



Excellence in  
Management  
Education

# Activity Report 2015/2016

Kühne Foundation Endowed  
Chair of Logistics Management  
Kühne Institute of Logistics Management

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## Foreword



This report covers the period from September 2015 to August 2016. In this period, the chair's team continued to produce exciting research results which were published in a broad range of high-quality journals, to offer attractive lectures related to logistics and supply chain management and demonstrate impact in practice.

As far as teaching is concerned, the following lectures are offered in the Bachelor of Science Program at the WHU: an introductory lecture to operations management, a real options analysis class and a seminar on the quickly evolving topic of multi-modal logistics. In the Master's program, this is followed by the logistics and supply chain management course and a class on sustainable operations management; the core operations management class has been offered in the MBA curriculum, too. Last, a doctoral seminar on supply chain management is taught, again with an emphasis on quantitative methods in logistics research. A wonderful experience was the capstone course offered in the Master's program which took place in Silicon Valley. We visited Google, Airbnb, Uber, The Box and others and were impressed by the dynamics which you can literally breathe in the valley. Groups from prestigious Chinese universities, among them CEIBS, Sun Yat Sen Business School, Tsinghua and Xiamen, were enlightened on the topic of industry 4.0.

Publications in top-ranked journals and a range of working papers indicate the quality of the research carried out at the chair. I would like to mention in particular the joint paper with Elisa Long (UCLA) and Eike Nohdurft on the optimal allocation of Ebola intervention measures such as Ebola treatment units. Based on an enhanced epidemic disease model and subsequent optimization

we were able to show that a large number of deaths could have been prevented through an optimal allocation. The quality of the paper was recognized via the 2nd prize in the Public Sector Operations Research Best Paper Competition awarded by INFORMS during the annual conference in November 2015 in Philadelphia. During that same conference, the team consisting of Matthias Winkenbach (MIT), Alain Roset (La Poste) and Stefan Spinler was given the finalist award for the Daniel H. Wagner Prize for Excellence in Operations Research Practice.

I would like to thank the entire team at the chair for their dedication and energy they bring to their work and for the delightful atmosphere they help to create. This is the basis for the great work that is being done here. Linda Stein does an outstanding job to assure smooth operations at the chair.

The multitude of research and teaching activities would not have been possible without the ongoing and generous support of the Kühne Foundation. My wholehearted thanks go to Prof. Dr. h.c. Klaus-Michael Kühne and to the managing director of the foundation, Mr. Martin Willhaus. Not only is the financial support greatly appreciated, but also the tireless efforts which Mr. Willhaus makes to provide contacts with practitioners within the logistics industry. The Kühne Foundation's credo to make logistics research relevant to practice is thus supported in an excellent manner.

This report is meant to provide an overview of the chair's activities. We all look forward to new exciting logistics research and teaching.

Vallendar, January 2017

# 1. Team



**Professor Dr. Stefan Spinler**  
Chairholder

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Professor Stefan Spinler holds the Kühne Foundation Endowed Chair of Logistics Management at WHU – Otto Beisheim School of Management. He received a master's degree in electrical engineering from Friedrich-Alexander University in Erlangen, with research stays at University College London and Bell Labs (USA). In 1997, he was awarded the diploma in electrical engineering. Subsequently, he joined Infineon Technologies with responsibilities in process integration, quality, and supply chain management. From October 1999 to August 2002, Prof. Spinler was a doctoral student in the department of Production Management and taught at WHU and Leipzig Graduate School of Management (HHL). His research on options on capacity has been presented at international conferences and leading US business schools. Moreover, his research was awarded a number of prizes, most notably the Management Science Strategic Innovation Award (from EURO) as well as the GOR dissertation award. Upon the

completion of his doctoral studies, Prof. Spinler spent a year as a lecturer at the Wharton School, where he taught classes in the MBA and PhD programs and developed a real options class for executives. He continues teaching as a guest professor this latter class in Wharton's Executive Masters of Technology Management. He has been invited to teach the real options class at MIT as a guest professor in their Leaders for Manufacturing Program. He was awarded the best guest lecturer award twice at HHL. His postdoctoral degree (Habilitation) covered aspects of market-based supply chain coordination and was completed in September 2008. In January 2009, Prof. Spinler was appointed to the Chair of Logistics Management at WHU, which is sponsored by the Kühne Foundation. In 2011, a research team consisting of Paul Kleindorfer, Andrei Neboian, Alain Roset and Stefan Spinler was a finalist in the Daniel H. Wagner Prize for Excellence in Operations Research.



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Since the appointment of the Chair of Logistics Management by Prof. Spinler in 2009, Linda Stein has been the chair's secretary.



**Anna Achenbach, M.Sc.**  
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Anna Achenbach (born 1990) is a Ph.D. student and research assistant at the WHU – Otto Beisheim School of Management (Chair of Logistics Management) since August 2015. Her research is focused on: Advanced analytics in operations, Predictive modelling and Large-scale data mining. Anna Achenbach holds a Master of Science in Global Logistics. She studied at Technische Hochschule Ingolstadt (Germany) and Kühne Logistics University (Hamburg, Germany). During her studies she focused on Operations Research and Supply Chain Management and worked as a research assistant. In her master thesis she analyzed the application of Big Data Analytics in airline operations.

Between 2012 and 2013 Anna Achenbach gained practical experience as a business analyst specialized on supply chain management and business process outsourcing while working for Nokia. Besides that she has worked as an intern for the demand planning department of Colgate-Palmolive and in various humanitarian logistics organizations. As part of her educational and professional career Anna Achenbach had the chance to study and work abroad including India, Jordan and Namibia.



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Maximilian Burkhardt (born 1987) is a doctoral student and research assistant at the Chair of Logistics Management at the WHU – Otto Beisheim School of Management since October 2014. His research is focused on the effect of stress on operational decisions in a humanitarian logistics environment. Maximilian Burkhardt graduated as a Master of Science equivalent in Business Administration from the University of Cologne in 2012. During his studies, he focused on Supply Chain Management, Corporate Strategy and Business Psychology. In his diploma thesis at the Chair of Supply Chain Management & Management Science, he analyzed the impact of historical and real time traffic information on last mile express delivery operations. Furthermore, he joined the MBA program of the McGill University in Montreal, focusing on Supply Chain Management and Negotiation Tactics. Between 2012 and 2014 Maximilian Burkhardt worked as a consultant for McKinsey & Company in the Cologne office as a part of the operations practice. He worked on operational topics with clients from the automotive, high tech, logistics transport and consumer goods sector. Former to his consultant work, he gained practical expertise in various internships including IBM Business Consulting, Deutsche Post DHL and Deutsche Telekom.



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Alexander Hess (born 1987) is a Ph.D. student and research assistant at the WHU – Otto Beisheim School of Management (Chair of Logistics Management) since July 2016. His research is focused on Vehicle Routing Problems, Inventory Problems, and Logistics in the Timber Industry. Alexander studied Business Administration at the WHU – Otto Beisheim School of Management (Vallendar, Germany), the New York University – Leonard N. Stern School of Business (United States), the EBS Universität für Wirtschaft und Recht (Oestrich-Winkel, Germany), and the Copenhagen Business School (Denmark). During his studies, he focused on Finance, Supply Chain Management, and IT Management. In his Master's and Bachelor's theses he analyzed the opportunities for optimization in the German timber logistics market. Between 2014 and 2016, Alexander worked as Chief Technology Officer (CTO) for a New York based and venture capital backed start-up company in the art industry, where he was the lead backend developer and managed the product and software development for various client-side applications. Prior to that, he gained practical experience during several internships in the German start-up scene and the financial industry.



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Eike Nohdurft (born 1985) graduated from RWTH Aachen University in 2011 being part of a joint Diploma-Master program in Industrial Engineering with the Tsinghua University in Beijing (China). His research is focused on epidemic modeling and supply chain optimization.

During his studies, Eike Nohdurft worked as an intern for several companies including arvato services (Bertelsmann), Lufthansa Technik and Lufthansa German Airlines where he wrote his Diploma thesis about improving airline ground operations processes with Lean Management. After his graduation Eike Nohdurft works as a consultant for McKinsey & Company in the Hamburg Office where he was part of the operations practice. He worked with clients from the Airline, Automotive and Pharmaceutical industry mainly on process improvement and strategic organization topics.



**Professor Dr. Jürgen Ringbeck**  
Honorary Professor

Professor Jürgen Ringbeck, former Senior Partner with Booz Allen Hamilton / Booz&Company, is working as an independent strategic investor and consultant since spring 2014. After lecturing at WHU since 2012, he was appointed honorary professor by WHU – Otto-Beisheim-School of Management in 2014. Professor Ringbeck held lectures on various topics of corporate management and currently holds a lecture on Transportation Management in the Master of Science Program.



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Vefa Alparslan (born 1987) joined the chair of Logistics Management at WHU as an external Ph.D. student in November 2014. In his research, he analyzes the key drivers for successful and unsuccessful mergers and acquisitions in the logistics and transportation with a geographical focus on Europe and China based on selected and representative case examples. Vefa Alparslan studied in the Master of Arts program in Corporate Management at the Business and Information Technology School from 2010 until 2012. In his Master thesis, he studied the organization of strategic procurement as well as the importance and creation of procurement controlling as sustainable key success factors for international operating companies. Prior to this, Vefa Alparslan graduated as Bachelor of Arts in Aviation Management from Frankfurt University of Applied Sciences with specializations in aviation, logistics and controlling. In his Bachelor thesis, he focused on the interpretation and operationalization of benchmark results using the example of Fraport Infrastructural Facility Management. In the course of his studies Vefa Alparslan spent one semester at École Supérieure du Commerce Extérieur in Paris. After his studies Vefa Alparslan worked as an external consultant for Lufthansa LSG Sky Chefs from 2012 to 2013. Today, he is working as an analyst for McKinsey & Company and he is primarily involved in projects in the aviation and logistics industry in Europe and the Middle East with a primarily focus on topics of network optimization, operations, pricing and ancillary products. Research interests: mergers and acquisitions, geographic footprint strategies of companies, market growth forecast calculations and drivers as well as product portfolio diversification in the aviation and logistics sector.



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Christian Haehl (born 1985) joined the chair of Logistics Management at WHU as an external doctoral student as of October 2014. In his research he works on the valuation of containership investments under uncertainty using the real options approach. Specifically, he analyzes risk management opportunities in shipping companies to optimize risk exposure to high volatilities in shipbuilding prices and charter rates. After completing a vocational training in banking (Bankkaufmann), Christian Haehl has studied in the Bachelor of Arts programs in Business Administration and in Economics at the University of St. Gallen from 2007 until 2010. From 2011 until 2012 he completed the Master of Science in International Finance program at HEC Paris business school. In his master thesis, Christian Haehl focused on analyzing the contemporary market for repurchase agreements, their mechanisms of collateralization and their impact on the world financial crisis in order to deduct implications for future regulation. In between his studies, Christian Haehl has worked 3 years as a consultant for McKinsey & Company. During this time he mainly worked for clients in the banking, telecommunications and consumer goods sectors in Germany, Switzerland, the UK, USA and Japan. In these projects he focused primarily on topics of risk management, investment decisions, overall group strategy and logistics.





**Alexander König, Dipl.-Kfm.**  
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Alexander König (born 1984) studied from 2004 until 2008 Business Administration at the WHU – Otto Beisheim School of Management in Vallendar, Germany. He spent his semesters abroad at Queen's University in Kingston, Canada and at Universidad Adolfo Ibáñez in Viña del Mar, Chile. His advanced studies were focused on Production Management, Controlling, as well as Technology and Innovation Management. He wrote his master thesis about Six Sigma in the German healthcare sector at the chair of production management at WHU. During his studies Mr. König pursued several internships, amongst others with Porsche Consulting and Booz & Company. After his studies he joined Booz & Company and worked for clients in the fields of financial services, pharma, IT Services and the manufacturing industry. His main project activities were around strategy development, supply chain management, sourcing, as well as risk and project management. In January 2012, Mr. König joined the chair of Logistics Management at WHU as external doctoral student. His research topic is Supply Chain Risk Management of Logistics Service Providers. Mr. König currently works as project manager in the Development & Consulting unit of REWE Group.



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Daniel Makowski (born 1985) joined the chair of Logistics Management at WHU as an external doctoral student in July 2015. His research is on the logistics of fast moving consumer goods in the B2C area. In particular, he examines ways in which e-grocers can bridge the last mile. Daniel graduated with a degree in industrial engineering (Dipl.- Ing. oec.) from University Hamburg and TU Hamburg- Harburg in 2012, majoring in logistics, production management, statistics and marketing. His student research project – written in cooperation with BUSS Logistics GmbH (Hamburg) – dealt with work place health management and his thesis – written in collaboration with Leeb GmbH (Memmingen) -- dealt with optimization and adjustment of internal logistics processes. During his studies, Daniel was a member of the German rowing national team and won several medals at World and European Championships. In April of 2013, after 3- month stay in the US, he joined at Mars GmbH for a management development program working as a production team leader and project manager. Since January 2016 Daniel is working for Porsche Consulting as management consultant.



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Silke Malina (born 1972) studied economics at the European-Business-College in Wuerzburg and finished with a Bachelor of Commerce at the Hogeschool van Utrecht (NL). In 2007 she obtained her Master of Business Administration (MBA) from the University of Surrey (UK). Her master thesis treated about "Lean Management and its Effectiveness in Organizations". During her studies she made several traineeships in the consumer and investment goods industry, e. g. at the subsidiary of Michael Weing AG in Singapore. Silke Malina works for Bosch Rexroth AG. After several years of controlling, she worked as project manager on the implementation of logistics standards worldwide. Currently, she works as project director with the responsibility to increase supply chain flexibility. In January 2011, Mrs Malina joined the chair of Logistics Management at the WHU in Vallendar as external doctoral student. Her research topic is the management of supply chain complexity.



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Philipp Rau (born 1986) joined the chair of Logistics Management at WHU as an external doctoral student in September 2013. In his research, he is working on capacity investments in the ocean freight industry. Philipp Rau graduated as Master of Science in Business Administration from WHU in 2011 with specializations in Finance and Supply Chain Management. In his Master thesis he assessed the question whether a world currency would lead to sustainable monetary stability. He earned a Bachelor of Science from WHU with specializations in Finance and Accounting in 2009. In his Bachelor thesis, Philipp Rau worked on risk management in the air cargo industry by studying revenue management approaches, capacity options and financial intermediation. During his studies, he spent one semester at University of Hawai'i at Manoa and one semester at Sasun Graduate Institute at Chulalongkorn University in Thailand. After his studies, Philipp Rau worked as a consultant for McKinsey & Company from 2011 to 2013. He worked on projects in the logistics and consumer industry in Germany, Belgium and France. During his studies, he gained further work experience during several internships: 2011 for Arthur D. Little in Beijing in the automotive industry, 2010 for McKinsey & Company in Frankfurt in the logistics industry, 2009 for Rocket Internet in Berlin in online retailing, 2008 for Goldman Sachs in Frankfurt in investment banking and 2007 at GameGoods International in Cologne and Bucharest in online marketing.



**Christian Rudolf, MBA**  
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Christian Rudolf (born 1982) joined the chair of Logistics Management at WHU as external doctoral student in March 2014. His research is focused on Supply Chain Risk Management in large scale projects. Christian graduated as Master of Business Administration from the Graduate School Rhein-Neckar, University of Applied Science Mannheim 2012. In his master thesis, he analyzed methods of Supply Chain Performance Management and provided a holistic Performance Measurement Framework for the Strategic Management of Procurement and Supply Chain Management Organizations. He earned a diploma of Business Administration (DH) from the Baden-Wuerttemberg Cooperative State University with majors in Finance and Supply Chain Management 2007. In his diploma thesis, Christian worked on an approach for Key Supplier Management within a European Supply Chain Management Organization and evaluated the potentials of a harmonized European Sourcing and Logistics Group. During his studies, he spent 2006 an internship in Helsinki, Finland and 2007 in Swansea, Wales. 2011 he attended a summer school at the University of Warwick, UK to study Intercultural Management. Christian works for the Westinghouse Electric Company, a group company of the Toshiba Corporation. He held several positions within the Global Supply Chain Organization, mostly in the areas of Strategic Sourcing, Category Management, Outsourcing and Business Transformation Projects. Currently he is responsible for an international Strategic Sourcing team, supporting large scale projects.



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Max Schöne (born 1989) joined the chair of Logistics Management at WHU as an external doctoral student in October 2014. His research is focused on commodity price modeling, procurement, and risk management. Max Schöne studied Business Administration at WHU, Washington University in St. Louis, and Università Commerciale Luigi Bocconi. In his studies he focused on finance, economics, production, and logistics management. Max Schöne completed several internships, among others, at Deutsche Bank in Milan and Frankfurt in the areas of Corporate Finance and Mergers & Acquisitions and at Berenberg Bank in the field of model development.



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Christian Soyk (born 1988) is a Ph.D. student at the WHU – Otto Beisheim School of Management (Chair of Logistics Management) since July 2016. He graduated as M.Sc. in Aerospace Engineering from the TU Munich and as well holds an Honors Degree in Technology Management from the Center for Digital Technology and Management, Ludwig-Maximilians-University of Munich. Over the course of his studies he also spent one semester at the UC Berkeley School of Information. During his previous studies Christian Soyk focused on airline network planning and implications on profitability, feasibility and readiness of various alternative aircraft fuels, as well as commercial and environmental viability of alternative aircraft fuel made from microalgae. In parallel, he has been working as a management consultant for Bain & Company since 2014. He has mainly worked on strategic and operational topics with clients from the high tech and industrial goods and services sectors. Prior to his engagement at Bain & Company, he gained experience during various internships at Lufthansa AG, Airbus Group, and BMW AG.



**Philipp Rau, M.Sc.**  
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Mr. Johannes Teutsch (born 1982) studied business and engineering at the University of Karlsruhe focused on production and logistics. His diploma thesis (“Economic analysis of an intermodal transportation network”) was developed in the context of the research project “LogoTakt”. He gained practical experience in the automotive industry and in the consultant sector. Currently, Mr. Teutsch is working as Senior Consultant at CBS Corporate Business Solution Unternehmensberatungs GmbH. Since April 2010 Mr. Teutsch has been an external doctoral student at the Chair of Logistics Management at WHU Vallendar. He is examining the interaction of Supply Chain Risks and Lean Production.



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Martin Vu (born 1985) joined the chair of Logistics Management at WHU as an external doctoral student in July 2014. In his research, he is working on effective risk management within product creation and focus on the automotive industry perspective. Martin Vu graduated as Master of Science in International Business and Management from Manchester Business School at The University of Manchester (UK) with specialization in Finance in 2011. In his Master thesis, he assessed value creation from mergers and acquisitions in the European automotive industry under the application of an event study. During his Master studies, Mr. Vu spent one semester abroad at Copenhagen Business School in Denmark. He earned a Bachelor of Arts degree from HFU Business School at Hochschule Furtwangen University in Germany with specialization in Finance in 2010. In his Bachelor thesis in cooperation with the Strategy and Organizational Development department at Volkswagen AG, Mr. Vu worked on the measurement of the internationalization degree and the derivation of an internationalization strategy under the consideration of the strategic goals from the 'Strategy 2018'. During his Bachelor studies, Mr. Vu spent one semester at the University of California at Santa Barbara in the USA. After his studies, Mr. Vu started working as a consultant at Porsche Consulting in 2011. He works at projects in the automotive industry with focus on product creation and innovation management in the national and international context. During his studies, he gained first work experience through internships in the automotive industry: BMW Group Inhouse Consulting in 2009, International Business Consulting in 2008 and Marquardt Group in 2006.



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## 2. Kühne Institute of Logistics Management



Logistics has become a key enabler in today's global trade. And while today's value creation networks exploit to the extent possible local business advantages, the challenges that come with these dispersed structures have grown substantially over the last ten years. Recognizing this trend, the WHU – Otto Beisheim School of Management founded the Kühne Institute for Logistics Management, which comprises two endowed Chairs (Prof. Dr. Stefan Spinler and Prof. Dr. Carl Marcus Wallenburg) and currently about 20 PhD students. The institute was inaugurated in March 2012.

Our objectives are to generate new insights for the management of logistics and to disseminate this state-of-the-art knowledge into the research and business community.

To this end, we conduct high quality and internationally visible research, which is analytical, conceptual, or empirical in nature. Further, we provide specialized courses and lectures at various educational levels (BSc, MSc, MBA, Executive Education) and organize conferences for the business community and students in the area of logistics and supply chain management. Current research projects are dedicated to the following areas:

- Management of logistics services
- Management of vertical and horizontal cooperation
- Logistics and supply chain controlling
- Sustainability in supply chains
- Risk management in supply chains
- Real options based supply chain modeling



## 3. Teaching

### 3.1 Bachelor of Science Program

#### **Seminar Multi-Modal Logistics Platforms**

This seminar is meant to familiarize students with multi-modal logistics platforms. Among the objectives of this course is getting acquainted with the different modes of transportation and their proper coordination. Furthermore, students will learn why many of the EU funded projects related to multi-modal logistics have been blessed with mixed success thus far.

#### **Real Options**

This course deals with investment decisions as they arise in the context of international production and logistics networks, R&D projects and raw materials exploitation. The traditional discounted cash flow method is unable to account for the value of managerial flexibility. Real options, which aims at translating much of the methodology established for financial options valuation to real investment projects, allows to properly capture the value of flexibility. Several case studies exemplify the steps that need to be undertaken to perform a full-fledged real options valuation. In the MBA program this type of course is particularly meaningful as most participants have already project management experience and thus have been exposed to the shortcomings of traditional NPV analysis.

#### **Introduction to Business Administration (Course A + B + C)**

This class introduces first year students to the key components of a value chain, i.e., procurement, production and distribution. On a basic level, these activities are illustrated via case examples and mathematical models.

### 3.2 Master of Science Program

#### **Designing and managing the global supply chain**

Logistics has grown from a purely functional orientation to become a key enabler of global supply chains. To achieve this, logistics needs to be integrated within the firm as well as across boundaries from suppliers to manufacturers to customers. As companies tend to focus on their core competencies, deverticalization of the value chain entails which necessitates coordination of logistics activities. Logistics is not only concerned with flows of goods and cash, but also – to an ever increasing degree – with the flow of information. Hence it is natural that IT systems play a crucial role to achieve what has been called the 4Rs – that is, the right product at the right place and the right time at the right price.

#### **Transportation Management – held by Honorary Professor Jürgen Ringbeck**

Transportation is one of the fastest growing global industries. Travel and logistics are the major backbone of our global business and a core element of private life. The objective of this course is to give a comprehensive introduction into the challenges and best-practices of management and principles of global industry players like passenger airlines or logistics companies. Such management best-practice includes a deeper understanding of the underlying industry dynamics, and the outline of superior strategies as well as commercial and operational management methods of selected industry segments. The course will also highlight some specific management approaches which illustrate a way to a long-term sustainable industry.

#### **Operations Strategy and Sustainability**

Sustainability is a primary concern for companies; operations and supply chain management is a key lever to affect the sustainability of products and services. Through a series of case studies related to, among others, Fiji water, Airbnb, car2go and Herman Miller, we study diverse approaches to foster the three dimensions of sustainability, that is profit, people and planet.



### 3.3 Full-Time MBA Program

#### Seminar Multi-Modal Logistics Platforms

#### Operations Management

Operations management is about designing, managing, and improving the activities involved in creating products and services and delivering them to customers. A great workshop offered by Porsche Consulting introduced the students to the importance of quality management in a very hands-on fashion: the process of assembling a pocket lamp was improved step-by-step along the lines of the Toyota Production System principles. Gregory Bryan, Director Operations at Amazon, illustrated why Amazon is so successful and how that relates to operations and supply chain management.



#### Capstone Module Abroad, San Francisco

San Francisco and the Silicon Valley are recognized as areas of great innovativeness. Therefore, we undertook a trip to the valley to learn more about companies like Google (where Dr. John Khawam gave a great lecture on satellite replacement schemes to provide internet access in remote areas), Uber (where we learned about the rationale of surge pricing) and Airbnb (whose new headquarters impressed us with replicas of apartment offerings around the globe) and further fascinating companies. A wine tasting in Napa Valley revealed that the value for money is likely better for European wine.

### 3.4 Part-Time MBA Program

#### Operations Strategy & Sustainability

Sustainability is a primary concern for companies; operations and supply chain management is a key lever to affect the sustainability of products and services. Through a series of case studies related to, among others, Fiji water, Airbnb, car2go and Herman Miller, we study diverse approaches to foster the three dimensions of sustainability, that is profit, people and planet.

### 3.5 Doctoral Program

#### Quantitative Supply Chain Models

The purpose of this seminar is to expose students to the most recent advances in management science and operations research. The methods presented are key building blocks of the participants' dissertations.

## 4. Theses

### 4.1 BSc Program

- **Bensel, Philippa**  
The effect of smart metering on electricity markets
- **Fritschy, Carolin**  
The consequences of COP21 for global supply chains
- **Mix, Alexander**  
Big data and supply chain management
- **Schmitz, Jan**  
Simulation of an Urban Logistics Network

### 4.2 MSc Program

- **Heger, Nicolas**  
Backward vertical integration in German grocery retail
- **Hoehler, Julian**  
Analysis of the application of lean principles at hardware start-ups
- **Lohrmann, Daniel**  
The impact of revenue management on the German high-speed rail network
- **Roos, Michael**  
Industry 4.0: Case studies on business model transformation
- **Schiavo, Roberto**  
The economic impact of different handling strategies on the performances of hinterland inter-modal terminals: the Basel's case
- **Weil, Philipp (KLU)**  
Seasonal slot scheduling at airports

### 4.3 Doctoral Program

- **Diermann, Christoph (2nd advisor)**  
Judgemental demand forecasting in direct sales
- **Steuber, Marc (2nd advisor)**  
Global Production Sourcing - A Benchmark Study on Managers' Strategic Decisions

## 5. Teaching Innovation

### 5.1 Guest Lectures

**Dr. Frederik-Niklas Kuhn**, Head of Commodity Price Risk Management, BASF Ludwigshafen

“Commodity risk management – state-of-the-art”

November 13, 2015 as part of the BSc lecture “Real Options Analysis”

**Helga Vanthournout**, Senior Knowledge Expert, Sustainability & Resource Productivity Practice, McKinsey & Co.

“The circular economy”

November 24th, 2015 as part of the MiM lecture “Operations strategy & sustainability”

**Julia Nordmann**, Project Manager Sustainable Production and Consumption, Wuppertal Institute for Climate, Environment and Energy

“Sustainable consumption from a resource perspective”

November 26th, 2015 as part of the MiM lecture “Operations strategy & sustainability”

**Dr. Franz-Josef Toelle**, VP Digital Supply Chain Management, Bayer Business Services GmbH

“Big Data / Business Analytics @ Bayer”

February 09, 2016 as part of the MSc lecture “Designing and managing the global supply chain”

**Hans Ehm**, Infineon Technologies AG, Lead Principal Supply Chain, Head of Supply Chain Innovations & Innovation Acceleration

“Challenges and preliminary solutions in the global and volatile Semiconductor supply chains”

February 18, 2016 as part of the MSc lecture “Designing and managing the global supply chain”

**Udo Kießlich**, Managing Director allyouneed-fresh.de

“Last mile delivery options for e-food operators in Germany - strategic considerations and drivers of complexity”

February 23, 2016 as part of the MSc lecture “Designing and managing the global supply chain”

### 5.2 NetloP-Seminar of the Kühne-Foundation

For the NetloP-Seminar, which is very successfully run by Mr. Martin Willhaus, we provide content for the introductory week in Schindellegi and the final part of this seminar in Vallendar. This year, Prof. Spinler ran the basic seminar in Schindellegi devoted to the topic of sustainable logistics.

### 5.3 Kühne Logistics University, Hamburg

The objectives of this course are twofold: first, to familiarize students with concepts of transportation planning, management and deployment. Second, to provide students with insights H combination of case studies, theoretical concepts from business and economics and guest lectures by experienced industrial managers. A number of case studies and guest speakers provided additional insights into the intricacies of transportation and distribution management.

## 6. Research

### 6.1 Dissertation Projects

Achenbach, Anna (from 08-2015, ongoing)

#### **“Prescriptive Analytics in Airline Operations”**

With the historic low margins in the airline industry and the ongoing fierce competition airlines struggle to increase the productivity of their operations to ensure profitability. The application of machine learning and prescriptive analytics has shown to hold great potential in many industries. So far there are only few examples of its application in airline operations.

The aim of this dissertation project is to improve an airline's decision making capabilities through applying machine learning to historic flight data. Through that airlines can take better decisions at an earlier point in time and ensure on time arrivals at lower costs.

In her first Paper, Anna Achenbach develops a predictive algorithm based on aircraft, weather and traffic data to forecast a flight's arrival time. The model is further extended by adding a speed optimization, which determines the optimal cost index for an aircraft considering fuel versus personnel and maintenance costs. The model builds on machine learning and aircraft performance data to generate accurate predictions and a robust optimization.

Burkhardt, Maximilian (from 10-2014, ongoing)

#### **„Decision behavior in humanitarian logistics – The effect of stress on operational decisions“**

Managing the supply of food, medicine and other relevant non-food items (e.g., shelter) is a major challenge for humanitarian organizations during a crisis. Speed and the most efficient use of the available budget are important factors for the alleviation of suffering and a successful humanitarian operation. Regional procurement managers from humanitarian organizations are facing the challenge of helping people in need, while spending the available budget most efficiently. Overestimating the demand may result in supply shortages for other relevant relief items, due to a lack of budget. Underestimating the demand may result in suffering people, due to a lack of supply. In addition, procurement managers are facing

severe time restrictions and have to deal with local, burdensome circumstances, while making order decisions.

In order to gain a better understanding of decision making in the potentially stressful humanitarian context, this dissertation focuses on three aspects: First, we investigate the effect of perceived stress on overall newsvendor performance in the newsvendor game and related biases in a humanitarian operations setting. Furthermore we distinguish the effect of different stressors on different biases. We therefore apply cognitive, psychological and emotional stressors, such as time pressure and the combination of noise and affective unpleasant pictures to the subjects. Second, we develop and test de-biasing techniques which help to improve newsvendor related decision making performance under stress. These techniques are intended to be useful tools for humanitarian organizations, managing on-site operations after a crisis in order to alleviate suffering more effectively and efficiently. All findings are based on laboratory experiments. Third, we seek to support real life humanitarian operations in cooperation with Kühne Foundation against the backdrop of our research.

Hess, Alexander (from 07-2016, ongoing)

#### **Keywords: Machine Learning, Urban Logistics, Vehicle Routing, Combinatorial Optimization**

Food delivery services and other urban logistics service providers have employed various methods of optimizing the flow of their vehicles in recent years. However, with more and more real-time data (e.g., weather, traffic, ...) available, the overall performance of such optimization systems and thus the customer experience can be improved with more accurate predictions of future demands, traffic jams, and total delivery times. The goal of the research project is to promote the usage of machine learning algorithms in the field of urban logistics. In addition to plain forecasting, machine learning methods are also applied to fine-tuning the optimization (meta-)heuristics' parameters, an approach called hyper-heuristics."

Eike Nohdurft, Elisa Long, Stefan Spinler (from 01-2015, ongoing)

**“Spatial allocation of resources for epidemic control: A greedy heuristic versus dynamic programming approach”**

Rapidly evolving infectious disease epidemics, such as the 2014 West Africa Ebola outbreak, pose significant health threats and present challenges to the global health community due to their heterogeneous geographic spread. Policy makers must allocate limited intervention resources quickly and often in anticipation of where the outbreak is moving next. We develop a two-stage model for optimizing when and where to assign Ebola treatment units or other interventions across geographic regions during the outbreak's early phases. The first stage uses a dynamic transmission model to forecast the occurrence of new cases at the region level, capturing connectivity among regions; we introduce a coefficient for behavioral adaptation to changing epidemic conditions. The second stage compares two approaches to efficiently allocate resources across affected regions: (i) a greedy heuristic prioritizing regions based on their reproductive number, which delivers good results when Ebola case data are limited, and (ii) an approximate dynamic programming algorithm coupled with the underlying calibrated epidemic model, which finds a better solution when more nuanced data are available. Compared to no intervention, these schemes avert up to 3,424 Ebola cases over 18 weeks, versus 1,424 cases prevented by the planned allocation, a 58% improvement. Our methodology could be applied to other diseases (e.g., Zika virus) and other types of interventions (e.g., vaccination or community education).

Eike Nohdurft, Elisa Long, Stefan Spinler (from 01-2016, ongoing)

**“Was Angelina Jolie right? Optimizing cancer prevention strategies for BRCA carriers”**

Female carriers of a BRCA1/2 genetic mutation face significantly elevated risks of cancer, with 45-65% of women developing breast cancer and 15-39% developing ovarian cancer in their lifetimes. Prophylactic surgery options to reduce cancer risk include a bilateral mastectomy (BM), bilateral

salpingo-oophorectomy (BSO), or both surgeries. No comprehensive model providing recommendations at which age to perform the surgeries to optimize quality-adjusted-life-years (QALYs) exists. Using available clinical data, we develop a Markov Decision Process (MDP) model of a mutation carrier's health states and corresponding state transitions, including the age-dependent breast and ovarian cancer risk, cancer sub-type, and stage. We convert the problem to a linear program to solve the optimal surgery sequence that maximizes the carrier's expected lifetime QALYs under varying assumptions about each surgery's impact on quality-of-life. Baseline results demonstrate that a QALY-maximizing sequence recommends BM between ages 30 and 60 and BSO after age 40. Surgeries are recommended later for BRCA2 carriers, as their risk for both cancers is less than for BRCA1 carriers. We derive structural properties from the model and show that when one surgery has already been completed, there exists an optimal control limit beyond which performing the other surgery is always QALY-maximizing.

Alparslan, Vefa (from 11-2014 ongoing)

**“Acquisitions in the logistics sector: A sustainable value creation or aware value destruction? – A case study based analysis”**

Mergers and acquisitions are strategic tools for companies to expand their activities in today's highly competitive business environment. Compared to organic growth and other types of co-operations such as bilateral partnerships or joint ventures, mergers and acquisitions require thorough pre analyses and the success basically depends on different factors. Even logistics companies defer to vertical and horizontal mergers and acquisitions to extend their market shares or to secure their competitiveness. However, a couple of large cases in the recent years such as the acquisition of Exel through DHL in 2005 were not fully successful due to various reasons. While already existing academic explanatory approaches provide potential causes determining the success or failure of mergers and acquisitions, there are today no detailed investigations specifically in terms of logistics related cases available. In this dissertation, I aim at identifying the main drivers for the success or failure of mergers and acquisitions in the logistics industry based on selected cases. I apply

the case study research method to figure out why mergers and acquisitions in the logistics industry fail or succeed. In this context, European as well as Chinese cases are analyzed to see whether local or geographic circumstances have a significant influence on mergers and acquisitions. Furthermore, I aim at showing significant factors how logistics relevant mergers and acquisitions can be more promising in the future.

Haehl, Christian (from 10-2014, ongoing)

**“Investments into container shipping capacity under market and regulatory uncertainty - A real options approach.”**

Christian Haehl's dissertation project focuses on investment decisions into container shipping capacity in the ocean freight markets. A highly volatile market environment, periods of depressed freight and charter rates and a race for economies of scale have repeatedly led to severe overall excess shipping capacities and financial distress for individual shipping companies. In addition to market uncertainties, recent introduction of new regulation has introduced additional regulatory uncertainty to ship investments.

The aim of this dissertation project is to better understand the investment decision of individual market participants and how especially regulatory uncertainty affects optimal investment rules. Insights acquired are expected to be useful in three regards: individual investors gain more insight into optimal capacity decisions given market and regulatory uncertainty, regulators learn about the effects of lengthy regulatory consultations and the resulting uncertainty, and the research hopes to contribute to an overall understanding of resulting capacities in the market and whether observed decisions are in fact rational or not.

In his first paper, Christian Haehl builds an investment model for capacity expansion in a monopolistic container shipping market. The model builds on real options theory and besides industry-specific factors (time to build and possibility to lay up ships) introduces the possibility to charter shipping capacity to the capacity expansion problem. The second paper then introduces regulatory uncertainty through a stochastic jump in operational costs to the model and applies Approximate Dynamic Programming to search for near-optimal solutions.

König, Alexander (from 01-2012, ongoing)

**“Supply Chain Risk Management of Logistics Service Providers”**

The increased risk for disruptions of supply chains (e.g. by natural disasters, terrorist attack) has been further intensified by trends in supply chain management (SCM) including outsourcing and partnering, globalization, single sourcing and inventory reduction. However, this traditional focus of SCM to optimize cost, time and quality has been extended by the task to make the supply chain resilient, resulting in the new domain of supply chain risk management (SCRM). SCRM is relatively new and still in its infancy. With the before described trend of outsourcing, logistics service providers (LSPs) have an increasingly important role in most supply chains, providing not only transportation and warehousing, but also other services such packaging and reverse logistics. Thus the question arises how LSPs and shippers are managing risks and use SCRM to avoid or minimize disruptions in today's supply chains. We will investigate the role of LSPs in supply chains and risk management by using different methodologies such as literature review, case studies and application of other relevant business theories to this question.

Makowski, Daniel (from 07-2015 ongoing)

**“Decision Criteria for Optimal Home Delivery Strategies in the E-Grocery Sector”**

Order groceries from the internet and have them delivered directly to the front door is an emerging trend. Newspapers, magazines, studies of consultancies, and research journals publish items on this topic. Despite the increasing interest online food retailing still is a niche market. The market share of e-groceries in Germany was only 0.3% or 370 million € in 2012. Nevertheless experts predict an accelerated growth for the German market in the next couple of years, until 2020 the market share of e-groceries could raise up to 10 %. Main drivers for this development are a growing demand for comfort in an aging population and time savings for employees with increasingly irregular working hours and less free time. To make home delivery of grocery goods suitable for the mass online grocers have to solve the “last mile

problem”, often referred as the biggest challenge for further development of online food retailing. Consumer expect quick and flexible delivery at low rates and narrow delivery time frames, which is connected to high shipping expenses and logistical complexity for retailers.

Based on the challenges stated above the research will answer the question how e-grocers can solve the last mile problem effectively in a market with a strong “service side complexity” and which last mile delivery method is most efficient. In the first paper we examined the status quo. Literature review, content analysis of public newspapers and interviews with practitioners and experts from the e-grocery sector.

Malina, Silke (from 01-2011, ongoing)

### **"Management of Supply Chain Complexity: A Study in the Drive and Control Industry"**

Supply chains are more and more challenged by increasing complexity caused through product variety, processes and structures. This raises the question how firms manage supply chain complexity and remain competitive. To answer this question it is essential to research the drivers of complexity and to develop a framework of how to control and manage structural as well as dynamic impacts. Firms may use complexity to differentiate from others, if they apply appropriate measures to control the supply chain. In the next step requirements and qualities of a supply chain are explored and how key performance indicators (KPIs) are affected. Finally, a discrete event simulation is conducted in order to show quantitative effects in a supply chain.

A case study with empirical data from interviews is conducted in order to enable the analysis qualitatively and quantitatively. The contribution to academic literature is the limited research of supply chain complexity to date. Based on the results practical recommendations for managerial decisions are developed.

Rau, Philipp (from 09-2013, ongoing)

### **"Investment into ocean freight capacity - Development of a real options investment model in oligopolistic competition to evaluate investment decisions in shipping"**

Philipp Rau's dissertation project is about investment into ocean freight capacity. Even though fundamental supply-demand data would project otherwise, global container shipping capacity has steadily increased over time – both in size per vessel and in total installed capacity. This, in part, is caused to highly cyclical industry development and somewhat irrational ordering behavior of players. Since there is a lack of perfect competition and complex factors (fuel efficiency, network constraints, financing, regulation, vessel size dynamics and asset prices) influencing investment, Philipp Rau develops an industry-specific investment model with use of real options theory and game-theoretic oligopoly in his first paper. In his second paper, Philipp Rau evaluates alliance behavior in the shipping market and especially its potential impact on investment decisions as well as its effect on optimal capacity. A simulation model that extends the coalition structure value concept finds that a real options trigger approach performs better than traditional discounted cash flow approaches. In his third paper, Philipp Rau develops an empirical characterization of the container freight rate. He conducts an industry back testing and finds that – had shipping players applied real options models from 2012-2016 – capacity would have significantly declined.

Rudolf, Christian (from 03-2014, ongoing)

### **"Supply Chain Risk Management in Large Scale Projects"**

Large scale projects became a typical delivery model in the infrastructure construction industry. Even so this delivery model is well established, only one in one thousand projects can be defined as success. Ineffective Risk Management (RM), especially in the Supply Chain Management area was repeatedly identified as one of the key drivers for past project failure. Yet the Risk- and Supply Chain Risk Management (SCRM) body of knowledge seems well established, a lack of SCRM tailored to the specific requirements of LSCP can still be observed. The proposed research project



shall close this gap by developing a model for SCRM in the specific context of LSCP. This shall be based on an explorative case study, conducted at company operating in the Nuclear Power Plant new build & major refit project business. The LSCP executed in this field show a historical track record for significant delays, claims, cost overruns and investor disappointment. Therefore they offer an ideal field of research and a key case with a high potential for broader generalization. The expected results shall contribute to a higher success-rate of LSCP thru enhanced and more effective SCRM, leading ultimately to lower cost of infrastructure projects. Moreover they shall contribute to an emergent literature on SCRM and project management practice based on an inductive empirical perspective.

Schöne, Max (from 10-2014, ongoing)

#### **“Operational and financial hedging under commodity price risk”**

Commodity price uncertainty constitutes a major source of risk in many industries requiring firms to set up effective procurement and risk management strategies to mitigate their exposure to adverse market movements. In this regard, practical evidence shows that successful strategies involve both operational decisions, such as pricing and inventory management, and financial hedging using derivative instruments. However, to determine the jointly optimal operational and financial hedging decisions, firms need to solve a complex optimization problem in the presence of multiple sources of uncertainty. Despite the practical relevance of this topic, there has been little research on the optimal alignment of pricing, procurement, and hedging decisions. Within the scope of this dissertation project, we aim to address this research gap and provide new insights with respect to optimal procurement and risk management policies under uncertainty.

Soyk, Christian (from 07-2016, ongoing)

#### **“Comparison and evaluation of long-haul airline business models”**

Airline business models have been undergoing fundamental changes over the past decade, particularly with the rise of ‘low-cost’ airlines. Over the last two years, a new wave of changes to business models has been observed: Business models of legacy carriers and those ‘low-cost’ airlines are converging, while new intercontinental ‘low-cost’ models are on the rise. Both developments will likely once more have fundamental impact to this industry. These developments are being closely analyzed and implications are to be derived, particularly in regard to network structure, network planning and planning processes.

Furthermore, the impact on technological advancements and digitalization on future airline business models will be discussed.

Teutsch, Johannes (from 04-2010, ongoing)

#### **“Supply Chain Risk Management and Lean Production“**

In the context of the arising globalization, there are two essential trends for the industrial production sector existing: First, the supply chains and, as a result, the links between customers and suppliers become more and more complex and difficult to manage. As a consequence, the risks of the supply chain and the risk management process are important influence factors for the success of a company. Second, the production systems are optimized by Lean tools and the waste in production systems is eliminated. These trends influence the supplier-customer relationship: There are dependencies between production systems, the risks in supply chains and the consequences of incidents. The dependency is more and more important for the success of a company. So there are fundamental questions which have to be answered: How do Supply Chain Risks and Lean Production Systems interact? What types of links between Lean Production elements and Supply Chain Risks are existing and essential? What implies the decision for a Lean Production System for Supply Chain Risks? The goal of the dissertation project is to find answers for the questions above.

Vu, Martin (from 07-2014, ongoing)

### **"Managing Risk in Product Creation Projects: The Automotive Manufacturer Perspective"**

The automotive industry is under pressure to face multiple challenges at the same time. The dynamics of the external market conditions has picked up pace. Fierce competition and disruptive industry trends as well as increasing market requirements and external value creation are at the core of this development. This reflects upon established internal processes and structures in the automotive industry – the result is a high risk environment. In this risk-intense environment, automotive manufacturers are forced to increase their efforts to not fall behind. This leads to ambitious growth targets and the introduction of increasingly more new products, derivatives and features under given time constraints. The framework that allows automotive manufacturers to address this development is a mixture of more efficient functional area processes and the ability to plan, conduct, steer and control these processes to design, develop and ramp-up new products quickly for the

market. This ability is illustrated in product creation projects (PCP). Here, the project management function is challenged by the uncertainty and complexity that these cross-functional projects unveil. In this regard, the meaning of risk management increases. The purpose of this proposed research work is to improve risk management in PCP in the automotive industry by considering issues from the field. The focus will lie on automotive manufacturers and their target achievement in the context of PCP conduction. First of all, this research work will deal with the improvement of the risk assessment quality in PCP by using the analytic hierarchy process (AHP) method for an exemplary PCP. Industry experts will be confronted with a structured method for risk assessment and benefits over current approaches will be illustrated. Second of all, this research work will address the coordination issue in Engine development. The use of the NK model as important setting for search will consider different coordination approaches and illustrate improvement potential. In addition to the performance comparisons of different coordination approaches, the role of communication is evaluated.

## 6.2 Research stays abroad – Part I

### **Research collaboration with Prof. Elisa Long, Anderson School of Management at University of California, Los Angeles (UCLA)**

Eike Nohdurft, Ph.D. candidate and Research Assistant at WHU once again visited Prof. Elisa Long as visiting researcher at the Decisions, Operations and Technology Management department of Anderson School of Management. During his stay, Eike Nohdurft worked together with Prof. Elisa Long on the completion of the joint research project "Spatial allocation of resources for epidemic control: A greedy heuristic versus dynamic programming approach". Mr. Nohdurft had the opportunity to strengthen his collabora-

tion with Prof. Long and together they started a second research project, which optimizes cancer prevention strategies for BRCA mutation carriers. The collaboration is expected to continue in order to disseminate the created content.

### **About Anderson School of Management**

The Anderson School of Management is based at the University of California, Campus Los Angeles. The UCLA Anderson School is regularly ranked among the top business schools in the world. The Decisions, Operations and Technology Management department area has been ranked #2 among US business schools in citation impact while being comprised of 15 faculty members.

## 6.3 Research stays abroad – Part II

### **Research collaboration with Prof. John Birge of the University of Chicago Booth School of Business**

From September 21, 2015 to November 20, 2015, Mr. Max Schoene, Ph.D. student at the Chair of Logistics Management at WHU, stayed as a visiting researcher at the University of Chicago Booth School of Business. During his stay in Chicago, he worked with Prof. John R. Birge, Jerry W. and Carol Lee Levin Professor of Operations Management, on the joint research project: “Dynamic procurement, pricing, and hedging under cost and demand risk”. Within the scope of his research visit, Mr. Schoene had the opportunity to discuss his work and exchange ideas with renowned experts in the field of mathematical modeling and optimization. He also had the opportunity to participate in research seminars on the latest topics in the field of operations research and management science allowing him to gain insights into leading edge studies conducted at some of the most respected institutions in the world. The successful collaboration with Prof. Birge is being continued in a current research project focusing on optimal operational and financial hedging in multi-divisional enterprises facing several inter-dependent risks.



### **About the University of Chicago Booth School of Business**

Chicago Booth is the University of Chicago's business school and the second-oldest business school in the US. The distinctive intellectual culture at Chicago Booth is driven by the world-renowned core values of the University of Chicago and is characterized by a rigorous scientific approach, constantly testing and questioning ideas to seek proof. This extraordinarily effective approach to business leads to new ideas and innovative solutions. In fact, seven of Chicago Booth's faculty members have won Nobel Prizes for these ideas. Since 1898, Chicago Booth has produced ideas and respected leaders that shape the world of business and is regularly ranked among the top business schools and research institutions in the world.

## 7. Publications

### 7.1 Book Chapters

Diehl, Doreen (2015): „Bewertungen von Supply Chain Risiken – Vergleich subjektiver und objektiver Bewertung“. M. Huth, F. Romeike – Risikomanagement in der Logistik, pp 249-263

### 7.2 Journal Articles

Gürtler, B., S. Spinler (2015): “When does Operational Risk cause Supply Chain Enterprises to Tip? A Simulation of Intra-Organizational Dynamics”. Omega, 57 (A), pp 54-69

Ritzenhofen, I., Birge, J. R., & Spinler, S. (2016): „The structural impact of renewable portfolio standards and feed-in tariffs on electricity markets”. European Journal of Operational Research, 255 (1), pp 224-242

König, A., S. Spinler (2015): “The Effect of Logistics Outsourcing on the Supply Chain Vulnerability of Shippers – Development of a Conceptual Risk Management Framework”. International Journal of Logistics Management, 27 (1), pp 122-141

Rau, P., & Spinler, S. (2016): “Investment into container shipping capacity: A real options approach in oligopolistic competition”. Transportation Research Part E: Logistics and Transportation Review, 93, pp 130–147

### 7.3 Working papers

Schoene, M., Spinler, S., Birge, J. (2016): “Dynamic procurement, pricing, and hedging under cost and demand risk”. Manufacturing and Service Operations Management (under review)

### 7.4 Awards

2nd Price at Public Sector OR Best Paper Competition, INFORMS 2015, Philadelphia  
Eike Nohdurft, Elisa Long, Stefan Spinler  
Finalist, Daniel H. Wagner Prize for Excellence in Operations Research Practice, INFORMS 2015, Philadelphia

### 7.5 Paper Presentation at Conferences

INFORMS Annual Meeting 2015, Philadelphia/USA, November 1-4, 2015  
“Efficient Spatial Allocation of Epidemic Intervention Resources with a Focus on Ebola in West Africa”  
Eike Nohdurft, Elisa Long, Stefan Spinler

INFORMS Annual Meeting 2015, Philadelphia/USA, November 1-4, 2015  
“Container Shipping Alliances: A Cooperative Game Theory Simulation”  
Rau, Philipp and Spinler, Stefan

INFORMS Annual Meeting 2015, Philadelphia/USA, November 1-4, 2015  
“Optimal procurement, pricing, and hedging under cost and demand uncertainty”  
Schoene, Max and Birge, John R., Spinler, Stefan

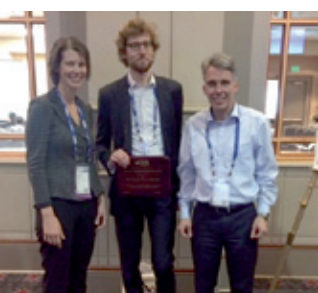
INFORMS Annual Meeting 2015, Philadelphia/USA, November 1-4, 2015  
“Decision behavior in humanitarian logistics – The effect of stress on operational decisions”  
Burkhardt, Maximilian and Spinler, Stefan

INFORMS International Conference, Waikoloa/USA, June 12-15, 2016  
“Oligopolistic Container Shipping Market: Empirical Characterization of Freight Rate Realization and Investment Behavior”  
Rau, Philipp

INFORMS Behavioral Operations Management 2016, Madison/USA, July 14-16, 2016  
“The Stressed Newsvendor – The Impact of Stress on Order Behavior”  
Burkhardt, Maximilian

### 7.6 Attendance at Conferences

Predictive Analytics World 2015, Berlin/Germany, November 2015  
Anna Achenbach



## 8 Executive Education & Corporate Connections

### 8.1 Teaching

- EMBA Tsinghua – Industrial Excellence and industry 4.0 in Germany
- EMBA Sun Yat Sen – Industry 4.0 in Germany, field trips, Intro to Germany
- EMBA Xiamen – Industry 4.0, field trip

### 8.2 Corporate Connection Activities

- Initiated cooperation with econsense / BDI in the field of sustainability
- Organized BVL Regional Event at WHU on the topic of industry 4.0
- Talk at ZVEI (Zentralverband Elektrotechnik und Elektronik Industrie) Business Meeting: talk about complexity



## 9. Services Provided to the School

### 9.1 Group Speaker of the SupplyChainManagement-Group

The group includes professors Arnd Huchzermeyer, Lutz Kaufmann, Liji Shen, Carl Marcus Wallenburg, Stefan Spinler and Assistant Professors Nicole Glanemann and Lima Zhao. The Speaker of the Group has a coordinating role with respect to teaching.

### 9.2 Campus for Supply Chain Management

The 2015 Campus for Supply Chain Management was dedicated to the fascinating topic of "Supply Chain 4.0 - Where does digitization lead us?". The students' team that organized the event, headed by Frederick Jost, did an excellent job in getting aboard relevant companies, practitioners and academics. Guest speakers such as Frank Sportolari (UPS), Thomas Grunau (K&N) and Dirk Hopmann (BASF) contributed their view on the path forward with respect to digitization in logistics and supply chain management.

The next issue of the Campus is currently being planned. The discussions next year will focus on the topic "Digital disruption and connectivity".

I would like to take the opportunity to thank Mr. Martin Willhaus, Managing Director of the Kühne Foundation, for his tireless efforts to make this event a success. He continues to provide invaluable support for the students organizing the event to get in touch with industry leaders and thus fosters the exchange between academia and (logistics) industry.

### 9.3 Member of the Senate

The school's senate is comprised of eleven faculty members who are elected by the faculty. Prof. Spinler is one of them, with Prof. Wallenburg being the replacement.

## 10. Community Outreach

### 10.1 Responsibility and Sustainability

Since sustainability should (and eventually will) be engrained holistically in business activities, all teaching as well as research endeavours at our chair show a strong relationship to the topic of sustainability. Some of the lectures are explicitly dedicated to sustainability, others touch on it. Research mostly explores the “planet” dimension of sustainability, for instance the reduction of CO2 emissions.

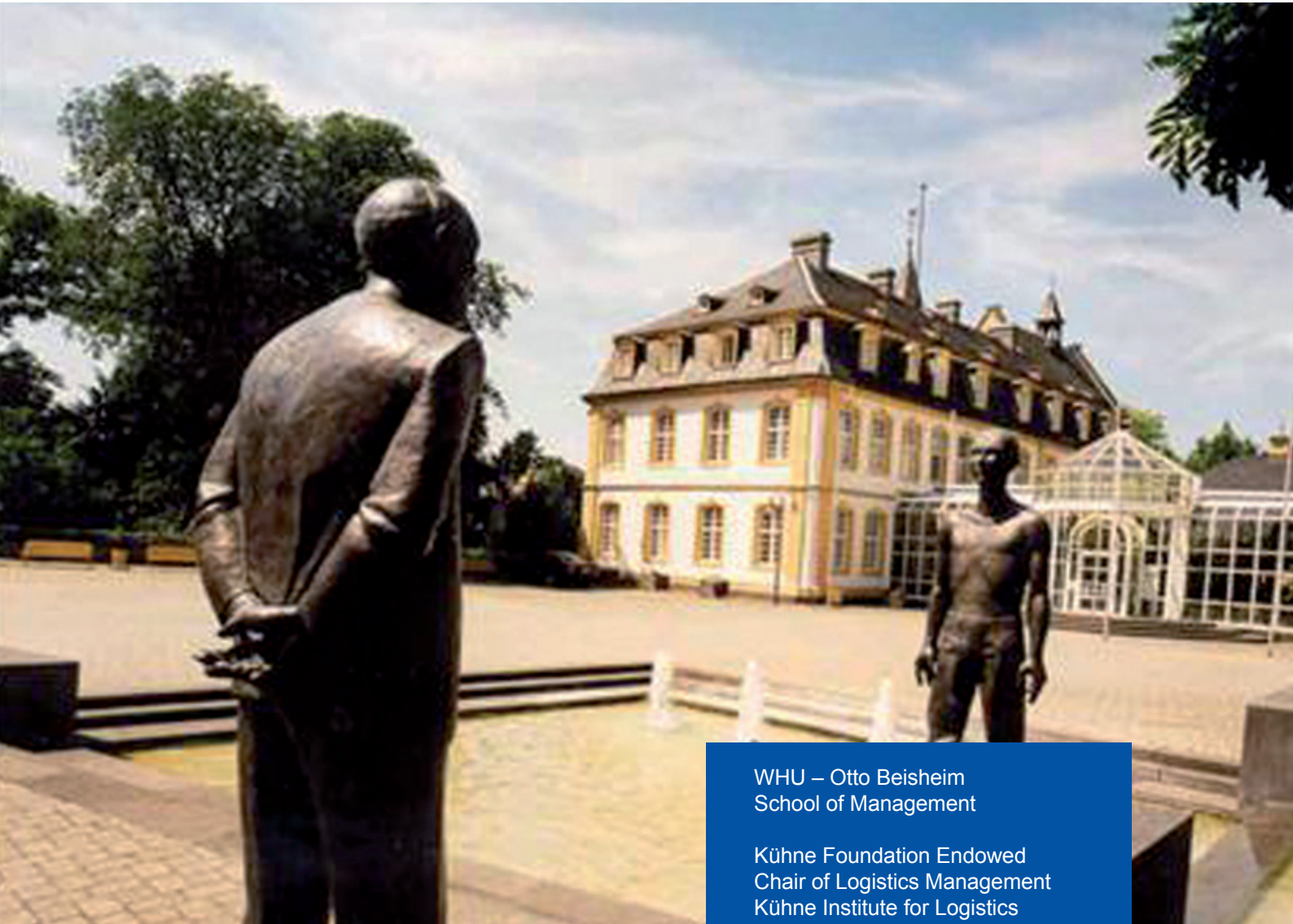
### 10.2 Memberships

- BVL, Bundesverband für Logistik (German Logistics Association)
- DHV, Deutscher Hochschulverband (Association of German Universities)
- GOR, Gesellschaft für Operations Research (German Operational Research Society)
- INFORMS, Institute for Operations Research and Management Science (USA)
- POMS, Production and Operations Management Society
- VHB, Verband der Hochschullehrer für Betriebswirtschaft (German Association of Business Professors)

### 10.3 Referee Activities

Professor Spinler is Senior editor for focused issue of Decision Sciences Journal (Modularity and Supply Chain Management) He regularly acts as a reviewer for the following journals:

- Decision Sciences
- European Journal of Operational Research (EJOR)
- Management Science
- Operations Research (OR)
- Production and Operations Management Journal



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