Media as Information Markets", and on the changes of business models in (media) organizations due to digitalization. She is Board Member of the Center for Digital Technology & Management (CDTM), Member of the Münchner Kreis and several advisory boards. She has repeatedly spoken at the Digital Life Design (DLD) conference and has been listed among the Top 40 under 40 of the "digital elite" by the magazine Capital.

Isabell studied management at the Ludwig-Maximilians-Universität in Munich and at the Massachusetts Institute of Technology, Boston. She completed an additional M.Sc. at the London School of Economics before finishing her Ph.D. at the University of Regensburg. She was Visiting Professor at the Keck Graduate Institute, Claremont, USA, and a postdoctoral fellow at the Carlson School of Management at the University of Minnesota. Before taking over the Chair for Strategy and Organization at the Technical University of Munich, she worked at the Max Planck Institute for Economics.

## **Publications**

2015-2018, peer-reviewed journals and books

Aue, K.; Roosen, J.; Jensen, H. 2016. Poverty dynamics in Germany: Evidence on the relationship between persistent poverty and health behavior. Social Sciences and Medicine, 153: 62-70.

Belz, F.-M.; & Binder, J. K. 2017. Sustainable Entrepreneurship: A Convergent Process Model. Business Strategy and the Environment, 26(1): 1-17.

Bieberstein, A.; Roosen, J. 2015. Gender differences in the meanings associated with food hazards: A means-end chain analysis. Food Quality and Preference, 42: 165-176.

Braun, S.; Peus, C. 2016. Crossover of work-life balance perceptions: Does authentic leadership matter? Journal of Business Ethics.

Braun, S.; Aydin, N.; Frey, D.; Peus, C. 2016. Leader narcissism predicts malicious envy and supervisor-targeted counterproductive work behavior - Evidence from field and experimental research. *Journal of Business Ethics*.

Brosi, P., Shaw, J., Spörrle, M.; & Welpe, I. M. 2016. Two facets of pride and helping. Journal of Managerial Psychology, 31(5), 976-988.

Brosi, P.; Spörrle, M.; Welpe, I. M. 2018. Do we work hard or are we just great? The effects of organizational pride due to effort and ability on proactive behavior. *Business Research.* 

Brosi, P.; Spörrle, M.; Welpe, I. M.; Heilman, M. E. 2016. Expressing pride: Effects on perceived agency, communality and stereotype-based gender disparities. *Journal of Applied Psychology*: 1319-1328.

Brosi, P.; Welpe, I. M. 2015. Employer branding for universities: What attracts international postdocs? *Journal of Business Economics* (ZfB), 85(7), 817-850.

Dahl, D. W.; Fuchs, C.; Schreier, M. 2015. Why and When Consumers Prefer Products of User-Driven Firms: A Social Identification Account. *Management Science*, 61(8): 1978-1988.

Egorov, M.; Pircher Verdorfer, A.; Peus, C. 2018. Taming the emotional dog: Moral intuition and ethically-oriented leader development. *Journal of Business Ethics*.

Engelken, M.; Roemer, B.; Drescher, M.; Welpe, I. M.; & Picot, A. 2016. Comparing drivers, barriers, and opportunities of business models for energies: A review. *Renewable & Sustainable Energy Reviews*, 60: 795-809.

Engelken, M.; Römer, B.; Drescher, M.; & Welpe, I. M. 2016. Transforming the energy system: Why municipalities strive for energy self-sufficiency. *Energy Policy*, 98: 365-377.

Fuchs, C.; Scheier, M.; van Osselaer, S. M. J. 2015. The Handmade Effect: What's Love Got to Do with It? Journal of Marketing, 79(2): 98-110.

Glauber, J.; Wollersheim, J.; Sandner, P.; & Welpe, I. M. 2015. Patenting activity of German universities. *Journal of Business Economics* (ZfB), 85(7), 719-757.

Graf, L.; Wendler, W. S. ; Stumpf-Wollersheim, J.; Welpe, I. M. [\*equal contribution]. 2017. Wanting More, Getting Less: Gaming Performance Measurement as a Form of Deviant Workplace Behavior. *Journal of Business Ethics.* 

Grebitus, C.; Jensen, H.; Roosen, J.; Sebranek, J.G. 2016. Does the Packaging Make the Product? Identifying Consumers' Preferences for "Natural" in Packaging. *AgBioForum*, 18(3): 337-344.

Grebitus, C.; Roosen, J.; Seitz, C. 2015. Visual Attention and Choice: A Behavioral Economics Perspective on Food Decisions. *Journal of Agricul*tural & Food Industrial Organization, 13(1): 73-81.

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Groß, Sabine; Roosen, Jutta. 2018. Der Einfluss von Nachrichtentexten über die Tierhaltung auf das soziale Vertrauen in Landwirte. Journal für Verbraucherschutz und Lebensmittelsicherheit, [Special Section SocialLab – Nutztierhaltung im Spiegel der Gesellschaft]: 46-52.

Hasselbach, J.; Roosen, J. 2015. Consumer heterogeneity in the willingness to pay for local and organic food. *Journal of Food Products Marketing*, 21(5).

Hasselbach, J.L.; Roosen, J. 2015. Motivations behind Preferences for Local or Organic Food. *Journal of International Consumer Marketing*, 27(4): 295-306.

Hohenberger, C., Spörrle, M.; & Welpe, I. M. 2016. Why and how do men and women differ in their willingness to use automated cars? The influence of emotions across different age groups. *Transportation Research Part A, Policy and Practice*, (94): 374-385.

Hutzschenreuter, T.; Kleindienst, I.; Günther, C.; Hammes, M. 2016. Speed of Internationalization of New Business Units: The Impact of Direct and Indirect Learning. *Management International Review*, 56(6): 849-878.

Hutzschenreuter, T.; Matt, T. 2017. MNE internationalization patterns, the roles of knowledge stocks, and the portfolio of MNE subsidiaries. *Journal of International Business Studies*, 48(9): 1131-1150.

Hutzschenreuter, T.; Kleindienst, I.; Greger, C. 2018. Seeking distinctiveness through divestments: CEO succession and the effect of demographic similarity on the divestment of predecessor's investments. *Managerial and Decision Economics*, 39(4): 462-474.

## **Publications**

2015-2018, peer-reviewed journals and books

Hutzschenreuter, T.; Kleindienst, I.; Lange, S. 2016. The Concept of Distance in International Business Research: A Review and Research Agenda. International Journal of Management Reviews, 18(2): 160-179.

Kalkbrenner, B.; Roosen, J. 2016. Citizens' willingness to participate in local renewable energy projects: The role of community and trust in Germany. Energy Research & Social Science Volume, 13: 60-70.

Kalkbrenner, B. J.; Yonezawa, K.; Roosen, J. 2017. Consumer preferences electricity tariffs: Does proximity matter? Energy Policy 107: 413-424.

Kehr, H. 2015. Wahrgenommene Leistungsanreize moderieren den positive Einfluss von Leistungsmotiv-Kongruenz auf das Flow-Erleben beim Hallenklettern. Zeitschrift für Sportpsychologie.

Knipfer, K.; Peus, C. 2015. Evidenzbasierte Förderung von Führungskompetenzen als Erfolgsfaktor für Wissenchaftseinrichtungen. Personal- und Organisationsentwicklung in Einrichtungen der Lehre und Forschung: 61-64.

Knipfer, K.; Schreiner, E.; Schmid, E.; Peus, C. 2018. The performance of pre-founding entrepreneurial teams: The importance of learning and leadership. *Applied Psychology: An International Review.* 

Kobarg,S.; Wollersheim J.; Spörrle, M.; Welpe, I. M. 2015. Individual ambidexterity and performance in the public sector: A multilevel analysis. International Public Management Journal.

Kraft, A.; Sparr, J. L.; & Peus, C. 2016. Giving and making sense about change: The back and forth between leaders and employees. Journal of Business and Psychology.

Kraft, A.; Sparr, J.; Peus, C. 2015. The critical role of moderators in leader sensegiving: A literature review. *Journal of Change Management*, 14, (4), 308-331.

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Moser, K., Tumasjan, A.; & Welpe, I. 2016. Content is king: What makes an engaging recruitment brand on social media channels? Best Paper Proceedings of the 2016 Academy of Management Annual Meeting.

Moser, K., Tumasjan, A.; & Welpe, I. 2015. Small, but attractive: The joint effect of startup legitimacy and employer brand dimensions on organizational attractiveness. Academy of Management Best Paper Proceedings 2015.

Moser, K.; Tumasjan, A.; Welpe, I.M. 2015. What makes a start-up an employer of choice. Harvard Business Review.

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Mueller, S. C.; Sandner, P. G.; Welpe, I. M. 2015. Monitoring innovation in electrochemical energy storage technologies: A patent-based approach. *Applied Energy*, 137: 537-544.

Müller, S. C.; Böhm, M.; Krcmar, H.; & Welpe, I. M. 2016. Machbarkeitsstudie: Geschäftsmodelle in der digitalen Wirtschaft. Studien zum deutschen Innovationssystem.

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Müller, S. C.; Welpe, I. M. 2018. Sharing electricity storage at the community level: An empirical analysis of potential business models and barriers. *Energy Policy.* 

Nishikawa, H.; Schreier, M.; Fuchs, C. and Ogawa, S. 2017. The value of marketing crowdsourced new products as such: Evidence from two randomized field experiments. *Journal of Marketing Research,* forthcoming.

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Pircher Verdorfer, A ; Schmid, E; Peus, C. 2017. Shedding light on leaders' self-interest: Theory and measurement of exploitative leadership. Journal of Management.

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## **Publications**

2015-2018, peer-reviewed journals and books

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Reitmeier, M.; Roosen, J. 2015. Life Transitions and Brand Switching: How Changes in Social Relationships are Linked to Changes in Yoghurt Brand and Grocery Chain Choice. Canadian *Journal of Agricultural Economics*, 63(4): 475-490.

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Ritzenhöfer, L.; Brosi, P.; Spörrle, M.; Welpe, I. M. 2017. Satisfied with the Job, But Not with the Boss: Leaders' Expressions of Gratitude and Pride Differentially Signal Leader Selfishness, Resulting in Differing Levels of Followers' Satisfaction. *Journal of Business Ethics.* 

Roosen, J.; Bieberstein, A.; Blanchemanche, S.; Goddard, E.; Marette, S.; Vandermoere, F. 2015. Trust and willingness to pay for nanotechnology food. *Food Policy*, 52: 75-83.

Schmid, E., Pircher Verdorfer, A., & Peus, C. (2018). Different Shades –Different Effects? Consequences of Different Types of Destructive Leadership. *Frontiers in Psychology*, 9:1289 [Special Issue: Fifty Shades of Grey: Exploring the Dark Sides of Leadership and Followership].

Schreier, M.; Nishikawa, H.; Fuchs, C. and Ogawa, S. 2016. Crowdsourced Products Sell Better When They're Marketed That Way. *Harvard Business Review*.

Schwarzmüller, T.; Brosi, P.; Duman, D.; Welpe, I. M. 2018. How does digital transformation change organizations? A comprehensive framework on expected changes in work design and leadership. *Management Revue.* 

Schwarzmüller, T.; Brosi, P. & Welpe, I. M. 2016. Ein typischer Tag im Unternehmen 2030. Huffington Post.

Schwarzmüller, T.; Brosi, P.; Spörrle, M.; & Welpe, I. M. 2016. It's the base: Why displaying anger instead of sadness might increase leaders' perceived power but worsen their leadership outcomes. *Journal of Business and Psychology.* 

Schwarzmüller, T.; Brosi, P.; Stelkens, V.; Spörrle, M.; Welpe, I. M. 2017. Investors' reactions to companies' stakeholder management: the crucial role of assumed costs and perceived sustainability. *Business Research*, 10(1): 79-96.

Seitz, C.C.; Roosen, J. 2015. An empirical analysis of international consumers' associations with Bavarian food products by means of concept mapping. *British Food Journal*, 117(3): 987-1006.

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Shaughnessy, B. A.; Braun, S.; Hentschel, T.; Peus, C. 2017. Diverse and Just? The Role of Quota-Based Selection Policies on Organizational Outcomes. *European Journal of Social Psychology*, 46(7): 880-890.

Standifer, R.; Raes, A.; Peus, C.; Santos, C.; Passos, A. 2015. Time in teams: Cognitions, conflict, and team satisfaction. *Journal of Managerial Psychology*, 30(6): 692-708.

Theurer, C.; Tumasjan, A.; Welpe, I. M.; Lievens, F. 2016. Employer branding: A brand equity-based literature review and research agenda. International Journal of Management Reviews.

Trapp, J. & Kehr, H. M. 2016. How the influence of the implicit power motive on negotiation performance can be neutralized by a conflicting explicit affiliation motive. *Personality and Individual Differences*, 94: 159-162.

Ungemach, C.; Camilleri, A. R.; Johnson, E. J.; Larrick, R. P.; & Weber, E. U. 2018. Translated attributes as choice architecture: Aligning objectives and choices through decision signposts. *Management Science*, 64(5), 2445-2459.

Wagenschwanz, A. M., & Belz, F.-M. 2017. Like a Mirror? The Influence of Founder Identities on Logics in New Ventures. Frontiers of Entrepreneurship Research, forthcoming.

Wollersheim, J.; Lenz, A.; Welpe, I. M.; Spörrle, M. 2015. Me, myself, and my university: A multilevel analysis of individual and institutional determinants of academic performance. *Journal of Business Economics* (ZfB), 85(3): 263-291.

Zimmerling, E.; Höflinger, P. J.; Sandner, P.; Welpe, I. M. 2016. A system framework for gamified Cost Engineering. *Journal Information Systems Frontiers*.

Zimmerling, E.; Purtik, H.; Welpe, I.W. 2017. End-Users as Co-Developers for Novel Green Products and Services: AN Exploratory Case Study Analysis of the Innovation Process in Incumbent Firms. *Journal of Cleaner Production*: 51-58.

# **Editorships**

2015-2018

## Prof. Dr. Frank-Martin Belz

 Business Strategy and the Environment, Editorial Board Member

## **Prof. Dr. Christoph Fuchs**

- International Journal of Research in Marketing (IJRM), Editorial Board
- Journal of Product Innovation Management (JPIM), Editorial Board

## Prof. Dr. Thomas Hutzschenreuter

- Management and Organization Review, Senior Editor
- BuR Business Research, Department Editor
- Global Strategy Journal, Editorial Board Member
- Journal of International Management, Editorial Board Member
- Journal of International Business Studies (JIBS), Editorial Board Member
- Management International Review, Editorial Board Member
- Multinational Business Review, Editorial Board Member

## Prof. Dr. Hugo Kehr

- German Journal of Human Resource Management, Editorial Board
- Zeitschrift für Arbeits- und Organisationspsychologie, Editorial Board
- Motivation Science, Editorial Board

## Prof. Dr. Claudia Peus

- Editorial board member of the journal "Hochschulmanagement"
- Editorial review board of the journal "OrganisationsEntwicklung"

## Prof. Dr. Jutta Roosen

- Agricultural Economics, Editorial Board Member
- Food Policy, Editorial Board Member

## Visitors

2015-2018

Lehrstuhl für unternehmerische Nachhaltigkeit // Professor Belz

#### Herr Professor Davide Ravasi

Professor of Management, Director of Ph.D. in Management, Cass Business School im April 2017

Lehrstuhl für Marketing und Konsumforschung // Professor Roosen

#### Laure Saulais

Consumer behavior & Nudging of food choices Living lab – Institut Paul Boucuse, Lyon December 1-2, 2016

#### **Carola Grebitus**

Eyetracking and choice experiments Arizona State University - WP Carey School of Business Business, June 19-22, 2017

Peter Löscher-Stiftungslehrstuhl für Wirtschaftsethik und Global Governance // Professor Lütge

#### Iuliia Goman

Faculty of Fundamentals and Humanities Guest Researcher November 2017 from the St. Petersburg Mining University, Russia

#### **Christopher Lennartz**

Department of Work and Organisation Studies Guest Researcher on topic "Moral Licensing" October 4, 2017 to September 30, 2018 from the Úniversity KU Leuven, Éelgium

#### André Pereira

Waste management and reverse logistics Guest Ph.D. student (envisaged scholarship) April to July 2017 from the Universidade de Minas Gerais, Belo Horizonte, **Brazil** 

#### Vjola Fetahu

Department of Economics and Management Guest Researcher on topic "Corporate Social Responsibility" January to March 2017 from the University of Trento, Italy

#### Marta Pizzetti

Department of Communication Sciences Guest Researcher in the Experimental Ethics Lab April 2015 to April 2016 from the Università della Svizzera italiana, Lugano, Switzerland

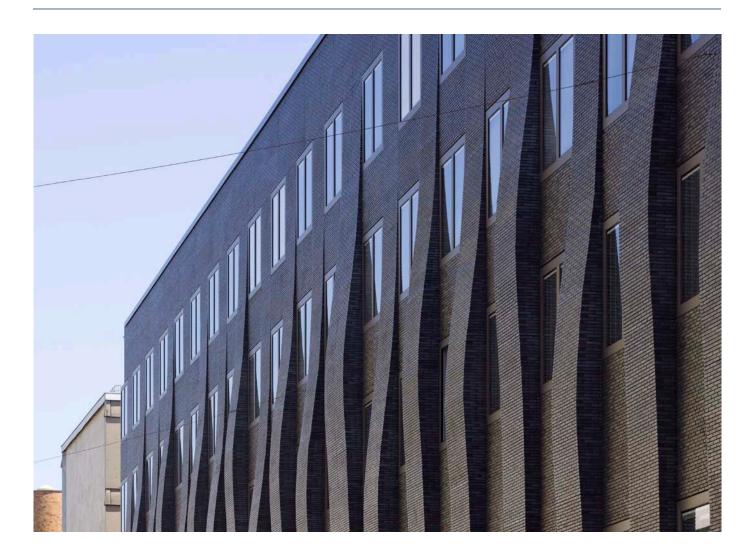
Lehrstuhl für Lehrstuhl für Sport- und Gesundheitsmanagement // Professor Königstorfer

Kyle Bunds Assistant Professor – Sport and Sustainable Community Development Talk for Ph.D. candidates about how to examine sport and the environment in the context of the United States and how to examine sport and the environment in the German context. For example, what are the i nternal determinants for engaging in sustainability – motivations, corporate ideals, etc.? How and why did FC Bayern "buy-in" to sustainable practices? College of Natural Resources, North Carolina State University, Raleigh May 2017

#### **Bettina Cornwell**

Professor of Marketing Talk for Ph.D. candidates about a theoretical model of the role sponsorship plays in organizational identification University of Oregon, Lundquist College of Business, Eugene, United States August to September 2017

# TUM School of Management Academic Department: Economics & Policy



### Who we are

The Economics and Policy research department examines economic processes with a focus on the role of public policy. It addresses contemporary policy issues by means of theoretical and empirical investigations into public economics, health economics, industrial organization, environmental economics, sustainable resources management, agricultural and food economics, forestry, energy economics and the economics of ageing. Special emphasis is given to policy conflicts between equity, efficiency and sustainability.

### **Organization and Chairs**

and Industrial Organization

•	Economics of Aging	Prof. Axel Börsch-Supan, Ph.D.
•	Economics of Innovation	Prof. Dr. Hanna Hottenrott
•	Managerial Economics	Prof. Dr. Michael Kurschilgen
•	Forest Economics	Prof. Dr. Martin Moog
•	Economics of Energy Markets	Prof. Dr. Sebastian Schwenen
•	Forest and Environmental Policy	Prof. Dr. Michael Suda
•	Economics – Public Finance	Prof. Dr. Robert K. Frhr. von Weizsäcke





## Prof. Axel Börsch-Supan, Ph.D. Professor of Economics of Aging

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### Areas of interest

- Economics of demographic change
- Pensions and retirement behavior
- Household savings
   behavior
- Housing markets
- Panel data and discrete choice econometrics

## Selected current research projects

**SHARE, the Survey of Health, Ageing and Retirement in Europe,** is a multidisciplinary and cross-national panel database of microdata on health, socio-economic status and social and family networks of approximately 140,000 individuals (more than 380,000 interviews) aged 50 or older from 27 European countries plus Israel. The main objective of SHARE is to document the individual and social consequences of demographic change, to improve the understanding of these consequences and to put health and social policy countermeasures on a sound scientific basis.

## **Curriculum vitae**

Axel Börsch-Supan became Full Professor of the Chair for the Economics of Aging at the Technical University of Munich in 2011. He studied Economics and Mathematics in Munich and Bonn and received a doctorate in Economics from MIT (Cambridge, USA) in 1984. After working as an Assistant Professor of Public Policy at Harvard University (1984-1987) and Professor of Economic Theory at the University of Dortmund (1987-1989), he was Professor of Macroeconomics and Economic Policy at the University of Mannheim (1989-2011).

In his role as Director of the Max Planck Institute for Social Law and Social Policy in Munich, Axel has headed the Munich Center for the Economics of Aging (MEA) since 2011. He is a Full Member of the Berlin-Brandenburg Academy of Sciences and the German National Academy of Sciences Leopoldina, and a Corresponding Member of the Austrian Academy of Sciences. He is also Managing Director of the Survey of Health, Ageing and Retirement in Europe (SHARE). He is a Member of the Council of Advisors to the German Economics Ministry (Chair 2004-08), a Member of the German federal governments' Expert Group on Demography, Member of the Pension Commission, and has served as a consultant to the European Commission, the World Bank, the OECD and several foreign governments.





## Prof. Dr. Hanna Hottenrott Professorship for Economics of Innovation

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#### Areas of interest

- Economics of innovation
- Economics of science
- Industrial economics
- Technology policy
- Applied econometrics

### Selected current research projects

**Resources, Research Assessment, and Institutional Affiliations in Academia** is an international, DFG-funded (HO5390/1-1) research project that explores institutional networks, motivations and research outcomes of scientists in Germany, Japan and the United Kingdom. It documents recent developments in institutional affiliation patterns in different scientific fields and finds that multiple institutional affiliations and high impact research are highly correlated.

The Role of Public Research for Innovation Performance in New Technology Based *Firms (NTBFs)* is subject to an ongoing research project in which we show that new technology-based firms benefit from direct contacts with research institutions. In a large sample of new firms founded in Germany between 2001 and 2006, we find that those firms that engage on a regular basis in formal and informal knowledge exchange with research institutions are more likely to introduce new products to the market. The returns to knowledge interactions are higher for NTBFs that conduct R&D internally, suggesting that not only the regularity of the interactions, but also absorptive capacity matters. Unlike for R&D-active NTBFs, for non-R&D performers formal and informal interactions acts as complements as the marginal effect of the latter is higher for higher intensities of formal interactions.

### **Curriculum vitae**

Hanna Hottenrott joined TUM School of Management in May 2016. Prior to that, she held an Assistant Professorship at the Düsseldorf Institute for Competition Economics (DICE) of the University of Düsseldorf. She holds an advanced degree in Economics from the University of Heidelberg and obtained a Ph.D. in Applied Economics from KU Leuven (Belgium) in 2010. At KU Leuven she was affiliated with the Department of Managerial Economics, Strategy and Innovation and worked on topics relating to the financing of research and development (R&D) in the business sector. After graduating, she was awarded a fellowship from the Flemish Science Foundation (FWO) and investigated questions in the fields of innovation and science policy.

In her research, Hanna studies R&D activities and innovation in the public and the private sectors, which provides essential insights for designing business strategies and innovation policy. Her research relates to the broader fields of industrial economics and applied micro-econometrics. More precisely, she works on questions in the fields of the economics of innovation, the economics of science and public innovation policy. Her work links the level of private-sector companies to innovation policy and provides implications for the design and governance of public innovation and technology policy.

Her work has been published in many journals, including the Review of Economics and Statistics, Research Policy, Journal of Economics and Management Strategy, Cambridge Journal of Economics, Studies in Higher Education, Industrial and Corporate Change, Resource and Energy Economics, Journal of Regional Science, Small Business Economics, Economics of Innovation and New Technology and the Journal of Product Innovation Management.





## Prof. Dr. Michael Kurschilgen Assistant Professor of Managerial Economics

Web: Email: www.mecon.wi.tum.de m.kurschilgen@tum.de

#### Areas of interest

- Behavioral economics
- Experimental economics
- Organizational behavior
- Law and economics
- Public economics

### Selected current research projects

*What Stabilizes Hierarchical Social Order?* We are developing a novel paradigm to study the emergence and stability of hierarchical order: Members of society meet randomly every period and face the need to coordinate with conflicting interests. They receive an arbitrary status ranking as a candidate correlation device. Yet, the device is only helpful – and meaningful – if it is accepted by a critical mass. Theoretically, in a population of rational money-maximizers a perfectly efficient and stable hierarchical order emerges. However, minor deviations suffice for the order to unravel. Our experimental results confirm the order's fragility.

**Does Moral Awareness Increase Polarization?** Many companies invest heavily in their moral culture. But could emphasis on morality possibly have unintended side effects? This paper shows, theoretically and experimentally, that raising moral awareness may not only make people's behavior less selfish but also more polarized, as diverging home-grown conceptions of morality exacerbate.

## **Curriculum vitae**

Michael Kurschilgen works at the intersection of Economics and Management with Social Psychology and Law. He is particularly interested in understanding normativity, that is to say, consensual social judgments of "right" and "wrong" behavior. He studies these questions particularly by means of controlled laboratory experiments.

Michael studied Economics at the Universities of Bonn and Maastricht, and at SciencesPo Paris (2002-2007). After a stint as a consultant for large mining and engineering projects in India and Kazakhstan, he enrolled as a Ph.D. student at the International Max Planck Research School "Uncertainty", graduating in 2013 from the University of Jena. He continued his academic career as a postdoctoral fellow at the Max Planck Institute for Research on Collective Goods in Bonn. He has been a Visiting Researcher at the University of California Berkeley, the European University Institute Florence, the University of Bologna and the University of Michigan. In November 2015 he was appointed Assistant Professor of Managerial Economics at TUM School of Management.





## Prof. Dr. Martin Moog Professor of Forest Economics

Web: Email: www.fwl.wi.tum.de moog@mytum.de

### **Areas of interest**

- Economic analysis of forest management
- Environmental economics and management
- Appraisal of forests and business valuation
- History of
   economic thought

## Selected current research projects

*Willingness to pay for voluntary carbon offsetting:* The research study "willingness to pay for voluntary carbon offsetting" is measuring individual carbon emissions, based on traveling, capture the willingness to pay (wtp) and the influencing factors. A web-based, dynamic price card set was used to determine the state preference (choice of the compensation project) as well as the maximum willingness to pay. A pronounced environmental awareness and a high knowledge of the possibility of compensation increase the willingness to act by compensation.

**Forecasting Forest Prices:** Forecasts help to recognize and minimize risks in the supply chain management e.g. initiating the adjustment of timber harvesting to fast changing market conditions. Reliable predictions about such changes in the timber market are scarce and mainly based on often very complex models. The statistical technique of time series methods in forest sector research is applied to develop models which combine both as low as possible degree of complexity and reliable predictions of timber quantities and prices.

**Cost-allocation in associations based on game theory:** Associations are federations of actors representing common interest and providing (public) services. They are funded by throug the contributions of the associations members. As the range of services increases, so does the interest shown by members in obtaining service proof. Therefore, Associations should respond with transparency and accountability. Another possibility would be a performance-related "individual" membership fee. By means of the method

*Efficiency measurement of national parks:* The key role of national parks in environmental protection is crucial. Considering the management process the use of scarce resources, mainly provided by public sources, could be expressed in input-output relations. Using the method of Data Envelopment Analysis and data from 1995-2015, the question how can the efficiency of (German) national parks be measured is addressed. The results culminate in five model variants, that can be largely described by two crosscutting model "efficiency trends" and as such provide an evidence-based approach for measuring the efficiency of national parks. The model considerations can be extended to other parks, provide structure for future refinement and facilitate environmental- and policy decision-making processes.

## **Curriculum vitae**

Professor Martin Moog holds the chair of Forest Economics since 1992. After completing his studies in Forest Science at the Georg August University Göttingen, he worked as a research assistant at the Institute for Forest Economics and spent some month at the International Institute for Applied Systems Analysis (IIASA) located at Laxenburg near Vienna, as a participant in a program for young scientists. His interest was then focused on qualitative input-output-analysis and after finishing the dissertation from 1987 to 1989, he conducted a legal internship at the State Forest Service of Hesse and passed the final state examination. After recurrence to the University of Göttingen, his research interest was mainly concentrated on the econometric modelling of supply behavior of forest enterprises. In 1992, he obtained postdoctoral lecture qualification.





## Prof. Dr. Sebastian Schwenen Assistant Professor of Economics of Energy Markets

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#### Areas of interest

- Energy economics
- Industrial organization
- Applied microeconomics

#### Selected current research projects

**Using Swaps as Side-Payments in Multi-Unit Auctions:** Theory and evidence suggest that forward contracting has pro-competitive effects on market prices. We examine the use of swap contracts as a credible commitment tool to lock into non-competitive product market prices. Motivated by an existing swap contract between two power-generating-companies in the New York electricity market that operates as a multi-unit auction, we study how swaps can alter the set of pricing outcomes. Specifically, we analyze how financial contracts can overcome coordination difficulties in sustaining non-competitive prices and positive mark-ups. We also discuss the implications for forward contracting strategies and regulatory oversight.

**Fighting Climate Change with Disclosure? The Real Effects of Mandatory Greenhouse Gas Emission Disclosure:** We examine how mandatory disclosure of greenhouse gas (GHG) emissions influences companies' emission levels. We identify the effect of full transparency by exploiting a mandate requiring UK-incorporated listed companies to disclose information on their GHG emissions in their annual reports. Comparing the emissions of installations owned by listed companies and installations owned by firms not subject to the mandate, we document that disclosing GHG emissions in annual reports reduces emission levels by up to 16.5 percent. Emission reductions occur across all industries, but are largest for installations in the energy supply industry. Our results are robust to various specifications and document the incremental effect of disclosing emission data in annual reports, as firms had to report emission data to a central register already before the disclosure mandate.

### **Curriculum vitae**

Sebastian Schwenen researches energy and resource markets. His fields of specialization are industrial organization, regulation and market design. His recent work studies spot and forward markets for electricity, the design of auction and trading mechanisms at wholesale exchanges, and the impact of digitalization on consumer behavior and retail markets. In addition to research and teaching, he has provided research-based economic consulting to DG Energy and the German Federal Ministry for Economic Affairs and Energy in various research projects on energy markets.

Sebastian is Research Fellow at the German Institute for Economic Research DIW Berlin and the Centre on Regulation in Europe (CERRE) in Brussels. He obtained a Ph.D. in Economics & Management from Copenhagen Business School and an M.Sc. in Economics (Diploma) from Humboldt University Berlin. He was a visiting Ph.D. student at the London School of Economics and Political Science and a post-doctoral researcher at the European University Institute in Florence and DIW Berlin. He joined TUM School of Management as Assistant Professor in September 2015.

His work has been published in various journals, including the RAND Journal of Economics, Energy Economics, the Energy Journal, Energy Policy, Utilities Policy and the Journal of Regulatory Economics.





## Prof. Dr. Michael Suda Professor of Forest and Environmental Policy

Web: Email: www.wup.wi.tum.de michael.suda@mytum.de

#### **Areas of interest**

- Forest policy small-scale forestry and organizations, evaluation of political instruments, perception of forests and forestry
- Environmental policy natural hazards, certification, international organizations, EU policy

### Selected current research projects

**Development of forest owners and private forest owner associations:** Structural transformation in Germany's rural areas leads to drastic changes with regards to the use of forests by forest owners, which potentially cause supply bottlenecks in the woodworking industry. The scientific focus of this project lies on studying the impact of structural and communicative measures in this context.

**Perception of forests and forestry and the influence on forest management:** The alienation of people from production and the related decline of its acceptance leads to increasing restraints on the utilization of woods in Germany's forests. The emphasis of the research in this project is on the perception of forests and their relevance for the public.

*Analysis of discourses about forests:* Discourse analysis is used to study the influence of political actors on the perception of forests, legal frameworks and media coverage.

**Great Bear Rainforest:** We study the implementation of the Central Coast Land Use Decision in British Columbia's Great Bear Rainforest (Canada). The Central Land Use Decision (2006) introduced several innovations for British Columbia's forestry sector.

## **Curriculum vitae**

Michael Suda studied Forest Science in Munich and subsequently wrote his Ph.D. on the possible influence of forest decline in Alpine regions, using models from natural science and economics. His "habilitation" dealt with the role of forests on water supply on local and regional political systems. Since 1995 he has been head of the Chair of Forest and Environmental Policy at TUM.





## Prof. Dr. Robert K. Frhr. von Weizsäcker Professor of Economics – Public Finance and Industrial Organization

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#### **Areas of interest**

- Public economics
- Applied microeconomics
- Population economics
- Economics of education
- Decision theory

## Selected current research projects

- Grenzen der Staatsverschuldung: Eine politökonomische Analyse
- Bildungsfinanzierung und Bildungsorganisation
- Ratio und Intuition: Entscheidungsfindung unter Unsicherheit
- Zur Erkenntnisfähigkeit der VWL
  - Theorie und Politik der ökonomischen Ungleichheit
    - Das Eigentor Überlegungen zur Zukunft der Arbeit

## **Curriculum vitae**

Robert K. von Weizsäcker, born in 1954, studied Mathematics and Economics at the University of Bonn, received a Ph.D. at the London School of Economics / University of Bonn in 1985 and attained the Habilitation at the University of Bonn in 1990.

Since 2003 he has been Professor and Head of the Chair of Economics - Public Finance and Industrial Organization at Munich University of Technology. Previously he had research and teaching positions at the University of Bonn, the Humboldt-University of Berlin, the University of Halle-Wittenberg, and the University of Mannheim. He was a Faculty Member of the Munich Intellectual Property Law Center at the Max Planck Institute for Intellectual Property, Competition and Tax Law, as well as a Visiting Scholar at Cambridge University, Université Catholique de Louvain, London School of Economics, Stanford University, Oxford University, and the International Monetary Fund in Washington D.C. Prof. von Weizsäcker is Research Fellow of the Centre for Economic Policy Research in London, the ifo-Institute in Munich, and the Institute for the Study of Labor in Bonn. He was a Heisenberg Fellow of the German National Science Foundation and a Member of the German Scientific Council. He has published numerous books and articles, particularly in the fi elds of public economics (public debt, tax reform, and social security financing), microeconomics (income and wealth distribution), population economics, and the economics of education.

Miscellaneous: He is an International Chess Grandmaster and Honorary President of the German Chess Federation.

## **Publications**

2015-2018, peer-reviewed journals and books

Abel, P.; Moog, M.; van Riesen, S. 2015. Beiträge forstlicher Autoren zur Ideengeschichte der Unternehmensbewertung. Betriebswirtschaftliche Forschung und Praxis, 67(3): 231-243.

Baumann, F.; Buchwald, A.; Friehe, T.; Hottenrott, H.; Weche, J. 2017. Tax Enforcement and Corporate Profit Shifting. *Applied Economics Letters*, 24(3): 902-905.

Börsch-Supan, A. 2017. "Demographie und Lebensarbeitszeit: Was ist das "richtige" Rentenalter?" DRV-Schrift, Band 112.

Börsch-Supan, A. 2016. Rational Pension Policies. Swiss Journal of Economics and Statistics, 152(2): 103-124.

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## **Publications**

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# **Editorships**

2015-2018

#### Prof. Dr. Martin Moog

- Editor, Schriften zur Forst- und Umweltökonomie (J.D. Sauerländer's Verlag)
- Subject Editor, European Journal for Forest Research (Springer)
- Editorial Board Member, Forest Policy & Economics (Elsevier)
- Editorial Board Member, Journal of Forest Science (JFS)
- Editorial Board Member, Journal of Forest Economics

#### Prof. Axel Börsch-Supan, Ph.D.

- Editorial Board of Advances in Life-Course Research
- Journal of the Economics of Aging
- Journal of Pension Economics and Finance

## **Visitors**

2015-2018

#### Vernon Smith

Munich Lecture in Business Ethics Contributor October 2016, Chapman University, Orange, CA, USA

Samuel Bowles Munich Lecture in Business Ethics Contributor November 2017, Santa Fe Institute, Santa Fe, NM, USA

# TUM School of Management Tenure-track Professors

# Tenure Track School of Management

## **Tenure-track Professors**









## Prof. Dr. Hanna Hottenrott

- Professor of Economics of Innovation
- Research topics: Economics of innovation, economics of science, industrial economics, technology policy, applied econometrics
- Joined TUM in May 2016

# Prof. Dr. Stefan Hirsch

- Professor of Agricultural and Food Economics
- Research topics: Empirical industrial organization of the food sector, food and agribusiness economics, econometric methods, production economics, consumer research
- Joined TUM in 2018

## Prof. Dr. Michael Kurschilgen

- Professor of Managerial Economics
- Research topics: Managerial economics, behavioral and experimental economics, law and economics
- Joined TUM in November 2015

## Prof. Dr. jur. Philipp Maume

- Assistant Professorship Corporate Governance and Capital Markets Law
- Research topics: Law enforcement in the capital markets, comparative corporate governance, intellectual property in company finance
- Joined TUM in October 2013

# Tenure Track School of Management

## **Tenure-track Professors**



# Prof. Dr. Luisa Menapace

- Assistant Professor of Governance in International Agribusiness
- Research topics: Structure, functioning and role of markets and organizations in agribusiness
- Joined TUM in 2013



# Prof. Dr. Ruth Müller

- Assistant Professor of Science & Technology Policy
- Research topics: Interdisciplinary field of Science & Technology Studies (STS)
- Joined TUM in 2015



# Prof. Dr. Sebastian Pfotenhauer

- Assistant Professor of Innovation Research
- Research topics: Innovation theory and the "innovation society", national and regional innovation strategies, circulation of innovation models, complex international partnerships for STI capacity-building, governance of complex socio-technical systems
- Joined TUM in October 2015

# Tenure Track School of Management

## **Tenure-track Professors**



## **Professor Dr. Sebastian Schwenen**

- Professorship in Economics of Energy Markets
- Research topics: Energy economics, industrial organization, applied micro
- Joined TUM in September 2015



# Prof. Dr. Christoph Ungemach

- Professorship of Marketing
- Research topics: Behavioural science of decision-making
- Joined TUM in November 2016



# TUM School of Management From research to practice Management Insights

## From research to practice: Management Insights

Research at TUM School of Management is dedicated equally to excellence in research and practical relevance. TUM Management Insights regularly presents the results of recent studies that will be of interest to a management audience looking to test new strategic approaches or to read about thought-provoking findings. New contributions to TUM Management Insights can regularly be accessed at www.wi.tum.de/en/research/tum-management-insights.

# Sexual prejudice in entrepreneurship – How sexual orientation influences the harshness of business failure evaluations

#### Prof. Dr. Dr. Holger Patzelt

Those who are homosexual are often stigmatized in society and at the workplace. For some, leaving employment and becoming an entrepreneur is the only way to be open about their sexual orientation without being stigmatized at work. What happens, however, if these entrepreneurs fail and their failure is perceived by the general public? Will they be stigmatized for both the failure and their sexual orientation?

In an article published in the Journal of Management Studies, Professor Shepherd of the Kelley School of Business at Indiana University and Professor Patzelt of TUM School of Management address this question and explore how 212 people from the general public in two German towns (Munich and Leipzig) evaluate failed entrepreneurs depending upon the latter's sexual orientation. In an experimental setting, the participants evaluated more than 6,500 hypothetical failed entrepreneurs who differed in terms of their sexual orientation (homosexual vs. heterosexual) and the environmental friendliness of their failed venture's technology. Specifically, participants assessed how much the entrepreneurs should be blamed, feel shame and receive punishment for the failures.



The study shows that entrepreneurs who are homosexual receive harsher evaluations for their failures than those who are heterosexual. Interestingly, this effect was similarly strong for different types of participants. For example, to a similar extent men and women evaluated failed entrepreneurs who were homosexual more harshly than those who were heterosexual. Similarly, the participant's age, city of origin, socio-economic status, education, empathy and own experiences with failure either as an employee or as an entrepreneur did not significantly influence the overly harsh failure evaluations of entrepreneurs who are homosexual. Finally and perhaps most strikingly, even their experiences with individuals who are homosexual in their own social environment did not significantly influence the harsh evaluation of failed entrepreneurs who are homosexual as compared to those who are heterosexual.

Overall, the results of the study suggest that, first, there is still a strong and prevailing prejudice in society against those who are homosexual. The context of a business failure does not seem an exception – failed entrepreneurs who are homosexual seem to face similar prejudice to non-entrepreneurs who are homosexual. This prejudice seems to be similarly present across different groups of the population. Moreover, the findings provide evidence of entrepreneurship as a double-edged sword for individuals who are homosexual. On the one hand, becoming an entrepreneur can provide an opportunity to escape sexual prejudice at the workplace. On the other, if their business fails they seem to be particularly stigmatized – not only for their failures but also for their sexual orientation. Sadly, to escape stigmatization, entrepreneurs who are homosexual might consider keeping their failures hidden from public even more than those who are heterosexual. There seems to be considerable room for improving society's tolerance with respect to different sexual orientations.

# Against all odds: Realizing entrepreneurial solutions for ecological and social problems

#### Prof. Dr. Sebastian Pfotenhauer

For a long time, countries around the world have been building capacity in science, technology and innovation with the help of foreign expert partners. For example, most emerging nuclear and space nations have obtained, or are currently obtaining, expertise from established nuclear and space nations through various forms of technology transfer, such as human resource development, physical technology transfer, institution-building and licensing agreements.

More recently, the idea that technological and innovation expertise can be rapidly obtained through strategic international partnerships has become a key element in many policy strategies around the globe. Governments hope to team up local institutions with foreign partners to boost national or regional performance with regard to innovation. These partnerships are typically highly complex, meaning that they may involve hundreds of people, last up to 20 years, cost tens to hundreds of millions of dollars, involve a range of institutions and simultaneously pursue diverse goals in research, innovation, education and institution-building.

In a series of studies, Professor Sebastian Pfotenhauer (TUM School of Management and MCTS) and colleagues from MIT (Professor Dan Roos, Professor Dava Newman, Professor Danielle Wood and Dr. Mac Hird) and Harvard (Professor Jasanoff) analyzed four such partnerships from the university sector between the Massachusetts Institute of Technology (MIT) and governments in the UK, Portugal, Abu Dhabi and Singapore. Using a system architecture approach in conjunction with in-depth case studies and policy analysis, the study showed for each country that distinct capacity-building goals, activities and political and institutional contexts translate into different partnership architectures. For example, the MIT-Portugal Program used a "network approach", in which five medium-sized Portuguese universities joined forces for the first time to collaborate with MIT and transfer educational, scientific and institutional knowhow in four research fields that were deemed important for the economic development of the country. In contrast, the Singapore-MIT Alliance followed a "functional expansion approach" over the course of three partnerships with three distinct institutions, in which different aspects of innovation capability were changed or added to the system over time (for example, technical education vs. design education vs. entrepreneurial training), as were different sectors (for example, electrical engineering, bioengineering, design).

Despite their complexity, the different partnership approaches can be captured by a few architectural principles, which can help guide governments and institutions in developing new partnerships in the future. The study also showed that understanding social, cultural, political and institutional factors is key to successful innovation strategies: While all countries turned to MIT to foster innovation, each expected fundamentally different things from the partnership and envisioned very different benefits from innovation for the country.

One particularly big challenge of complex partnerships is to understand their impacts, which are equally complex. Many innovation scholars and policymakers have made the point that complex innovation initiatives should be understood and evaluated "in their own terms," that is to say, in accordance with their specific mechanisms, goals and socio-political contexts. In a follow-up study with precisely this aim, Pfotenhauer and colleagues used a novel mixed-methods approach, combining bibliometric network analysis with difference-in-difference program evaluation, statistical matching techniques, content overlay maps ("maps of science") and system architecture analysis. The study indicates that such complex international capacity-building partnerships can have a significant impact on the "hosting" country in terms research performance, including higher and more sophisticated publication outputs, evidence of national cluster formation, and shifts in research focus among leading national researchers. This suggests that Complex International Science, Technology, and Innovation Partnerships (CISTIPs) can be used as strategic policy instruments to foster innovation and research in targeted domains, as was the case in Portugal for bio-engineering and the sustainable energy system.

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# Myopic managers: the impact of mandatory quarterly reporting on managerial behavior

#### Prof. Dr. Jürgen Ernstberger

Many critics believe that the "quarterly capitalism" of managers, investment funds and financial analysts leads to short-term behavior at the cost of long-term welfare. One important determinant of quarterly capitalism may indeed be the mandatory requirement for quarterly reports in the United States and many other jurisdictions around the world. In 2000 Warren Buffett, Chief Executive Officer (CEO) of Berkshire Hathaway, addressed this issue in a letter to shareholders and encouraged managers to focus on long-term strategies rather than quarterly earnings (Berkshire Hathaway 2000). In Germany, German sports-car manufacturer Porsche refused to issue quarterly information, even at the expense of not being included in the MDAX, a prestigious stock market index. The discussion about the real effects of quarterly reporting intensified in the wake of the 2008-2009 international financial crisis. At that time, the CEO of Korn/Ferry International, Gary Burnison, noted that, "If there is a villain at the heart of the current crisis, it's quarterly results. As regulators and Congress look at what went wrong with the markets, the place to start is with practices that make businesses think short-term." (Burnison 2009)

Earlier research provides evidence of the advantages of quarterly reporting in terms of higher transparency and thus higher market liquidity. However, a recent paper by Ernstberger/Link/Stich/Vogler examines how mandatory quarterly reporting affects managers' business decisions in terms of real activities manipulations. As a setting for their tests, they use the European Union, where the reporting frequency was increased following the introduction of a mandate to issue Interim Management Statements (IMSs) on a quarterly basis. In addition, several countries already had requirements in place, and firms in these countries act as a control group. The authors find an increase in real activities manipulations for firms mandated to switch from semi-annual to quarterly IMS reporting, relative to the control firms. This finding is in line with the notion of higher managerial short-termism resulting from increased reporting frequency requirements. Furthermore, the paper provides evidence that reporting frequency-induced real activities manipulations are more pronounced if the price pressure from investors is high and the informativeness of IMS disclosure is low. The authors also document that reporting frequency-induced real activities manipulations are followed by a short-term increase and then a decrease in firms' operating performance, which illustrates quarterly reporting's harm to economic welfare.

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## Systemic Risk in Financial Markets: How Systematically Important Are Insurers?

#### Prof. Dr. Christoph Kaserer

We study how insurers contribute to systemic risk in the global financial system. In a modeling framework embracing publicly traded and non-public firms, the financial system is represented by 201 major banks and insurers from 2004 through 2014. In the aggregate, the insurance sector contributes relatively little to systemic losses; during the crisis episodes, its risk share averaged nine percent. Individually, however, several multi-line and life insurers appear systemically risky as the riskiest banks. We discuss several important implications of our results for managing systemic risk in insurance, arguing for a combination of entity-based and activity-based regulation.

#### Source:

Christoph Kaserer\* and Christian Klein (2018), Systemic Risk in Financial Markets: How Systematically Important Are Insurers? Journal of Risk and Insurance (forthcoming)

- \* Christoph Kaserer, Professor, Head of the Chair of Financial Management and Capital Markets
- \*\* Christian Klein, doctoral student at the Chair of Financial Management and Capital Markets



## Inter-Organizational Collaboration and Financing Constraints for R&D

#### Prof. Dr. Hanna Hottenrott

The role of research and development (R&D) for promoting economic growth has long been emphasized in economic research. In addition, R&D is an important input factor for industrial production, and the impact of R&D on firm-level productivity is substantial. At the same time, capital market imperfections affect lending and the investment decisions of firms. In the case of investments in R&D, uncertainties and information asymmetries are particularly severe. Complexity, specificity and outcome uncertainty of R&D projects make it extraordinarily difficult for outsiders (and not only them) to judge the expected return. The uncertainty is aggravated if firms are reluctant to reveal details of the projects to potential investors, fearing that too much information could leak out to competitors.

Besides outcome inherent uncertainty and information asymmetries, R&D has another feature that distinguishes it from investment in physical assets. The primary output of R&D is new knowledge that is often tacit and naturally intangible. Thus, R&D investments provide very low inside collateral value.

These properties of R&D make raising funds from external parties more costly than for other types of investments. Firms willing to pursue an ambitious R&D agenda may face serious difficulties in attracting external investors or obtaining bank loans. The extent to which firms can pursue R&D projects may therefore strongly depend on the availability of internal funding for their R&D. Firms unable to save-up the required resources may have to constrain their research to currently available funds, or postpone or abandon projects. Underinvestment in R&D due to financing constraints may result in a slowdown of productivity growth and consequently have particularly detrimental effects on technological progress and competitiveness. Understanding how firms encounter such constraints is therefore crucial.

While the relevance of financing constraints for R&D in the business sector is well established, little attention has been paid to firms' coping strategies. Inter-organizational collaboration in R&D projects may constitute a way in which constrained firms reduce their own resource requirements and increase the productivity of their R&D efforts.

Hanna Hottenrott (TUM) and Dirk Czarnitzki address this research gap in a study on a panel of more than 900 firms in Belgium. When R&D collaborations attenuate financing constraints, one might expect that those engaged in collaborative R&D projects are less dependent on internal financing for their R&D investments than other firms. Moreover, such benefits may be particularly great when information asymmetries are large because the project is far from observable, marketable outcomes. Hottenrott and Czarnitzki therefore explicitly test whether R&D collaboration has a stronger alleviation effect on firms' research than on development investments.

The results show that collaborative R&D indeed reduces firms' dependency on internal financing for R&D. In particular, collaborating firms rely less on internal funding for research than others, even accounting for firms' selection as collaborators. These results suggest that collaborative R&D may be one way to mitigate the detrimental effects of constrained access to financial resources for their investments in innovation, in particular in (basic) research. These insights are relevant for R&D management in firms as well as for innovation policy as they confirm that encouraging inter-organizational R&D collaboration may be a valuable tool for reducing market failures associated with investments in the creation of new knowledge.

Source:

Czarnitzki, Dirk; Hottenrott, Hanna: Inter-Organizational Collaboration and Financing Constraints for R&D. Economics Letters, 2017 (forthcoming)

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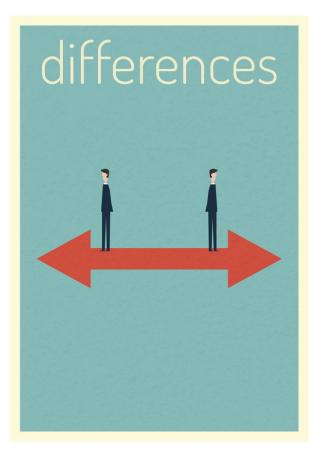


## Conflicts in startup teams – When fighting is destructive and when it is constructive

#### Prof. Dr. Nicola Breugst

Members of startup teams need to work interdependently under high levels of pressure and on unfamiliar tasks. In these challenging conditions, conflicts in the team are unavoidable. These conflicts can lead to fundamentally different outcomes. Often, high levels of conflict are experienced as destructive and put team and firm survival at risk. However, conflicts can also lead to an intense exchange of ideas which may, in turn, increase team and firm performance. To take into account these opposing outcomes, team researchers distinguish between relationship conflict (interpersonal incompatibilities in the team) and task conflict (disagreements on task content and viewpoints). While these types of conflict can be differentiated based on content and outcomes, it is unclear when the team members themselves experience conflicts in a negative way, although their immediate emotional reaction would help to better understand the direct impact of conflicts.

They find that relationship conflicts trigger negative emotions in team members, whereas task conflicts can reduce these emotions. Interestingly, the emotional reactions depend heavily on the environment outside the team as well as within it. First, the uncertainty surrounding the team shapes team members' emotional reactions. If uncertainty is running high, team members do not react so intensely: Relationship conflict is seen as less annoying, but task conflict as less helpful. In an uncertain environment, team members are more willing to excuse their teammates' harsh and aggressive communication during a conflict. However, they also consider a lengthy exchange of perspectives a waste of time in comparison to a more certain environment.



Second, within the team, the members' satisfaction with the team intensifies the team members' emotional reactions to conflict. In an environment in which positive team interactions are expected, team members resent their teammates for their hostile communication behavior. In contrast, if satisfaction with the team is low, team members are not interested in an exchange of perspective and react with annoyance to task conflict.

In short, startup team members react differently to different types of conflict, shaped by their specific environment. Importantly, uncertainty which is typically seen as something negative has a positive impact because it can reduce team members' negative emotional reactions, whereas team satisfaction which is normally positive and desirable intensifies negative emotional reactions.

These findings are highly relevant for members of startup teams, who need to understand the differences between relationship and task conflict to allow for an inspiring conflict around ideas without a clash of personalities. However, to have a positive effect, task conflict needs to fall on a fertile ground: there must be sufficient time, availability of information and a positive attitude towards teammates. If teams encounter relationship conflict, it can help the members to blame conditions outside of the team in order to cope emotionally with the conflict. Conflicts are a part of life as a startup team, so successful teams need to learn how to deal with them.

## Does diversity have a positive or negative effect on a team? – It's all a matter of perception!

Organizations frequently wrestle with two questions: Is diversity helpful in a team? And, if so, under what circumstances? Diversity is defined here as creating a (work) team that is made up of individuals with a range of different characteristics. This includes not just differences in demographic factors, such as a team that includes people of different genders, ages or nationalities. It also involves differences in character traits (such as conscientiousness) or other qualities (such as values or goals) that are not immediately noticeable.



Academic theories make different predictions about whether diversity in a team will have a positive or negative effect on team members and organizations. For instance, the information/decision-making perspective states that teams made up of a range of members have more information at their disposal and can discuss questions with one another more intensely. This can have a positive impact on creativity and innovation. By contrast, social categorization theory states that teams with a range of members tend to form sub-groups – a factor that can have a negative impact on team composition.

An innovative study explored this dilemma and examined in what way the perception of diversity among team members determined whether diversity had a positive or negative impact. The study was conducted by Tanja Hentschel, a Ph.D. candidate for the Professor of Research and Knowledge Management (Prof. Dr. Claudia Peus), Professor Meir Shemla (Erasmus University of Rotterdam, Rotterdam School of Management), Professor Jürgen Wegge (Technical University of Dresden) and Professor Eric Kearney (University of Potsdam). The researchers asked 241 people from 38 teams how diverse they thought their teams were. They also asked team members whether their team was dominated by negative or positive emotions, how strongly they identified with their team and whether emotional conflicts existed within the team. In addition, the team members were asked whether they personally believed that highly diverse teams were effective.

The results confirmed the assumptions of Tanja Hentschel and her colleagues: The perception of diversity in a team determines whether diversity has a positive or negative effect. The key findings of the study were as follows:

- High levels of perceived diversity (non-objective diversity in gender, age, education, nationality or length of service) were related to more negative emotions and emotional conflicts in a team
- High levels of perceived diversity (non-objective diversity in gender, age, education, nationality or length of service) were related to fewer positive emotions and less identification with the team
- A positive attitude toward diversity among team members in a team could lower high levels of perceived diversity (emotional conflicts and less identification)

The findings show that the perception of team members plays a key role in determining whether diversity in a team has a positive or negative effect. The study offers a helpful lesson for managers and members of communications departments in companies, namely that they should identify commonalities and address them. For instance, priority can be placed on a joint team identity ("We, as the Purchasing Department,...") or joint team goals. In addition, it is useful to communicate the benefits of diversity (such as innovation potential) so that team members can develop a positive attitude to diversity. As the study found, this is particularly relevant in teams with high levels of perceived diversity.

In summary, the study shows that the question of whether diversity is helpful or detrimental in a team depends on the perception of it by the team members. In other words, the impact of diversity in a team is determined not (or at least not only) by how diverse a team is in terms of demographic considerations, but also (and more importantly) by how different or how similar the team members themselves are. This can be a starting point for companies in addressing this topic.

# Against all odds: Realizing entrepreneurial solutions for ecological and social problems

#### Prof. Dr. Frank-Martin Belz

Jakob Assmann, a passionate hiker, had a personal awakening while climbing a mountain in the Bavarian Alps. "Climate change is not an abstract problem that happens somewhere in the Arctic," he says. "Actually, it is happening here in the South of Munich. You can experience it yourself, and it is really emotional when you see the ice changing and the glaciers retreating... ". Triggered by this incident, Jakob decided to become active and make a contribution to the global challenge of climate change by establishing Polarstern, a sustainable energy provider with a global outreach.

Realizing social and ecological value while making a profit is a challenging task. Sustainable entrepreneurs, however, seem to have found a way to balance the triple bottom line of ecological, social and economic goals in a mutually beneficial way. To understand how sustainable enterprises come into existence, Frank-Martin Belz and Julia Katharina Binder investigate how the entrepreneurial process of sustainable enterprises unfolds over time. Based on their process study, they come up with three key findings. First and foremost, ecological and social problems are potential sources of innovation and entrepreneurship. Second, aligning ecological and/or social value with an entrepreneurial opportunity is essential - and far from being an easy proposition. Thus, a key activity in the entrepreneurial journey is the translation of ecological and/or social goals into customer benefits. A case in point is Coffee Circle, an online shop selling fair trade and organic coffee directly from producers to consumers. Despite the motivation to tackle the social problem of unfair wages for coffee farmers, the co-founders of Coffee Circle put the customer at the heart of their business. They write, "In Germany, it is not sufficient to appeal to the bad conscience as a business base. The product has to be right. If the good cause is central, it will not work in the long term." Besides price, the most important buying criterion for food in general and coffee in particular is taste, so Coffee Circle emphasizes the great taste of its various coffee blends. Third, the empirical results indicate that ecological, social and economic goals are not integrated simultaneously but rather sequentially over time. The progressive order in the development process reduces the complexity of this challenging task, making the integration and balancing process easier. The findings have implications for students, entrepreneurs, managers and policymakers alike who are interested in pursuing entrepreneurial opportunities in the realm of sustainable development.



# Incentives for energy-efficient behavior at work: The importance of non-monetary elements

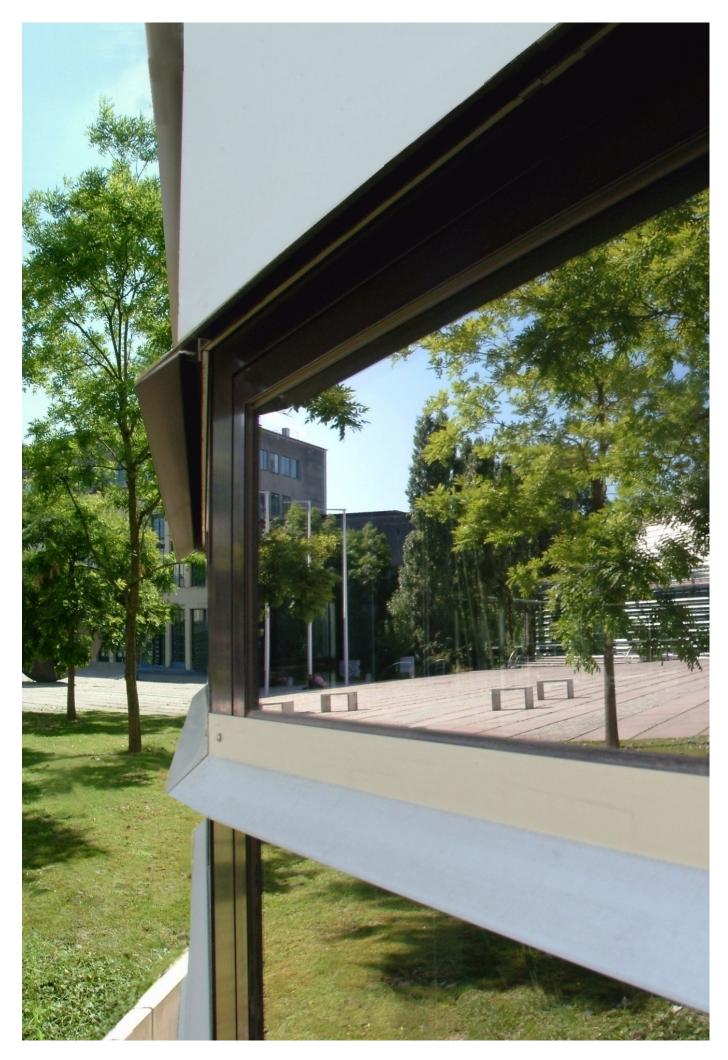
#### Prof. Dr. Alwine Mohnen

Following the UN Paris climate summit (COP21) in December 2015, the need to quickly reduce greenhouse gas emissions is more obvious than ever. As one of the main sources of the world's energy-related CO2 emissions, the road transportation sector is an essential domain for analyzing potential reduction measures. Convincing people to drive more fuel-efficiently ("eco-driving") can contribute substantially to both climate-policy goals and the transportation industry's efforts to cut fuel costs and increase corporate sustainability. While many companies are interested in implementing an eco-driving incentive system, studies show that few have actually implemented such a bonus scheme to date. One reason may be a lack of knowledge about the effective design of incentives.

Dominik Schall and Alwine Mohnen (TUM) address this gap through a natural field experiment conducted with different branches of a German logistics company. It is thus one of very few approaches within energy and transportation research to employ a controlled natural field experiment – a field experiment where the subjects do not know that they are part of an experiment – to demonstrate causal relations. Drivers were rewarded for eco-driving, that is, for average fuel consumption below a specific reference value. This reference value was calculated individually by the company for every driver, taking into account the drivers' different situations. A non-monetary reward (vouchers for pleasurable activities such as dinner at a restaurant or a visit to a well-ness center) and an equivalent monetary reward for eco-driving were introduced to a subset of drivers. A control group was maintained to test the incentives' efficacy over a six-month period. The monetary value of the rewards was variable, set to 50 percent of the saved fuel costs, and calculated in the same way for both reward types.

The results show that individual incentives for drivers can increase fuel efficiency by up to five percent, and, contrary to rational economic theory, non-monetary incentives can have a larger effect on drivers' fuel consumption than equivalent monetary incentives. On average there was a significant five percent reduction in fuel consumption due to the tangible non-monetary incentive and a 3.5 percent average reduction in the equivalent monetary incentive treatment, although this result was not significant. The study indicates that greater emphasis on the enjoyable aspects of achieving higher fuel efficiency, a more emotional response to non-monetary incentives and more frequent consideration of and discussions about non-monetary incentives might help drive the stronger effect of non-monetary incentives compared to equivalent monetary incentives.

The study extends our knowledge about how to formulate effective policies for eco-driving that can help modify habitual car use and facilitate a deliberate choice for more eco-friendly driving. The results may be used to inform private actors, such as companies with a vehicle fleet, for instance in the road freight transportation sector, about the effectiveness of various economic incentives for eco-driving and the power of non-monetary rewards.



# **TUM School of Management** Interdisciplinary research centers

## LSM – Center for Life Sciences and Management

The Center for Life Sciences and Management brings together closely networked specialist sectors such as forestry and agriculture, chemicals, plastics, food and food technology, and plant engineering. It thus builds a bridge between technology, ecology and economic efficiency. Work takes place at an international level, particularly in the areas of bioeconomy and "closing the loop". The research encompasses the entire value chain, from production to consumption. "Reverse flows" such as recycling play a crucial role here. Moreover, by effectively combining research and teaching, the Center for Life Sciences and Management ensures that its research findings exert a lasting impact and generate valuable synergies.



### **CEM – Center for Energy Markets**

With the support of Munich Municipal Utilities (Stadtwerke München GmbH), TUM School of Management has founded the Center for Energy Markets (CEM). The partners aim to conduct an ongoing and rigorous analysis of the evolution of the energy industry and facilitate excellent interdisciplinary training of professionals in this emergent field. The focus of research is the analysis of energy prices, trading strategies in the energy sector and investment decisions for power plants. Specialist areas also include regulated electricity and gas networks, and asset management in the energy industry. Another major challenge lies in the area of electromobility management.



# **CEFS - Center for Entrepreneurial and Financial Studies**

In 2003 the Chair in Entrepreneurial Finance (Prof. Dr. Dr. Ann-Kristin Achleitner) and the Chair of Financial Management (Prof. Dr. Christoph Kaserer) jointly founded the Center for Entrepreneurial and Financial Studies (CEFS). Prof. Dr. Reiner Braun (Chair in Entrepreneurial Finance II) joined in 2015, completing the Scientific Director Team. CEFS is supported by around 20 Scientific Assistants and a Managing Director. Its portfolio also includes an international network of highly renowned scientists and representatives of numerous business fields.

CEFS aims to provide state-of-the-art research and teaching in the fields of entrepreneurial and financial studies. The research focus is on corporate financing and ownership structures in public and private capital markets. Special attention is paid to the analysis of demand for capital by young, innovative companies and the supply of debt and risk capital from banks and institutional investors. Within the scope of its research, CEFS collaborates on a series of projects with selected industry partners, including leading investment companies, consulting firms and financial intermediaries.

CEFS places a special focus on the practical relevance and applicability of its research. It identifies solutions for real-life problems using scientific analyses, in close dialogue with practitioners.

An exemplary CEFS project was the development of two indices in collaboration with Deutsche Börse: the German Entrepreneurial Index (GEX, 2005) and the DAXplus® Family (2010). The GEX presents a view of entrepreneurial companies in the prime standard. In 2005 Professor Achleitner and Professor Kaserer received the Initiativpreis of Stiftung Industrieforschung for the development of the GEX. The DAXplus® Family tracks the performance of listed family businesses in the prime standard. In 2010, CEFS received one of the 365 "Orte im Land der Ideen" ("Places in the country of ideas") awards for its achievements in research and teaching with practical relevance.

CEFS publishes its own series of working papers, among other freely available publications and research studies, and issues its own newsletter.

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Further information can be found on our homepage at www.cefs.wi.tum.de.

# **TUM School of Management**

Entrepreneurship Research Institute Partner research centers

## **ERI – Entrepreneurship Research Institute**

Entrepreneurship is an emerging and important research field in business, economics and psychology. The goal of the Entrepreneurship Research Institute is to help develop this field and improve our understanding of entrepreneurial individuals and organizations. One part of our research takes a psychological perspective and investigates entrepreneurial cognition and decision-making. Our second research stream follows a business perspective and tries to understand the behavior of young organizations and factors that contribute to their success.

The ERI team is interdisciplinary and composed of researchers with diverse backgrounds and qualifications, including management, psychology, economics, sociology and natural sciences.



## **CDTM – Center for Digital Technology and Management**

The Center for Digital Technology and Management (CDTM) is a joint institution of TUM and the Ludwig-Maximilians-Universität München (LMU) and a member of the Elite Network Bavaria. Founded in 1998, it is a center for interdisciplinary teaching, research and entrepreneurship with around 75 active students and more than 600 alumni. Each semester, 25 highly qualified, ambitious students from various backgrounds are selected to attend the add-on study program "Technology Management". CDTM is run by a management team consisting of ten doctoral candidates and is supported by 14 Professors from LMU and TUM.

#### An important node in Munich's startup network

Over the years, CDTM has developed into an important center for innovation and entrepreneurship in Munich. Around a quarter of all former CDTM students eventually found their own company in the field of digital technology. Examples of high-growth ventures include the fashion startup Stylight and the sensor specialist KONUX. CDTM startups continue to prove their success on an international level. For instance, the indoor mapping expert NavVis won the "FOCUS Innovation of the Year Award" at DLD 2016, and the payment specialist Pay.On achieved a USD 200 million exit in 2015. Thanks to its expertise in entrepreneurship education, CDTM has taken an active role in the task force for the Zentrum Digitalisierung Bayern (Z.DB), which strives to foster digitalization and entrepreneurship in Bavaria. Events such as the CDTM Inspire&Dine speaker series attract over 1,000 participants each semester, playing an increasingly important role in connecting Munich's startup scene.

#### Research at the intersection of digital technology and entrepreneurship

CDTM's strong focus on interdisciplinary projects and collaboration necessarily results in a multifaceted research agenda. This can be exemplified by three research projects from 2015. CDTM and the Chair of Strategy and Organization of CDTM Board Member Isabell M. Welpe received a "Best Empirical Paper" award at the Academy of Management Annual Meeting for their research on how to attract job seekers for startup jobs. Research on renewable energy technologies and environmental policy has become a core research topic: In 2015, a review on drivers, barriers and opportunities for business models for renewable energy by two doctoral candidates from CDTM and the Board Members Professor Picot (LMU) and Professor Welpe was accepted for publication by the international peer-reviewed Journal of Renewable and Sustainable Energy Reviews. And CDTM published an interdisciplinary study on the future of 3D printing, conducted for the German Commission of Experts for Research and Innovation as part of the Commission's annual report that was presented to Chancellor Angela Merkel.

#### Merging innovative teaching methods with applied research

CDTM strives to combine its research with innovative teaching approaches, creating benefits for both students and researchers. In August 2015 CDTM hosted a course in the field of human-drone interaction, analyzing interaction with autonomous systems. Over the course of a week, students from various backgrounds learned the basic concepts of computer vision and object recognition, and developed four drone prototypes with varying levels of flight autonomy. The applicability of these prototypes has been analyzed in a competition and serves as a basis for a joint research project by two doctoral candidates at CDTM.

In 2016 CDTM strengthened its role as an interdisciplinary research institution by playing an active part in the knowledge and innovation community "EIT Health".

## **MIPLC – Munich Intellectual Property Law Center**

The Munich Intellectual Property Law Center (MIPLC), a nexus for education and research in the field of intellectual property, was founded jointly by TUM and TUM School of Management, the University of Augsburg and the Max Planck Institute for Intellectual Property and the George Washington University Law School (Washington D.C., USA). In order to provide the urgently needed next generation of experts in this field with the necessary training, MIPLC offers an internationally-oriented, two-semester, fee-paying Master's program in Intellectual Property and competition law.

The Munich Center for Technology in Society (MCTS) is one of three Integrative Research Centers at TUM, and the latest institutional addition to the vibrant TUM community. Launched in June 2015, it is a central pillar of the University's award-winning Future Concept that featured prominently in the Excellence Initiative of the German federal government.

MCTS's mission rests on the insight that today's most pressing challenges and transformations – including climate change, energy transitions, personalized health, e-mobility, social robotics and the digitalization of society and industry – are all thoroughly socio-technical in nature. Furthermore, excellence in the natural sciences and engineering requires equal excellence in the social sciences to find adequate responses at the crucial intersection of science, technology and society.

MCTS aims to provide an institutional platform at an excellent technical university for comprehensive interdisciplinary reflection on the conditions and effects of science and technology in highly technologized societies. Across a range of different domains and topics, MCTS researchers conduct work on the social, political, historical, ethical and legal aspects of scientific research and technological change. It examines these issues with regard to technological controversies, public acceptance and participation, changing forms of knowledge production and dissemination, the governance of science and complex socio-technical systems, the design of science and innovation policies, and in other contexts. MCTS is committed to multi-faceted forms of dialogue across academic communities and public stakeholders. Many projects are conducted in close collaboration with other research units at TUM, and all MCTS faculty and senior researchers hold dual appointments with other TUM faculties.

MCTS has grown rapidly since its inception. Over the past year, it has been joined by Assistant Professors Ignacio Farias (Participatory Design, co-appointment with the Faculty of Architecture), Ruth Müller (Science and Technology Policy, co-appointment with the School of Life Sciences Weihenstephan) and Sebastian Pfotenhauer (Innovation Research, co-appointment with the School of Management), as well as the post-doc lab group leaders Jan-Hendrik Passoth (Digital Media) and Uli Meyer (Reorganizing Industries). MCTS offers two Master's Programs (Science and Technology in Technologized Societies, and Philosophy of Science and Technology) and an interdisciplinary doctoral program (TechnoScienceStudies). In 2017 MCTS was among the winners of the "Elite Network Bavaria" competition of the Bavarian Ministry of Education, Culture, Science and Art, and received a grant of EUR 2.5 million to establish a new Master's Program on Responsible Innovation. The new program "Responsibility in Science, Engineering and Technology (RESET)" was launched in October 2017.



# TUM School of Management Selected funded projects

# Collaborative research center (CRC) 768: Managing cycles in innovation processes – integrated development of product-service systems based on technical products

Collaborative Research Center (CRC) 768 is an interdisciplinary research project of the Technical University of Munich and Ludwig-Maximilians Universität Munich. It comprises 16 sub-projects conducted by 8 Institutes/Chairs from various disciplines, including engineering, informatics, management, sociology and psychology. Jointly, they conduct cutting-edge research into the management of innovation processes, with a particular focus on product-service systems based on technical products. The German Research Foundation (DFG) has funded the CRC since its inception in 2008 and twice renewed its support, which will continue until 2019.



Within the CRC, Prof. Dr. Christina Raasch (TUM School of Management) leads two sub-projects analyzing the integration of users into the development of product-service systems. Drawing on their experience in open and user innovation research, Christina and her team develop and test theory and deliver management advice regarding user-producer collaboration for innovation. More specifically, their research topics include competition and complementarity between user and producer innovation activities, employee competences for open innovation, innovation generation and sharing in user communities, and user-producer interactions in the development and commercialization of breakthrough innovations. Methods used include analytical modeling, qualitative and quantitative empirical research, and agent-based modeling.

Importantly, much of this research is interdisciplinary in nature. This is in line with the objectives of the CRC to create new structures across disciplinary boundaries and to develop a holistic approach for the management of PSS innovation processes that also involve actors from multiple disciplines inside and outside firms. Thus, the TUM School of Management team conducts and co-publishes studies with researchers from engineering, informatics and psychology. For further information, please contact Prof. Dr. Christina Raasch (c.raasch@ tum.de) or visit the SFB 768 Website: www.sfb768.tum.de.

From green electricity tariffs to car-sharing schemes, many sustainable products and services have been brought to market by enthusiastic startups. More consumers than ever are turning their hands to business in a bid to solve social and environmental problems. However, there has been relatively little research into how and why individuals take this step and whether their startups become a success. Fourteen European research institutes coordinated by TUM School of Management investigate this trend to see what potential it holds for a sustainable economy. They also look at how established companies engage end users in the development of sustainable products. The project has received EUR 4.7 million in funding from the European Union.

Despite the promise that active, entrepreneurial users hold for the transition towards a sustainable economy, little is known about how to systematically leverage this potential. The project "Sustainable Lifestyles 2.0: EU-InnovatE" (standing for "End User Integration, Innovation and Entrepreneurship") aims to change this. Around 40 scientists at 14 European research institutes are involved in this large-scale, EU-funded project. By carrying out case studies, surveys, simulations and experiments the researchers want to find out more about this trend. They focus their activities on more than 50 companies in 15 European countries, primarily in the food industry and also the construction/residential, mobility and energy sectors.

The key idea of the project is to investigate the creative, innovative and entrepreneurial roles of end users to develop sustainable products, services and systems ("Sustainable Lifestyles 2.0"). To do so, the researchers analyze startups offering sustainable products and services. What motivated the founders? How did they transition an idea to a startup? How are they financed? What factors are conducive to their market success?

The project recently entered its third and final year, and selvNeral interesting findings have already emerged. First, the empirical findings show that besides individuals users, coDllelcStiveKusUersS, foSr ilnOstanNce entrepreneurial teams, groups, movements and cooperatives, play an important role in the transformation from passive to active consumerism. Second, these individual and collective users adopt various roles in the innovation and entrepreneurship process. Lastly, and particularly relevant for the transition towards more sustainable lifestyles, users frequently act as institutional innovators and entrepreneurs, trying to change and influence institutions and the institutional environment.

To learn more about the project, please see the TUM Management Insight "Against all Odds: Realizing Entrepreneurial Solutions for Ecological and Social Problems" on www.euinnovate.com

Contact: Prof. Dr. Frank-Martin Belz, Frank.Belz@tum.de



# Research Training Group "Advanced Optimization in a Networked Economy" (AdONE)

One of the basic requirements for the economic success of a business is the efficient use of resources. In an increasingly networked world, several decision-makers are often involved in resource management. At the same time, the amount of data available is growing. The research training group aims to train researchers by developing models and processes. These will in turn be transformed into solutions designed to enable efficient use of resources through intelligent planning and control. Focal areas range from shared mobility, inventory pooling, coordination in retail transportation logistics, allocation in sales and operations planning, resource allocation in IT infrastructure management to operations of airport resources and air cargo prediction.

The research training group "Advanced Optimization in a Networked Economy" is funded by the German Research Foundation (DFG) and had a successful start in September 2017, admitting the first PhD student cohort. The research agenda was shaped in a three-day workshop in October 2017.

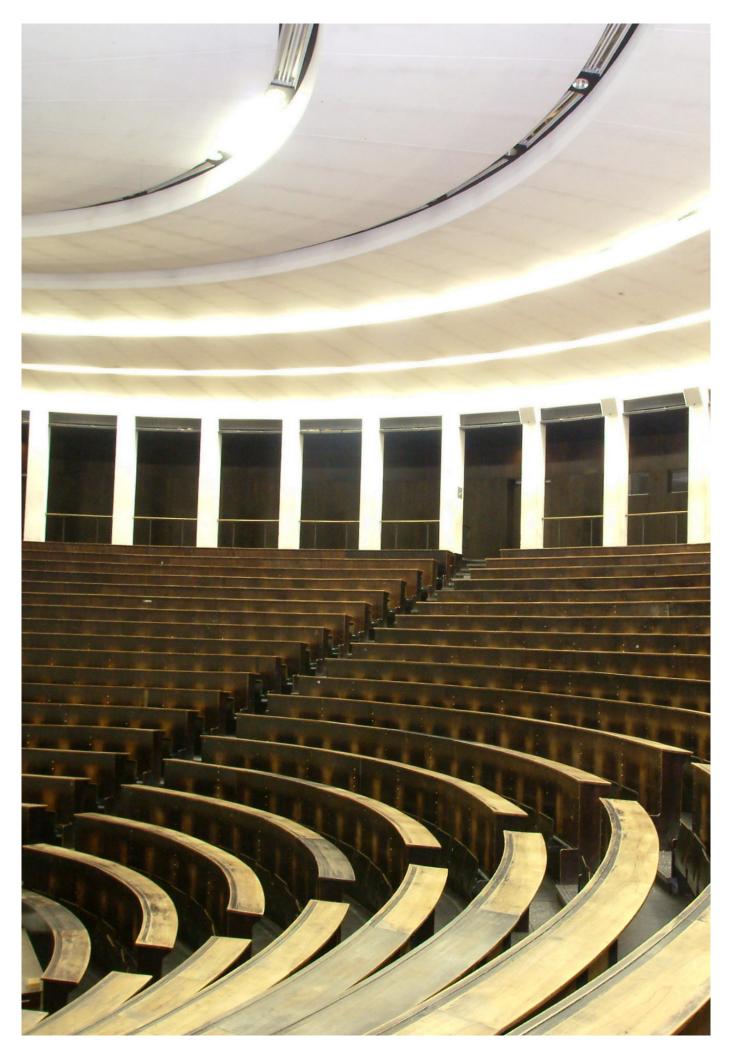
The group is a joint initiative of researchers at the TUM School of Management, TUM School of Informatics, TUM School of Mathematics, and, due to its interdisciplinary focus, part of the IGSSE (International Graduate School of Science and Engineering) at the TUM Graduate School. It is currently supported by more than 30 researchers, further associated researchers, and additional PhD student cohorts will be admitted as the project continues. Among the principal investigators, five represent the Operations and Supply Chain Management department of TUM School of Management: Prof. Dr. Martin Grunow (Production and Supply Chain Management), Prof. Dr. Rainer Kolisch (Operations Management), Prof. Dr. Maximilian Schiffer (Operations and Supply Chain Management), Prof. Dr. Andreas S. Schulz (Operations Research), and Prof. Dr. Stefan Minner (Logistics and Supply Chain Management).



Joint supervision, mentoring and various formats of scientific training assist and encourage young researchers towards scientific independence. Lectures given by guests and researchers of the group during the regular AdONE Seminar are open to the public.

For further information, please get in touch with the project coordinator Dr. Yoshimi von Felbert (yoshimi.v.felbert@tum.de) or visit the AdONE homepage: http://www.gs.tum.de/adone

DFG Deutsche Forschungsgemeinschaft



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