

**Univ.-Prof. Dr. Thomas Fischer**  
**Chair of Business Information Science**  
**and Information Management**

**Activity Report**  
**September 1<sup>st</sup> 2013 – August 31<sup>st</sup> 2014**

**WHU**  
**Otto Beisheim School of Management**

**Univ.-Prof. Dr. Thomas Fischer**  
WHU – Otto Beisheim School of Management  
Burgplatz 2  
D-56179 Vallendar  
Tel.: + 49 (0)261-6509-360/-361  
Fax: + 49 (0)261-6509-369  
thomas.fischer@whu.edu

<http://www.whu.edu/wi>

## Table of Contents

<b>INTRODUCTION</b> .....	<b>1</b>
<b>TEAM</b> .....	<b>3</b>
New Team Member .....	4
External Doctoral Candidates.....	5
<b>TEACHING</b> .....	<b>6</b>
Lectures.....	6
Exercises and Tutorials.....	6
Overview of Courses and Exams.....	7
Contributions of Professionals.....	8
Guest Teaching Assignments at other Business Schools and Universities .....	9
<b>SERVICE TO WHU</b> .....	<b>9</b>
<b>RESEARCH PROJECTS</b> .....	<b>10</b>
Research Fields.....	10
Research Partnerships .....	10
Project Overview.....	11
SmartNets .....	12
Study on ICT Service Providers in the Middle Rhine Region.....	14
<b>PRESENTATIONS AND MEETINGS</b> .....	<b>15</b>
<b>ACTIVITIES IN THE SCIENTIFIC COMMUNITY</b> .....	<b>17</b>
Research Visit of Assistant Prof. Rehm to Coggin College of Business at UNF .....	17
Guest Lecture of Assistant Prof. Rehm at University of North Carolina .....	17
Workshop on ICT and Societal Challenges.....	17
GWS Patronage of KyWi Conference 2014 .....	18
Editorial and Reviewer Activities .....	18
Memberships .....	18
<b>PUBLICATIONS</b> .....	<b>19</b>
<b>EVENTS ORGANIZED BY THE CHAIR</b> .....	<b>20</b>
Forum Mittelstand an der WHU .....	20
<b>DISSERTATION PROJECTS</b> .....	<b>21</b>
<b>IRMGARD UND ERICH SCHNEIDER-STIFTUNG</b> .....	<b>23</b>

## ***Einleitung***

Im Berichtsjahr waren die Aktivitäten des Lehrstuhls etwa gleichverteilt hinsichtlich Lehre, angewandter Forschung und intensiver wissenschaftlicher Zusammenarbeit mit internationalen Partnern, letzteres vor allem durch den Juniorprofessor, Dr.-Ing. Sven-Volker Rehm. Mit besonderer Freude und Genugtuung möchte ich deshalb auch feststellen, dass die Habilitationsschrift von Dr. Rehm vom Habilitationsausschuss der WHU angenommen und damit das Habilitationsverfahren auf einem guten Weg ist. Herr Rehm wird an anderer Stelle dieses Berichts zu seinen Forschungsaktivitäten noch etwas ausführlicher Stellung nehmen.



Der Lehrstuhl im Weitersburger Weg, Vallendar

Desweiteren möchte ich berichten, dass Frau MSc Melinda Xin Jiang als neue wissenschaftliche Mitarbeiterin das Lehrstuhlteam ergänzt und dass sie sich fachlich und persönlich ausgezeichnet in unsere Lehr- und Forschungsaktivitäten eingebracht hat. Herr Dipl.-Ing. Waldemar Kraus hat zu Beginn des Berichtsjahres eine sehr interessante Tätigkeit in der Wirtschaft angetreten, ist aber dem Lehrstuhl weiterhin noch eng verbunden.

Besonders erfreulich hat sich aus meiner Sicht die Zusammenarbeit des Lehrstuhls mit Herrn Dr. Christian Coppeneur-Gülz entwickelt. Die von ihm am Lehrstuhl im Rahmen seiner Dissertation entwickelten Ideen und Konzepte zu einer service-orientierten Plattform als Kernangebot des elterlichen Unternehmens, hat er zwischenzeitlich als Geschäftsführer dieses Unternehmens in Form einer beeindruckenden umfassenden Software-Lösung realisiert, wie am Ende dieses Berichts ausführlicher beschrieben. Der Lehrstuhl und die Firma WWM haben daraufhin ein kundenorientiertes Seminar durchgeführt, das eine ausgesprochen positive Resonanz brachte. Sozusagen als „Gegenleistung“ hat Herr Dr. Coppeneur-Gülz dem Lehrstuhl „Trainings-Lizenzen“ dieser Service-Plattform zur Verwendung in der Lehre an der WHU unentgeltlich zur Verfügung gestellt. Diese wird – ähnlich wie die bereits sehr intensiv von unseren Studierenden genutzte SAP-Plattform für Enterprise Resource Planning – die Studierenden mit der ständig wachsenden Bedeutung von Internet-basierten Service-Leistungen und deren Organisation vertraut machen. Das zuvor angesprochene SAP-Seminar wurde auch diesmal wieder von zahlreichen Studierenden genutzt, um konkrete „praktische“ Erfahrung im Umgang mit komplexen Software-Systemen zu gewinnen. Es wurde im Übrigen von Stipendiaten der Irmgard und Erich Schneider-Stiftung engagiert betreut. Neben den regulären Vorlesungen zu BIS I und BIS II hat der Lehrstuhl auch diesmal wieder ein Seminar angeboten, dessen Gegenstand „Cooperative Work“ von den Studierenden sehr positiv aufgenommen und bearbeitet wurde. Schließlich wurden in einem Doktorandenseminar aktuelle Themen zu „Information Systems and Organizations“ behandelt.

Auch der Wissenstransfer von der WHU zur regionalen mittelständischen Wirtschaft, der gemeinsam durch den Lehrstuhl und die IHK Koblenz im Rahmen des *FORUM MITTELSTAND an der WHU* geleistet wird, wurde im Berichtsjahr erfolgreich fortgesetzt. In dem – von den Teilnehmern aus dem Kammerbereich hochgelobten Workshop – haben sich die Repräsentanten der Unternehmen systematisch mit der Frage nach der „Netzwerkfähigkeit“ ihrer Firmen hinsichtlich personeller und organisatorischer Ausstattung bzw. Gestaltung einerseits sowie hinsichtlich der informationstechnischen Ausstattung andererseits auseinandergesetzt. Diese Diskussion wurde mit einzelnen Unternehmen über den Workshop hinaus konstruktiv fortgesetzt. Auch hierzu wird später noch genauer berichtet.

Schließlich wurde im Berichtsjahr das EU-Projekt SmartNets – gemeinsam mit dem Zentrum für Managementforschung der DITF Denkendorf – erfolgreich abgeschlossen. Es hat insgesamt 15 Forschungspartner, mittelständische europäische Unternehmen und Forschungseinrichtungen, zusammengeführt und neben wesentlichen konzeptionellen, methodischen und technischen Komponenten kollaborativer Innovationsprozesse auch konkrete Produktideen entwickelt und gefördert. Auch hierzu erfolgen noch etwas detailliertere Angaben.



Prof. Dr. rer. pol., habil. Ing. Thomas Fischer

Vallendar, im September 2014

## **Introduction**

In the year under review the chair's activities were more or less equally distributed between the areas of teaching, applied research and close scientific cooperation with international partners, with the latter being largely supervised by Assistant Professor Dr. Sven-Volker Rehm. It also gives me particular pleasure and satisfaction to confirm that Dr. Rehm's post-doctoral thesis has been accepted by the habilitation committee and that the habilitation process is therefore progressing well. Mr. Rehm will give a more detailed report on his research activities at a later stage of this report.



**The chair in Weitersburger Weg, Vallendar**

I would further like to report that Ms. Melinda Xin Jiang (MSc in engineering) has joined the chair as a research assistant and has proven herself to be an excellent addition to our research team both academically as well as at a personal level, playing an excellent part in both our teaching and research activities. Mr. Waldemar Kraus (Dipl.-Ing.) began a new and interesting role in business at the start of year under review; however he has remained in close contact with the chair.

In my view what is particularly pleasing is how the cooperation between the chair and Dr. Christian Coppeneur-Gülz has developed. During his time at the chair the ideas and concepts of a service-oriented platform as a core product of the family-run business he developed within the scope of his doctoral thesis have now become an impressive and comprehensive software solution implemented by him as CEO of that family-run business. About this the chair and the company WWM conducted a customer-oriented seminar – described in some detail at the end of this report – which met with an exceedingly positive response. As a quid pro quo so to speak Dr. Coppeneur-Gülz provided the chair with training licenses for this service platform for use in teaching at WHU free of charge. This will enable students to familiarize themselves with the consistently growing importance of Internet-based services and their organization in a similar way as with the SAP platform for Enterprise Resource Planning, which is already used very intensively by our students. The previously mentioned SAP seminar was again taken advantage of by numerous students in order to gain hands-on experience in using complex software systems. The seminar was, incidentally, supervised by committed scholarship holders from the Irmgard and Erich Schneider Foundation. Alongside the scheduled lectures on BIS I and BIS II the chair on this occasion once again offered a seminar entitled “Cooperative Work”, which was very positively received by the students and very well attended. In conclusion, in a seminar for PhD students current themes concerning “Information Systems and Organizations” were dealt with.

The transfer of knowledge from WHU to regional medium-sized businesses, which is achieved jointly by the chair and the Chamber of Commerce in Koblenz within the *FORUM FOR MEDIUM-SIZED BUSINESS at WHU*, was successfully continued during the year under review. During the workshop, which received a great deal of praise from local IHK participants, the representatives of the firms dealt systematically with the question of the “network capability” of their respective companies on the one hand with regard to personnel and organizational infrastructure as well as to IT support on the other. This discussion was continued constructively with individual firms beyond the workshop. More precise details on this will also be made available at a later date.

Finally, in the year under review the EU-project SmartNets, which was conducted in cooperation with the Centre for Management Research of the DITF Denkendorf, was successfully brought to a close. In total, the project brought together 15 research partners, medium-sized European companies and research establishments and alongside the development of some significant conceptual, methodological and technological components in the area of collaborative innovation processes, the project also developed and promoted some tangible product ideas. Further details on this project will also be made available at a later stage.



Prof. Dr. rer. pol., habil. Ing. Thomas Fischer

Vallendar, September 2014

## Team



the chair team in September, 2014



**Univ.-Prof. Dr. rer. pol., habil. Ing. Thomas Fischer**  
Chairholder  
Phone: +49 (261) 6509-360  
E-Mail: [thomas.fischer@whu.edu](mailto:thomas.fischer@whu.edu)



**Dr.-Ing. Sven-V. Rehm**  
Assistant Professor  
Phone: +49 (261) 6509-364  
E-Mail: [sven-volker.rehm@whu.edu](mailto:sven-volker.rehm@whu.edu)



**Benita Otte**

Personal Assistant to Prof. Fischer

Phone: +49 (261) 6509-361

E-Mail: [benita.otte@whu.edu](mailto:benita.otte@whu.edu)



**Dipl.-Ing. Sven Gross**

Research Assistant / Ph.D. Student

Phone: +49 (261) 6509-363

E-Mail: [sven.gross@whu.edu](mailto:sven.gross@whu.edu)

**New Team Member**



**Melinda Xin Jiang, M.Sc.**

Research Assistant / Ph.D. Student

Phone: +49 (261) 6509-365

E-Mail: [xin.jiang@whu.edu](mailto:xin.jiang@whu.edu)

**Ms. Xin Jiang** obtained a Bachelor of Engineering Degree in Computer Science from Beijing Posts and Telecommunications University (China) in 2005 and a Master of Science Degree in International Technology Management from University of Warwick (UK) in 2012. Ms. Jiang has been working as telecommunications engineer and project manager at China Mobile Limited from 2005 to 2011 and as ERP consultant for ColArt UK in 2012. Her interest is in Service Systems in the Information and Communications Technologies (ICT) field. She has extensive work experience with vendors of various tiers, and she is specialized in network equipment assessment, new technology development, and innovation management in research and engineering projects. Xin Jiang started as doctoral assistant at the chair in January, 2014.



## External Doctoral Candidates



**Dipl.-Ing. Waldemar Kraus**  
External Ph.D. Student  
E-Mail: [waldemar.kraus@whu.edu](mailto:waldemar.kraus@whu.edu)



**Dipl.-Kfm. Morten C. Kühl**  
External Ph.D. Student  
E-Mail: [morten.kuehl@whu.edu](mailto:morten.kuehl@whu.edu)



**Dipl.-Kfm. (FH) Tobias Sebastian Witte**  
External Ph.D. Student  
E-Mail: [tobias-sebastian.witte@whu.edu](mailto:tobias-sebastian.witte@whu.edu)

## Teaching

### Lectures

In the B.Sc. program, the chair contributed the compulsory lectures **Business Information Systems I & II**. Purpose of these courses is to give an introduction to the role of information and communication technologies (ICT) in business and management. A core topic is the management of ICT in the context of changing economic boundary conditions and business networks.

Current issues such as Cloud Computing, Software-as-a-Service, or In-Memory-Computing are discussed in the course. Further topics include practical exercises in modeling of business processes, and presentations of professionals regarding the alignment of IT and business strategies.

The choice of topics is strictly aligned to the curricula recommendations of the German Informatics Society (Gesellschaft für Informatik e.V.). A combination of case studies from practice, and introduction of theoretical background enables the students to approach up-to-date subjects. This helps students acquiring basic knowledge in the field of Management Information Systems (MIS) and supports their understanding about the role of Information Systems and appropriate management structures for corporate success.

Experts from industry, telecommunication and ICT sectors illustrated the need of theoretical concepts and the relevance of practical problem solutions in the lectures. (For further information please consider the chapter "Contributions of External Professionals").

A **literature seminar** entitled "Concepts, Methods and Technologies for cooperative work in teams and networks" was given to BSc class of 2014. 13 students elected the course and presented their thoughts on prominent issues discussed in recent scholarly literature, and practice research. The topics covered issues such as Service Science, Transactive Memory, or technology use in organizations.

### Exercises and Tutorials

As a part of BIS II exercises were offered in order to illustrate the practical relevance of **Business Process Modeling (BPM)** in the creation of a corporate IT strategy. Main subject is the Event-driven Process Chain (EPC), which is one of the most widely used methods for BPM. Exercises cover the analysis of representative use cases, and their formulation with help of the standard expression language provided by the ARIS (Architecture of Integrated Information Systems) approach.

As an additional service, the **SAP ERP training environment** was offered to the B.Sc. class of 2014 in the fall and spring semesters of the academic year. This hosting service is provided by SAP University Competence Center Magdeburg (SAP UCC) at Otto-von-Guericke-Universität Magdeburg (Fakultät für Informatik). Due to a financing of the **Schneider Foundation**, the chair is able to introduce interested students to this standard software-based system. 37 students successfully completed the online course that presents case studies of a multinational company, and tackles issues such as production planning, human resource management, and accounting.

Guided by the case studies, participants become acquainted with the SAP ERP system environment. Instructors accompany the course with additional information on the systems, and by giving practical advice with appearing problems. Participant feedback from recent years indicates that the self-guided course provides deep insights into the system in a realistic environment. Being held since 2009, the seminar has been rated with an average of 1,8 (on a scale of 1..5) by the participating students.

Since many years, the chair's well-known **Microsoft Office Tutorials** prepare students – and giving them tips and tricks – for writing of assignments, for preparation of presentations and for doing calculations. For past year's courses, the tutorials have been completely revised and adapted to the latest functionalities offered by the several software tools. All of the tutorials are financed through the **Schneider Foundation**. They have been conducted by qualified students, and regularly receive high attention and participation rates. Special thanks go to all tutors of the past academic year!

## Overview of Courses and Exams

### Courses

<b>Business Information Systems II</b>	Lecture, 3ECTS, B.Sc. Program, BSc2014	Fall Term 2013, 90 students
<b>Concepts, Methods and Technologies for cooperative work in teams and networks</b>	Seminar, 3ECTS, B.Sc. Program, BSc2014	Spring Term 2014, 13 students
<b>SAP ERP Case Study Seminar</b>	Seminar, 1ECTS, B.Sc. Program, BSc2014	Fall Term 2013 & Spring Term 2014, 37 students

### Exams

Bachelor and Master Program		
<b>Lectures</b>	HS 2013: 90	BIS II
<b>Seminars</b>	FS 2014: 13	
<b>Bachelor Theses</b>	4	
<b>Master Theses</b>	1	
<b>Oral Examination</b>	4	

PhD Program	
<b>First Supervision</b>	4 (Prof. Fischer)
<b>Second Supervision</b>	3 (Prof. Fischer), 1 (Ass. Prof. Rehm)
<b>Disputation</b>	1
<b>Deputy Head of Doctoral Committee</b>	2 (Prof. Fischer)

## **Contributions of Professionals**

As in previous years the chair succeeded in integrating outstanding professional speakers who presented their thoughts on special topics as part of the lecture Business Information Systems. The speakers shared their insights from multiple years of practice and consulting in the ICT and communication businesses with the students.

The chair team wants to express particular thanks to all former doctoral students who regularly come back home to WHU. They are an essential ingredient to the success of our lectures through their speeches and presentations. Regularly the guest lectures are a source of inspiration for all, students, speakers and the chair members!



**Dr. Axel Emunds**  
T-Systems GEI GmbH

**Service Management based on ITIL**

November 28, 2013



**Dr. Christian Coppeneur-Gülz**  
WWM System Service GmbH

**Application Service Providing**

November 21, 2013

## **Guest Teaching Assignments at other Business Schools and Universities**

### *Advanced Methods of Organizational Cybernetics (Universität Stuttgart)*

In the summer term 2014, Ass. Prof. Rehm gave a course on *Advanced Methods of Organizational Cybernetics* at Universität Stuttgart, Germany. He has presented this course the third time since 2012, following an invitation of **Prof. Dr. Meike Tilebein**, who is Director of the Institute for Diversity Studies in Engineering (IDS) at the Faculty of Engineering Design, Production Engineering and Automotive Engineering. The lectures present methods and concepts from the area of cybernetics in Business, Management and Society, such as System Dynamics, the theory of hierarchical multi-level Systems, Viable Systems Model, approaches to the analysis and modeling of large-scale systems, methods for analysis of socio-technical systems, Complex Adaptive Systems, Systems Thinking, cybernetic constructivism, and others.

The area of Organizational Cybernetics is dealing with the description of information processing structures in organizations. It takes a systems theoretical perspective, and provides a broad set of theories, methods and approaches to design management interventions for shaping organizations within complex environments. Information Systems play an important role in this effort, and the BIS chair has regularly been using approaches from Organizational Cybernetics in recent years.

### *Knowledge Management for Networked Innovation (Université de Strasbourg)*

In January 2014, Ass. Prof. Rehm gave a one-day guest seminar at the University of Strasbourg, France, on invitation by **Associate Prof. Catherine Ledig**. The seminar under the topic of *Knowledge Management for Networked Innovation* was directed to about 80 M.Sc. students at the Faculty of Law and Management. Ass. Prof. Rehm has held the seminar for the fourth time since 2010.

## **Service to WHU**

- Deputy Head of Doctoral Committee (Prof. Fischer)
- Academic Organizer of Forum Mittelstand at WHU (platform for the dialogue between science and industry) (Prof. Fischer)
- Associated member of Forum Mittelstand at WHU (Ass. Prof. Rehm)
- Member of the Advisory Board of the Campus Management System (CMS) (Prof. Fischer)
- Chairman of the working group “E-Learning and Blended Learning” (Prof. Fischer)
- Member of the working group „E-Learning and Blended Learning” (Ass. Prof. Rehm)
- Engagement in the selection processes for the B. Sc. program and the M.Sc. program (Ass. Prof. Rehm)

## Research Projects

### Research Fields

During the academic year 2013 – 2014 the chair's research activities focused on the following core areas:

One focus was on **knowledge-oriented management**, especially the design and implementation of **Knowledge-Intensive Business Services (KIBS)** in dynamically networked enterprises. A particular research question is the development of ontology-based "Smart Services" that support knowledge exchange between cooperating companies. Research activities in this context follow the Design Science methodology that provides guidelines for analyzing practically highly relevant problems, and for elaborating solution concepts and (software) artifacts which base on the existing knowledge of scholarly research.

The chair's research also comprises **action-research** approaches, which attempt implementing solutions directly in practice, in close cooperation with companies. The following project descriptions outline activities in this context, in particular in the areas of information systems (IS) for inter-organizational cooperation.

The research activities of Assistant Professor Sven-V. Rehm focus on the field of **Organizational Communication**. In 2014, he has published several articles on the opportunities that arise from new information technologies, approaches to organizational networking, and cooperative research and development, to the innovation success of small and medium enterprises. The articles comprise both, an empiric perspective, as well as constructive (design science) approaches to arrive at insights about the role and functioning of information systems in organizations. As part of the SmartNets project he has conducted studies on the interplay between information systems and organizations within settings of inter-organizational innovation in European enterprise networks.

### Research Partnerships

The chair continued its long-term partnership with the *Center for Management Research of DITF Denkendorf (DITF-MR)*, directed by **Prof. Dr. Meike Tilebein**. Until 2011, Prof. Fischer had been Director of this internationally networked institution in the field of cooperative industrial research (Industrielle Gemeinschaftsforschung). This partnership results in a persistent exchange of knowledge. In the past academic year, in particular the research project SmartNets, a project supported by the European Commission in its 7<sup>th</sup> Framework Program which was successfully completed in March 2014 and coordinated by DITF-MR benefited from this close collaboration. The chair was responsible for issues of enterprise transformation in this project.

Link <http://www.ditf-denkendorf.de/mr/>

Furthermore, the chair continues cooperations with other chairs and Professorships of WHU to work on interdisciplinary topics and to share knowledge and research practices.

### **Project Overview**

The table below presents projects of cooperative industrial research within Europe, which have been carried out by the Center for Management Research of DITF Denkendorf (DITF-MR). Since 2011, Prof. Fischer has acted as internal consultant of DITF-MR for various international projects. The chair team participated in these projects through regular exchanges of experiences and ideas.

<b>Name</b>	<b>Description</b>	<b>Identification</b>	<b>Term</b>
<b>SmartNets</b>	The Transformation from Collaborative Knowledge Exploration Networks into Cross Sectoral and Service Oriented Integrated Value Systems	FP7-NMP-2010-SMALL-4	04.2011 – 03.2014

## SmartNets

Since April 2011, the chair has acted as partner of the EU research project SmartNets that was funded by 7th Framework Program of the European Commission until March 2014. Beside the WHU, 14 industrial and research partners from five countries are participating in the project. The overall project is coordinated by the Center for Management Research of DITF Denkendorf.



The SmartNets project provided their small and medium sized enterprises (SME) network members with concepts, methods and tools to guide them through organization-, ICT- and knowledge-related network adaptations, which are typically required in value adding processes from idea generation to exploitation of **knowledge-intensive products and services**:

- Providing appropriate **organizational** structure of network actors,
- Guaranteeing efficient and confidential **exchange of knowledge** within the network and
- Implementing interoperability by adequate application of **information and communication technology (ICT)**.

Within several SME networks, the “**Smart Networks**” concept – as an innovative industrial model – has been established and evaluated. Within their collaborative development and production processes, novel materials like Shape Memory Alloys or production processes such as Sol-gel have been used to develop and produce sustainable and efficient knowledge-intensive products and services. The project targets in the three SME networks were the development of a new design for medical devices, an innovative motorbike helmet, and novel coating solutions for interior textiles.

The chair’s tasks involved a significant contribution to the transformation of partnerships, enabling firms to become valuable members of Smart Networks. SME-suitable guidelines, called the “**SmartNets Guide**” with comprehensive and easy-to-implement instructions how industrial partnerships can become Smart Networks were elaborated. Besides checklists to identify their 'as-is' status and step-by-step instructions, the guidelines support firms in reaching a desired final state. Thus, the guidelines help learning about the SmartNets framework and support SMEs to systematically implement elements for ‘smart networking’. Accompanying their evolution path, the chair consulted SMEs in order to help them develop appropriate management capabilities.

For analysis of the ‘as-is’-status of companies, research assistant S. Gross conducted audit interviews with the industrial partners. Based on results from these interviews, the transformation of the companies’ activities and strategies towards becoming members of Smart Networks has been initiated, a process which is based on implementation of customized methods for innovation and networking.

Ass. Prof. Rehm has been following the development of partnerships in the industrial networks, focusing on the adoption processes concerning methodologies and information systems. Objective of these studies is to provide empiric evidence leading to better design of information systems supporting collaborative innovation.



## Consortium of the SmartNets Project



Deutsche Institute fuer Textil- und Faserforschung  
Denkendorf (DITF), Germany



ELLA-CS, s.r.o., Czech Republic



W. Zimmermann GmbH & Co. KG, Germany



ITV Produktservice GmbH (ITVP), Germany



Institute of Physics of the ASCR, v.v.i. (IoP), Czech Republic



MAGEBA Textilmaschinen GmbH & Co. KG, Germany



Grado Zero Espace S.r.l. (GZE), Italy



Thurckon S.r.l., Italy



Tryonic, United Kingdom



Devan Chemicals, Belgium



Lampe Textiles NV, Belgium



Wetenschappelijk en technologisch onderzoekscentrum  
voor de Belgische tesxtielnijverheid (Centexbel), Belgium



D'Appolonia S.p.A., Italy



InfoAsset AG

InfoAsset AG, Germany



WHU – Otto Beisheim School of Management, Germany



Link [www.smart-nets.eu](http://www.smart-nets.eu)

## **Study on ICT Service Providers in the Middle Rhine Region**

Together with the **Chamber of Commerce Koblenz** and the **University of Koblenz-Landau**, Ass. Prof. Rehm has started a study on the situation of regional ICT Service Providers of the Middle Rhine Region in early summer.

Manifold changes have impacted the economic and business boundary conditions of service providers in information technology, telecommunication and new media (ICT) sectors in recent years. Megatrends such as cloud computing and mobile computing, or social initiatives like smart cities, terms like "Industrie 4.0", media coverage of topics as information security and privacy, and global changes in the competition on ICT, have also influenced the firms of the Middle Rhine region. Business models as well as value chain structures are consequently facing new challenges, and will have to adapt to these new influences and trends. Software markets shift from product- to service-oriented business. In this context, ICT Service Providers increasingly act as co-creators of value within the customer's value chain. The study investigates, to what extent the regional ICT Service Providers are prepared for these challenges, and which strategies and approaches they use to resolve related issues. The study will attempt to answer several questions such as: Which concepts are viable that support adoption of new technologies, that help creating new markets, or that facilitate the uptake of new types of partnerships? Which business models allow for the development and leveraging of innovation capacities?

As a first step in the study, the Chamber of Commerce Koblenz collected expectations, perspectives and problem fields of their ICT Service Provider member firms. In a second step, the chair will conduct qualitative interviews with selected firms in order to investigate specific challenges of regional ICT Service Providers. Focus of the University of Koblenz-Landau are the technologies used by the firms. Objective of the chair is to develop management guidelines to support firms in developing and implementing viable strategies.

Link <http://www.itk-rlp.de/news/> (Branchenreport ITK-Wirtschaft in der Region)

## **Presentations and Meetings**

In the past year, Professor Thomas Fischer, Assistant Professor Sven-V. Rehm and the doctoral assistants participated in various events and research meetings, and held various guest lectures, seminars and presentations. The following list gives an overview of the activities.

### *Professor T. Fischer*

<b>Event</b>	<b>Function</b>	<b>Place</b>	<b>Date</b>
<b>Board Meeting of Schneider Foundation</b>	Participant	Vallendar (DE)	21.11.2013
<b>Preisverleihung des Innovationspreises Rheinland-Pfalz</b>	Participant	Koblenz (DE)	03.12.2013
<b>SmartNets Preparation for Final Review Meeting</b>	Coordinator	Sestri Levante (I)	21.01.2014
<b>SmartNets Final Review Meeting</b>	Coordinator	Brussels (BE)	20.–21.03.2014
<b>Forum Mittelstand an der WHU „Innovation durch Kollaboration“</b>	Organizer	Vallendar (DE)	12.03.2014
<b>INTOP</b>	Workshop-Coach	Sonnenbühl (DE)	31.01-02.02.2014
<b>WHU-WWM Workshop</b>	Key Note Speaker	Vallendar (DE)	09.09.2014

### *Assistant Professor Sven-V. Rehm*

<b>Event</b>	<b>Function</b>	<b>Place</b>	<b>Date</b>
<b>Board meeting of Schneider Foundation</b>	Participant	Vallendar (DE)	21.11.2013
<b>Preisverleihung des Innovationspreises Rheinland-Pfalz</b>	Participant	Koblenz (DE)	03.12.2013
<b>Workshop "ICT and Societal Challenges" (ICIS - Int. Conference on Information Systems)</b>	Speaker	Milan (IT)	14.12.2013
<b>Guest Lecture (MSc program) at Université de Strasbourg</b>	Lecturer	Strasbourg (FR)	04.02.2014
<b>Guest Visit to UNF</b>	Researcher/ Lecturer	Jacksonville, FL (USA)	02./03.2014
<b>UNF International Business Conference On Teaching Research And Practice - 14</b>	Speaker	Jacksonville, FL (USA)	21.02.2014
<b>Guest Lecture (MBA program) at University of North Florida</b>	Lecturer	Jacksonville, FL (USA)	24.02.2014

*Activity Report 2013/2014*  
*Chair of Business Information Science and Information Management*

<b>Research Seminar in IS, University of North Carolina Greensboro</b>	Invited Speaker	Greensboro, NC (USA)	28.02.2014
<b>iConference</b>	Participant	Berlin (DE)	04.-05.03.2014
<b>Forum Mittelstand an der WHU</b>	Participant	Vallendar (DE)	12.03.2014
<b>Final General Assembly SmartNets Project</b>	Participant	Brussels (BE)	19.-21.03.2014
<b>Journal of Management Studies (JMS) Conference</b>	Speaker	Cambridge (GB)	24.-26.03.2014
<b>BSC Admission Test</b>	Evaluator	Vallendar (DE)	05.04.2014
<b>Harvard Case Method Teaching Seminar Part I</b>	Participant	Frankfurt (DE)	14.05.2014
<b>R&amp;D Management Conference</b>	Speaker	Stuttgart (DE)	04.06.2014
<b>Board meeting of the GWS/ Society for Cybernetics</b>	Board Member	Stuttgart (DE)	10.07.2014
<b>KyWi Conference</b>	Speaker	Stuttgart (DE)	10.-11.07.2014
<b>Academy of Management 2014 Annual Meeting</b>	Speaker	Philadelphia, PA (USA)	01.-05.08.2014
<b>WHU-WWM-Workshop</b>	Key Note Speaker	Vallendar (DE)	09.09.2014

Further 25 research and project meetings were organized (18) or attended (7) by Ass. Prof. Rehm.

*Interview with Prof. Fischer and Ass. Prof. Rehm on the occasion of the 50th obit of Norbert Wiener*

As part of a journalistic inquiry on the occasion of the 50th obit of Norbert Wiener, Prof. Fischer and Ass. Prof. Rehm were interviewed by journalist M. Reitz on their views on the contributions of cybernetics and systems thinking to science and society in a retrospective view. The resulting broadcast – including some of their statements – and featuring a number of academics from diverse fields, can be obtained at: ORF/SWR Radio Feature “Norbert Wiener – Begründer der Kybernetik als Universalwissenschaft für Maschine und Mensch (Norbert Wiener – Founder of Cybernetics as universal science of machine and man), Realisation: Michael Reitz.

## **Activities in the Scientific Community**

### **Research Visit of Assistant Prof. Rehm to Coggin College of Business at UNF**

After a first successful guest visit to Coggin College of Business of the University of North Florida (UNF), in Jacksonville/Florida, USA, in 2013, Ass. Prof. Rehm followed the invitation of **Associate Professor L. Goel, Ph.D.** to continue their research on *information systems for inter-organizational cooperative innovation*. This cooperation that started already in 2011 has led to publication of a number of research articles which have been presented to numerous audiences, including scholars in the areas of Information Systems, Organization, and Management, as well as on workshops directed to professionals. This year's visit included a presentation of Ass. Prof. Rehm at the 14th Annual International Business Conference on Research, Teaching and Practice of UNF.

In this context, a further meeting was held with **Associate Professor I. Junglas, Ph.D.** at Florida State University - College of Business, in Tallahassee/Florida, USA, to discuss their joint research on *information management in enterprise networks*.

### **Guest Lecture of Assistant Prof. Rehm at University of North Carolina**

Also in February, Ass. Prof. Rehm followed an invitation of **Associate Professor Rahul Singh, Ph.D.** from the Department of Information Systems and Supply Chain Management, Bryan School of Business and Economics at The University of North Carolina at Greensboro, NC, USA. Together with PhD students of the department and Prof. Singh, Ass. Prof. Rehm discussed ongoing studies as well as cultural differences in doing research on Information Systems, between Europe and the US. He also gave a presentation in the department's Research Seminar on Information Systems.

### **Workshop on ICT and Societal Challenges**

In December 2013, Ass. Prof. Rehm participated as discussant to a workshop on information and communication technology (ICT) and societal challenges in Milan, Italy. This workshop involved about 100 researchers from various fields, who share interest in ICT's role in either solving or contributing to societal challenges.

*Summary from the invitation call of workshop organizers:* Consequences of ICT use are not universally positive. Phenomena such as cyberbullying or gaming addiction can undermine social cohesion, ICT can promote unemployment, economic inequality, and financial market instability. At the same time, it is a general notion that technological innovations have unintended consequences, both positive and negative. Some negative consequences could however be anticipated or avoided through a more systematic alertness towards technology impacts and by carefully analyzing the societal and organizational context of technology use, both as an input to better technology design.

Ass. Prof. Rehm presented his research on *social movements* as a particular form of social innovations. In such initiatives, diversified groups form bottom-up, to tackle pressing (often locally embedded) social problems. A review of existing methods from ICT development, group dynamics and interdisciplinary research shows that information systems can function as integrators in such movements and improve the outcomes of social group processes.

From the workshop, a broad consensus resulted among the participants, to turn the topic of ICT and societal challenges into a new focus group in the IS research community.

### **GWS Patronage of KyWi Conference 2014**

Prof. Fischer and Ass. Prof. Rehm serve as Members of the Board of the Society for Cybernetics in Economy & Society (Gesellschaft für Wirtschafts- und Sozialkybernetik, GWS e.V.). Prof. Fischer has been the Society's chair since 1999.

In July, the annual Conference on Cybernetics in Economy & Society, **KyWi**, was held in Stuttgart, Germany, under the patronage of GWS, the Institut für Unternehmenskybernetik e.V. (IfU) of RWTH Aachen, Germany, and the Strategy and Simulation Lab of the Berner Fachhochschule (BFH), Switzerland. The conference was organized by **Prof. Dr. Meike Tilebein**, Director of the Institute for Diversity Studies in Engineering of Universität Stuttgart, Germany.

Under the title "*Digital Worlds*", the conference offered a platform for inter-disciplinary exchange between academics and professionals, on topics relating to cybernetics in economy, business, management and society.

Link <http://www.gws-kybernetik.org>

### **Editorial and Reviewer Activities**

Associate editor and reviewer activities were conducted by Ass. Prof. Rehm, for the **European Journal of Information Systems (EJIS)**, the **European Conference on Information Systems (ECIS)**, the **Americas Conference on Information Systems (AMCIS)**, the **Int. Conference on Wirtschaftsinformatik**, the **Academy of Management Annual Meeting**, and others.

He also acted as proposal evaluator for the **German-Israeli Foundation for Scientific Research and Development (GIF) Young Scientists' Program**.

### **Memberships**

Ass. Prof. Rehm is a member of the following organizations:

- Association for Information Systems (AIS), Special Interest Group (SIG) on Enterprise Systems (SIGEntSys),
- Academy of Management, Organizational Communication & Information Systems (OCIS) division,
- Gesellschaft für Informatik e.V. (GI) / German Informatics Society, SIGs Enterprise Modelling and Information Systems Architectures (WI-MobIS), and Computer Supported Cooperative Work (WI-CSCW)
- Verband der Hochschullehrer für Betriebswirtschaft e.V. (VHB), Wissenschaftliche Kommission Wirtschaftsinformatik (WK WI)/ German Academic Association for Business Research, SIG on Business Information Systems Engineering

## **Publications**

*Fischer, T. Lau, A., & Rehm, S.-V.* (2014) Von produktorientierten Supply Chains zu serviceorientierten Netzwerken – wissensorientiertes Management kollaborativer Wertschöpfungsprozesse. Accepted for publication, Proceedings of KyWi Conference, Stuttgart, Germany, 2014

*Lau, A., Tilebein, M., & Fischer, T.* (2014) The industrial model of Smart Networks for SME collaboration – Implementation and success stories Interoperability for Enterprises Systems and Applications, 7th International Conference (I-ESA), 24-28.03.2014, Albi, France, Verlag: ISTE Ltd. and John Wiley & Sons

*Fischer, T., & Lau, A.* (2014) Konzeption eines wissensorientierten Managements von dynamischen Netzwerken hoher Wertschöpfung. In: Tilebein, Meike (Hrsg.): Kybernetik und Wissensgemeinschaft. Vernetztes Denken, geteiltes Wissen – auf dem Weg in die Wissensökonomie. Konferenz für Wirtschafts- und Sozialkybernetik KyWi 2011 vom 7. bis 8. Juli 2011 in Stuttgart. Wirtschaftskybernetik und Systemanalyse Band 28, Duncker & Humblot. Berlin, 2014. S. 13-22. ISBN: 978-3-428-14192-0

*Lau, A., Matheis, H., & Fischer, T.* (2013) Entwicklung wissensintensiver Produkte und Dienstleistungen in „smarten“ Innovationsnetzwerken. In: Spath, D.; Bertsche, B.; Binz, H. (Hrsg.): Stuttgarter Symposium für Produktentwicklung 2013. Fraunhofer Verlag, Stuttgart, 2013. ISBN: 978-3-8396-0573-8

*Rehm, S.-V.* (2013). An Integrative Concept for Artifacts and Boundary Effects in Innovation Activities. AIMS International Journal of Management, 7(2), 115–123.

*Rehm, S.-V.* (2014). Complementarities and IT Systems in Innovation Networks: Findings from three Case Studies. In The R&D Management Conference 2014. Management of Applied R&D. Connecting high value solutions with future markets. 3 – 6 June 2014, Stuttgart. Proceedings (pp. 418–427). Stuttgart: Fraunhofer Verlag.

*Rehm, S.-V.* (2014). Kann die Kybernetik zum Entwurf von Designtheorien beitragen? Ein Versuch im Kontext der Information Science. (Can cybernetics contribute to the development of design theories? An experiment in the context of Information Science). In M. Tilebein (Ed.), Wirtschaftskybernetik und Systemanalyse: Vol. 28. Kybernetik und Wissensgemeinschaft. Vernetztes Denken, geteiltes Wissen - auf dem Weg in die Wissensökonomie. Konferenz für Wirtschafts- und Sozialkybernetik KyWi2011 vom 7. bis 8. Juli 2011 in Stuttgart (pp. 259–271). Berlin: Duncker & Humblot.

*Rehm, S.-V., & Gross, S.* (2014). Towards a conceptual model of the resource base for hyperlinking in innovation networks. In Proceedings of 7th Int. Conf. on Interoperability for Enterprise Systems and Applications (I-ESA), Albi, France, in print.

*Rehm, S.-V., & Goel, L.* (2013). Composite Boundary Objects In Inter-Organizational Innovation Activities. ECIS 2013 Completed Research. Paper 7. [http://aisel.aisnet.org/ecis2013\\_cr/7](http://aisel.aisnet.org/ecis2013_cr/7).

## Events Organized by the Chair

### Forum Mittelstand an der WHU



The “**Forum Mittelstand an der WHU**” has been established as a platform for fostering dialogue between science and industry. Based at WHU in Vallendar, it informs medium-sized companies – in particular from the Middle and Upper Rhine regions – competently and regularly about new scientific findings which are relevant in practice. Hence, our mission is to:

**Prepare and communicate  
highly qualified research results  
for industrial practice.**

The Forum intends to provide a significant contribution to the economic and innovative power of companies in close cooperation with the **City of Koblenz Chamber of Commerce (IHK Koblenz)**: Within “Forum Mittelstand” events, representatives of regional economy meet each other in order to learn more about new management concepts and technological developments which will shape future innovations and markets.

Our 2014 event “**Innovation by Cooperation – Does my enterprise have Networking Capabilities?**” (*Innovation durch Kooperation – Ist mein Unternehmen netzwerkfähig?*) on March 12<sup>th</sup>, 2014, put the participants in the position to perform individual assessments of their company’s networking capabilities and to identify approaches for improvement. Therefor also results and experiences of the EU research project SmartNets were used. In this project, the chair participated in, the networking capabilities of SMEs in three innovation networks were examined and significantly improved in concrete innovation projects.

Based on this workshop a continuation of the dialog between companies and chair took place by on-site visits including assessments with several company represents.

Link [forum-mittelstand.whu.edu](http://forum-mittelstand.whu.edu)



## **Dissertation Projects**

Following dissertations projects are currently supervised at the Chair of Business Information Science and Information Management:

### *W. Kraus*

New technology and new production processes are critical factors for organizational success. In a highly dynamic environment companies are reliant on finding and integrating specialized competences for individualized knowledge-intensive value chains. Here ICT is the major enabler not only of new business models but also is the major driver for organizational transformation. Thus, innovative service products need effective and efficient networks with the focus on specialized knowledge whereas production networks need to find appropriate co-manufactures and production capacity. In this context, the research of **Dipl.-Ing. Waldemar Kraus** focuses on new concepts and tools to:

- design appropriate knowledge-intensive business services
- enhance productivity in a service-oriented environment the reuse and integration of service products in various value chains
- establish appropriate interorganizational workflows
- evaluate business ecosystems and knowledge-intensive business services
- support dynamic service processes with a cloud-based Enterprise Resource Planning-Systems

Co-adviser is Prof. Dr. Peter-J. Jost, Chair of Organization Theory of WHU

### *M. C. Kühl*

The dissertation of Mr. **Dipl.-Kfm. Morten C. Kühl** focuses on computer-aided knowledge management for example in due diligence processes. The contribution of the work aims to be in the improvement of the collaboration of heterogenous teams in complex, knowledge-oriented projects by the usage of semantic and ontology-centric technologies. Existing tools do not fulfil the requirements of real-world use cases, leading to interesting opportunities of scientific exploration especially by applying the design science method. Dynamic and complex projects with short duration appear to provide useful insights such as those merger and acquisition projects in a fast-growing US start-up that were actively participated in during 2012.

Prof. Dr. Christian Koziol, Chair of Risk Management and Derivatives, Universität Tübingen is the co-advisor of this dissertation proposal.

Mr. Kühl has been supported by a scholarship of the state of Rhineland-Palatinate until he changed to an external PhD candidate status.

### *S. Gross*

**Dipl.-Ing. Sven Gross** investigates in his dissertation service-oriented structures for the collaboration of stakeholders in a dynamic environment analyzing the development of innovation networks in three dimensions: Knowledge Management, Organizational Structure and ICT Support. He develops a method that supports the introduction of service-oriented structures in corporate networks as well as the dynamic adjustment of enterprise architectures to dynamically changing requirements. The investigation is carried out methodically following Design Science approach. The EU research project SmartNets allows him a practical application and the validation of the concepts developed.

### *T. S. Witte*

As a part of his dissertation, **Dipl.-Kfm. (FH) Tobias Sebastian Witte**, deals with the research area "organization of business intelligence", by creating a design science based approach for a process-oriented business intelligence specific organization model. One input for this model is a worldwide study in cooperation with the Business Application Research Center (BARC) in Würzburg which investigates the impact of a special organizational unit and important factors for an enterprise-wide integration of business intelligence. This model is designed to deliver advice for companies to change the today's often very technical IT-driven implementation of business intelligence towards a solution focusing more on business requirements.

### *X. Jiang*

As part of her dissertation, **Ms. MSc. Engineer Xin Jiang** focuses on the research area of "service system engineering", by creating a design science based approach for a conceptual framework in IT-related service systems. She investigates service providers in various sectors on their use of IS, service design and development, and role of different stakeholders. The framework and the engineering approach are designed to gain better perception of the role of IT systems in service systems and the impact of IT systems regarding servitisation and customization. The research has an emphasis on developing new concepts and approaches that benefits the developing process of IT-related service innovation for companies.

## **Irmgard und Erich Schneider-Stiftung**

The **Irmgard und Erich Schneider-Stiftung** (Schneider Foundation) is a longtime sponsor of WHU, in particular of the Chair of Business Information Science and Information Management. In 2012 and 2013, the Foundation supported student scholarships, research projects, numerous public and research activities of the school, and financed equipment of the IT laboratory **IT-Lab** at the chair.



**IT-Lab of the Irmgard und Erich Schneider Foundation**

### *Scholarships*

A central goal of Schneider Foundation is the financial support of students by awarding **scholarships** to qualified and committed candidates of Bachelor and Master of Science programs. The team of the Chair of Business Information Science and Information Management is excited about the high number of scholarship fellows and the sustained close cooperation.

### *Tutorials*

Another item of Schneider Foundation, the successful concept of **tutorials** within the first semester of the Bachelor of Science program was offered again. It provides students with the opportunity to acquire comprehensive knowledge of the Microsoft Office package in its current version, in particular:

- Microsoft Word, for text processing,
- Microsoft Excel, for calculations, and
- Microsoft PowerPoint, for preparing presentations.

### SAP Seminar

For preparing and giving the tutorials, student volunteers were engaged as tutors. The need for a familiarity with the described Microsoft products – not only for the individual future career, but also for the successful completion of academic studies – has once again led to a high level of participation in the tutorials offered.

One major issue of the Irmgard and Erich Schneider Foundation is the practical preparation of students for their work as professionals. For this reason the Foundation sponsors the training system **SAP ERP IDES**, for interested students of the Bachelor and Master of Science as well as for the PhD program. SAP ERP IDES is an Enterprise Resource Planning (ERP) software which allows students to work with realistic company data, and gather experience with core processes in organizations. The simulated business processes allow to use particular modules of SAP, and to experience production planning (PP), controlling (CO) and logistics (LO) contexts in realistic scenarios.



### IT-Lab



The IT-Lab's interactive whiteboard in summer 2013

An interactive whiteboard is a large interactive display in form of a classical white board. A projector projects a computer screen on the board's surface where users can interactively control software functionalities using a pen, finger, stylus, or other device.

In the past years, by help of Schneider Foundation, the IT-Lab has been equipped with high-level systems for communication, remote interaction and distributed cooperative work in order to simulate future work environments in management. The implemented devices and software systems enable telework also in the context of student seminars and collaborative research projects.

*Use of the IT-Lab*

<b>Activity</b>	<b>Topic</b>
<b>WHU projects</b>	Working Group "Campus Management" Working Group "E-Learning / Blended Learning" SAP ERP Case Study Seminar
<b>Further projects</b>	Meetings of "FORUM MITTELSTAND at WHU" in cooperation with the Chamber of Commerce Koblenz (IHK Koblenz) Virtual meetings within the EU research project SmartNets Preparation meetings for EU project proposals Research meetings with fellow researchers