

# ANNUAL REPORT 2015



European  
Research  
Center for  
Information  
Systems



BORDEAUX FRANCE BRISBANE AUSTRALIA COPENHAGEN DENMARK ENSCHEDE NETHERLANDS  
GDANSK POLAND GUIMARÃES PORTUGAL HAMILTON NEW ZEALAND KAUNAS LITHUANIA  
KHARKIV UKRAINE KRISTIANSAND NORWAY LEUVEN BELGIUM LULEÅ SWEDEN  
MANCHESTER UNITED KINGDOM MARIBOR SLOVENIA MOSCOW RUSSIA MÜNSTER GERMANY  
NEW JERSEY USA NIZHNY NOVGOROD RUSSIA PRAGUE CZECH REPUBLIC ROME ITALY  
ST. GALLEN SWITZERLAND TURKU FINLAND ULSAN SOUTH KOREA VADUZ LIECHTENSTEIN  
VIENNA AUSTRIA

[www.ercis.org](http://www.ercis.org)



ERCIS – the **European Research Center for Information Systems** – is an international network of scientists conducting cooperative research in the field of Information Systems (IS). The Network was founded in 2004 at the University of Münster and is funded by the German State of North Rhine-Westphalia and the University of Münster.

The Network provides new ways of thinking and multi-disciplinary approaches for finding solutions to the problems arising from an ongoing transformation of society and organisations due to the growing impact of IT. ERCIS has dedicated itself to dealing with these challenges through collaboration and exchange of information between research and practice.

ERCIS is notable for excellent communication and uncomplicated initiation of research cooperation and research projects. Among ERCIS' major strengths are the personal contacts between researchers, which make it a vibrant network. ERCIS covers a wide range of disciplines associated with IS and perspectives on IS research.

The Network is headed by the Board of Directors in Münster, which is composed of one academic director, namely Prof. Dr. Jörg Becker, and eight additional professors all active in the IS research field. Moreover, ERCIS involves numerous internationally renowned researchers from more than 20 associated research institutions, as well as members of the Advisory Board coming from diverse industry companies.

All ERCIS research partners are experts in a wide variety of disciplines related to IS. Research conducted by ERCIS ranges from fundamental research to application-oriented research. Besides individual research activities of ERCIS members, the Network brings together and supports selected research aspects of IS in Competence Centres aimed at strengthening research in specific areas. The Advisory Board members come from various industry sectors, which guarantees that the research conducted at ERCIS is relevant for practice. Regular meetings of the Board of Directors with the Advisory Board members, as well as annual workshops of ERCIS' associated research institutions, ensure continuous, direct and productive exchange of knowledge.

Finally, students and young researchers also benefit from collaboration at ERCIS, as many ERCIS research partners offer exchange programs that last one or two semesters, which gives students an opportunity to acquire international experience. Joint lectures and guest talks organised by several ERCIS members contribute to the internationalisation of teaching.

If you are interested in connecting with the Network, please feel free to contact us! For further information please visit

[www.ercis.org](http://www.ercis.org)

## DEAR FELLOW ERCIS PARTNERS AND INTERESTED READERS OF THIS REPORT,

What an amazing year 2015! In my eyes, we again encountered a year with a lot of great experiences in the ERCIS network. I think the most prominent event in 2015 was the European Conference on Information Systems (ECIS 2015) in Münster. With so many ERCIS partners involved in the program committee, as track chairs, as workshop organizers, as associate editors, as authors or "just" as participants, we can definitely say that it really was an ERCIS-ECIS. After such a long time preparing and looking forward to this conference in Münster, I have to say that we were also quite sad when ECIS was finally over. However, thanks to all of you who did such a great job in helping us making the ECIS in Münster memorable!

Apart from the ECIS, a lot of other things happened during the last 12 months – be it joint teaching, projects, research, advisory board meetings, new network members, or our great annual meeting. Read for yourself!

As a really nice tradition, we again had our ERCIS Annual Workshop at one of our partner universities. This year, the University of Minho, as new ERCIS member, stepped forward and hosted the Annual Workshop in Portugal. We discussed several strategic topics and ideas for collaborative projects and enjoyed the beautiful city of Guimarães. For everybody, who missed the ERCIS Annual Workshop: the University of Minho will hold the ECIS in 2017, thus, there will be a good opportunity in the future to head (back) to Guimarães.

In addition to several courses for graduate and undergraduate students that we conducted in the ERCIS network, I am very happy to announce that two ERASMUS+ proposals, set up with consortia of several ERCIS members, were accepted for funding by the EU. The ERASMUS+ programme aims to boost skills and employability, as well as modernising education. Erasmus+ supports transnational partnerships among organisations to foster cooperation and bridge the worlds of education and work in order to tackle the skills gaps we are facing in Europe. In this line, the two projects will help to not only modernise education but also foster the exchange of knowledge and experiences in different fields of education between the ERCIS partners. I am really looking forward to the results of those projects!



Another EU project with several involved ERCIS members is the Horizon 2020 RISE BPM project that officially started with a kick-off meeting during the ECIS 2015 in Münster. A RISE project supports short-term mobility of research and innovation staff at all career levels, from the most junior (post-graduate) to the most senior (management), including also administrative and technical staff. Thus, we will have a lot of staff exchange between ERCIS members in the next years that will, again, help to strengthen our ties.

A personal highlight for me was my honorary doctorate that I received from the University of Turku in May this year. The most memorable part for me was the academic procession that included the University's rector, professors, conferrers, honorary doctors and doctors and lead from Turku Concert Hall down to the Cathedral right through the town. A really unforgettable experience.

I believe that this short recap shows that this year was full of great events and achievements that were possible because of all of us being members and contributing to the ERCIS network. Let's keep up that spirit and let's see what lies ahead for 2016!

All the best,

Jörg Becker

# TABLE OF CONTENTS

|  |    |
|--|----|
| <b>ERCIS NETWORK</b>                                 | 02 |
| <b>PREFACE</b>                                       | 03 |
| <b>6<sup>TH</sup> ANNUAL ERCIS WORKSHOP IN MINHO</b> | 06 |
| <b>SHORT NEWS</b>                                    | 08 |

## **UNIVERSITY OF MÜNSTER – GERMANY (HEADQUARTERS)** 12

|   |    |
|---|----|
| <i>Institute of Business-to-Business Marketing</i>                          | 12 |
| <i>Chair for Information Systems and Information Management</i>             | 14 |
| <i>IT Security Research Group</i>   | 16 |
| <i>Institute of Medical Informatics</i>                                     | 18 |
| <i>Chair for Information Systems and Logistics</i>                          | 20 |
| <i>Institute for Information, Telecommunication and Media Law (ITM)</i>     | 22 |
| <i>Chair for IS and Interorganizational Systems</i>                         | 24 |
| <i>Chair of Practical Computer Science</i>                                  | 26 |
| <i>Professional Communication in Electronic Media/ Social Media (PROCO)</i> | 28 |
| <i>Information Systems and Statistics</i>                                   | 30 |
| <i>Chair of Computer Science – DBIS Group</i>                               | 32 |

## **INTERNATIONAL PARTNER INSTITUTIONS** 34

### **BORDEAUX/TALENCE – FRANCE** 34

|                              |  |
|------------------------------|--|
| <i>Kedge Business School</i> |  |
|------------------------------|--|

### **BRISBANE – AUSTRALIA** 36

|  |  |
|--|--|
| <i>Queensland University of Technology</i> |  |
|--|--|

### **COPENHAGEN – DENMARK** 38

|                                   |  |
|-----------------------------------|--|
| <i>Copenhagen Business School</i> |  |
|-----------------------------------|--|

### **ENSCHEDÉ – THE NETHERLANDS** 40

|                             |  |
|-----------------------------|--|
| <i>University of Twente</i> |  |
|-----------------------------|--|

### **GDANSK/SOPOT – POLAND** 42

|                             |  |
|-----------------------------|--|
| <i>University of Gdansk</i> |  |
|-----------------------------|--|

### **GUIMARÃES – PORTUGAL** 44

|                            |  |
|----------------------------|--|
| <i>University of Minho</i> |  |
|----------------------------|--|

### **HAMILTON – NEW ZEALAND** 48

|                              |  |
|------------------------------|--|
| <i>University of Waikato</i> |  |
|------------------------------|--|

### **KAUNAS – LITHUANIA** 50

|  |  |
|--|--|
| <i>Kaunas University of Technology</i> |  |
|--|--|

### **KHARKIV – UKRAINE** 52

|   |  |
|---|--|
| <i>Simon Kuznets Kharkiv National University of Economics</i> |  |
|---|--|

### **KRISTIANSAND – NORWAY** 56

|                            |  |
|----------------------------|--|
| <i>University of Agder</i> |  |
|----------------------------|--|

### **LEUVEN – BELGIUM** 58

|                  |  |
|------------------|--|
| <i>KU Leuven</i> |  |
|------------------|--|

### **LULEÅ – SWEDEN** 62

|                                       |  |
|---------------------------------------|--|
| <i>Luleå University of Technology</i> |  |
|---------------------------------------|--|

### **MANCHESTER – UNITED KINGDOM** 64

|                                   |  |
|-----------------------------------|--|
| <i>Manchester Business School</i> |  |
|-----------------------------------|--|

### **MARIBOR – SLOVENIA** 66

|                              |  |
|------------------------------|--|
| <i>University of Maribor</i> |  |
|------------------------------|--|

### **MOSCOW – RUSSIA** 68

|  |  |
|--|--|
| <i>Higher School of Economics Moscow</i> |  |
|--|--|

### **NEW JERSEY – USA** 70

|  |  |
|--|--|
| <i>Stevens Institute of Technology</i> |  |
|--|--|

### **NIZHNY NOVGOROD – RUSSIA** 72

|   |  |
|---|--|
| <i>Higher School of Economics Nizhny Novgorod</i> |  |
|---|--|

### **PRAGUE – CZECH REPUBLIC** 74

|                                     |  |
|-------------------------------------|--|
| <i>Charles University in Prague</i> |  |
|-------------------------------------|--|

### **ROMA – ITALY** 76

|   |  |
|---|--|
| <i>Luiss Guido Carli University – CeRSI</i> |  |
|---|--|

### **ST. GALLEN – SWITZERLAND** 78

|                                 |  |
|---------------------------------|--|
| <i>University of St. Gallen</i> |  |
|---------------------------------|--|

### **TURKU – FINLAND** 80

|                            |  |
|----------------------------|--|
| <i>University of Turku</i> |  |
|----------------------------|--|

### **ULSAN – REPUBLIC OF KOREA** 82

|   |  |
|---|--|
| <i>Ulsan National Institute of Science and Technology (UNIST)</i> |  |
|---|--|

### **VADUZ – PRINCIPALITY OF LIECHTENSTEIN** 84

|                                    |  |
|------------------------------------|--|
| <i>University of Liechtenstein</i> |  |
|------------------------------------|--|

### **VIENNA – AUSTRIA** 86

|  |  |
|--|--|
| <i>Vienna University of Economics and Business</i> |  |
|--|--|

## **COMPETENCE CENTERS** 88

|                               |     |
|-------------------------------|-----|
| <i>Conceptual Modeling</i>    | 88  |
| <i>Connected Organization</i> | 90  |
| <i>Crisis Management</i>      | 92  |
| <i>E-Government</i>           | 94  |
| <i>Service Science</i>        | 96  |
| <i>Smarter Work</i>           | 100 |

## **NETWORK RESEARCH ACTIVITIES** 102

|   |     |
|---|-----|
| <i>Project on didactic material for SAP Systems at the Higher School of Economics – Nizhny Novgorod</i> | 102 |
| <i>Joint track organization between Münster and Minho</i>   | 102 |
| <i>Research and Innovation Staff Exchange: the Future of BPM</i>  | 102 |
| <i>WIPO collaboration between ERCIS partners Münster and Hamilton</i>                                   | 102 |
| <i>Joint projects by CeRSI-LUISS and University of Agder</i>  | 103 |
| <i>From Münster to Kristiansand</i>   | 104 |
| <i>Researcher exchange between CeRSI-LUISS and IWI-HSG</i>  | 105 |
| <i>Several joint ERCIS projects go full speed</i>   | 105 |

## **TEACHING@ERCIS** 106

|   |     |
|---|-----|
| <i>EDUglopedia.org</i>  | 106 |
| <i>Collaborative Business</i>   | 107 |
| <i>BPM Winter School</i>  | 107 |
| <i>Joint ERCIS Seminar</i>  | 107 |
| <i>MSYS559 E-Business Technologies Course in Waikato</i>                          | 108 |
| <i>Fundamentals of BPM as a MOOC</i>  | 108 |
| <i>Joint IT security seminar – University of Münster and University of Twente</i> | 109 |

## **EVENTS IN THE ERCIS NETWORK** 110

|  |     |
|--|-----|
| <i>8<sup>th</sup> Sigsand/Plais Eurosymposium'2015, Gdansk&amp;Sopot, Poland</i>               | 110 |
| <i>28<sup>th</sup> Bled eConference #eWellbeing</i>  | 110 |
| <i>SOR'15 – The 13<sup>th</sup> International Symposium on Operations Research in Slovenia</i> | 110 |
| <i>Druid 2015</i>  | 110 |
| <i>XII Edition of the ITAIS Conference</i>   | 110 |
| <i>Information Society IS 2015 Education in Information Society</i>                            | 111 |
| <i>International Conference on Organizational Science Development</i>                          | 111 |
| <i>ERCIS Launch Pad</i>  | 111 |
| <i>ERCIS Disrupts Münster</i>  | 112 |
| <i>23<sup>rd</sup> ECIS in Münster</i>   | 113 |

## **ADVISORY BOARD** 114

|                                       |     |
|---------------------------------------|-----|
| <i>arvato Bertelsmann</i>             | 114 |
| <i>avantum</i>                        | 115 |
| <i>BISON</i>                          | 116 |
| <i>Deloitte.</i>                      | 118 |
| <i>Detecon</i>                        | 119 |
| <i>ECWT</i>                           | 120 |
| <i>ownCloud</i>                       | 122 |
| <i>PICTURE GmbH</i>                   | 124 |
| <i>Räckers</i>                        | 125 |
| <i>Saracus</i>                        | 126 |
| <i>zeb</i>                            | 127 |
| <i>Further Advisory Board Members</i> | 128 |

## **OUTLOOK FOR 2016** 130

## **ERCIS TEAM** 131

## **IMPRINT** 132





## 6<sup>TH</sup> ANNUAL ERCIS WORKSHOP

Following Vaduz (Liechtenstein) in 2010, Bordeaux (France) in 2011, Kaunas (Lithuania) in 2012, Turku (Finland) in 2013, Rome (Italy) in 2014, this year's ERCIS Annual Workshop took place in the far west of Europe: Isabel Ramos was the host in Guimarães, Portugal, at the Universidade do Minho. The workshop lasted from 2015-08-24 to 2015-08-26.

Having joined ERCIS just last year as probationary member, Isabel offered to host the Annual Workshop immediately in 2015. Although Stanislaw Wrycza, our partner at the University of Gdansk, had already offered his location, he kindly agreed to provide our newest member with the opportunity to present themselves. As a result, the official Certificate of Membership was signed during the Workshop.



*Participants of the ERCIS Annual Workshop*

Following the traditional structure, the Workshop started with a welcome reception at Casa Amarela in the city center of Guimarães for those who had already arrived Monday evening. This year, participants from France, Germany, Italy, Liechtenstein, Lithuania, the Netherlands, Norway, Portugal, and Switzerland participated.

The workshop started with a welcome speech by Isabel Ramos and Jörg Becker, followed by a recap of ERCIS activities, ongoing activities, and the plans for 2016, presented by Armin Stein.



*Welcome Reception at Casa Amarela*



Peter Rohner, representative of the University of St. Gallen, presented an analysis of the Failure and Success of Large Scale IT Projects. Unfortunately, failed projects are usually not very well documented due to, e.g. covertness of the people involved or the transfer to new projects. This reduces the opportunity to not repeat the mistakes that have been made. Several decisions of the Swiss Government show how important a carefully planned and implemented project is: A review of 15 large IT project performed by the University of St. Gallen made the Swiss Government change the code of conduct of how they handle Large Scale IT Projects. For future studies, the researchers offer a tool that allows for a web-based assessment of the current project's status. It is being evaluated if a European-wide study, conducted by the ERCIS network, might be feasible.



*Workshop Dinner*

The next session was led by João Álvaro Carvalho of the Universidade do Minho, titled "European Doctorate: Exploring Opportunities for Collaboration in Education". João presented different scales of possible collaborations, starting from Doctoral Consortia, lasting several hours to a few days, to Summer Schools, lasting for one to two weeks, ending with research stays that might take several months or even years. More topics were the joint supervision of PhD students, or larger scale solutions like the "Joint ERCIS/European Doctorate". The ERCIS team, together with Bjørn Erik Munkvold and Fons Wijnhoven, will elaborate on means to make such endeavours possible and collect the requirements from interested partners.

Rimantas Butleris and Kęstutis Kapočius from the Lithuanian Kaunas Technical University presented the new Framework Programme of the European Commission, Horizon 2020. They carefully selected the areas that might be of interest for the network, leading to a document that includes ideas of the participants for potential future proposals.



*Horizon 2020*

Finally, Jörg Becker introduced his new vision of an over-arching topic for the network: The Digital Agenda. In his two interactive sessions, he asked the participants to pin down their thoughts about the societal impact of digitization, leading to a very diverse set of topics, which will be followed up by the network in the future.

The conference dinner took place at Papa Boa, a traditional restaurant in the heart of Guimarães.

Before the closure, the participants also thanked Sara Hofmann for her dedicated work for the network during the last four years. Sara will leave the team and start as Associate Professor at the University of Bremen.

**SAVE THE DATE:**  
The next Annual Workshop will take place in Kristiansand (Norway), August 24<sup>th</sup>-26<sup>th</sup> 2016.





**NEW ERCIS MEMBER**

Enrico Spagnoletti, son of Paolo Spagnoletti, was born in 2014 and officially joined the ERCIS network in 2015 when he received his ERCIS outfit.

**MEDICAL INFORMATICS IN MÜNSTER: MDM IS AN OFFICIAL EUROPEAN RESEARCH INFRASTRUCTURE**

The world-wide largest public portal of Medical Data Models (MDM) (<http://www.medical-data-models.org>) was established by the Institute of Medical Informatics in Münster. In 2015 it was recognized as official European Research Infrastructure ([http://portal.meril.eu/converis-esf/publicweb/research\\_infrastructure/3574](http://portal.meril.eu/converis-esf/publicweb/research_infrastructure/3574)). To date it contains more than 4,300 data models and more than 100,000 data items with semantic codes.



**LUISS-NEWS**

- MASTIS project on "Establishing Modern Master-level Studies in Information Systems" funded by the Erasmus+ Programme
- Institutional partnership between LUISS and IWI-HSG following the exchange of ERCIS members Robert Winter and Paolo Spagnoletti
- The Springer series Lecture Notes in Information Systems and Organization (LNISO), started by CeRSI-LUISS in 2012, indexed on Scopus. ERCIS members are invited to propose new volumes.

**STRENGTHS IN BIG DATA BRINGS A KEY IEEE INITIATIVE TO STEVENS**

The School of Business is conducting pioneering work in the area of Big Data. Dr. David Belanger will be co-leading (together with Professor José Moura of Carnegie Mellon University) the 3-year IEEE initiative on Big Data. His research interests relate to his industry experience, most recently as chief scientist at AT&T Labs. These include large-scale and real-time information mining related to business operations, interactive information visualization and scalable software systems. The results of his work have resulted in many patents, and have been presented at leading international conferences.



**STEVENS INSTITUTE OF TECHNOLOGY SCHOOL OF BUSINESS EARNS PRESTIGIOUS AACSB ACCREDITATION**

In May, the Association to Advance Collegiate Schools of Business announced Stevens Institute of Technology earned accreditation for its School of Business, a distinction held by less than 5 percent of business schools worldwide. Becoming accredited was a substantial milestone of an ambitious five-year strategic growth plan intended to reinforce the school's mission as a business school that creates impact in a technology-driven economy.

**SAFER CHIP CARDS**

Scientists of the CTIT research institute at the University of Twente have together with their colleagues of the University of Leuven succeeded in securing chip cards against leaking confidential information. Through the use of smart algorithms, it is now possible to better secure, for instance, bank cards, public transport chip cards and electronic keys of buildings and cars against hackers.

**MINEMYTEXT.COM – INNOVATIVE CLOUD SOLUTION FOR TEXT MINING LAUNCHED**

It is estimated that more than 80% of today's data is stored in an unstructured form (e.g., text, audio, video), and much of it is expressed in rich and ambiguous natural language. Modern text-mining techniques allow to (semi-)automatically extract implicit, previously unknown, and potentially useful knowledge from large amounts of unstructured textual data in a scalable and repeatable way. Researchers at the Institute of Information Systems have developed an online tool that enables fellow researchers to apply state-of-the-art text-mining algorithms on large text corpora in an intuitive and easy-to-use way. Check out the live demo that allows you to analyse more than 12,000 online customer reviews from Amazon.com at [www.MineMyText.com](http://www.MineMyText.com).



**JUNIOR PROFESSOR MATHIAS FISCHER JOINS THE ERCIS HEADQUARTERS**

In December 2015, the ERCIS Headquarters in Münster welcomes Mathias Fischer as new Junior Professor for IT security. Before heading to Münster, Mathias Fischer worked as Postdoctoral Research at the International Computer Science Institute, an independent non-profit research institute affiliated with the University of California, Berkeley. His main research interests lie in the areas of distributed systems, P2P networks, network security, and network monitoring.

**EDUGLOPEDIA.ORG**

EDUglopedia.org – Building a global encyclopedia for information systems education. As per October 2015, over 1,600 courses in over 290 programs from over 260 institutions in 60 countries have been registered. See: [www.eduglopedia.org](http://www.eduglopedia.org)



**JÖRG BECKER FROM MÜNSTER RECEIVED HONORARY DOCTORATE FROM THE UNIVERSITY OF TURKU**

On the 29<sup>th</sup> of May 2015, the University of Turku (Finland) organised a Ceremonial Conferment of Doctoral Degrees, where 12 honorary doctors were conferred alongside with the doctors who completed their degree in the last two years. Each of University's seven faculties chose one or two persons, who were to be conferred as honorary doctors. The Turku School of Economics chose Jörg Becker, Vice Rector from the University of Münster and Academic Director of the ERCIS Network, as one of two honorary doctors.

Of the whole ceremony, the most visible part to the public is the academic procession that includes the University's rectors, professors, conferrers, honorary doctors and doctors. The procession leads from Turku Concert Hall down to the Cathedral.



**LLOYD'S "SCIENCE OF RISK PRIZE"**

Stefan Laube, researcher and PhD candidate in the IT Security Research Group, wins Lloyd's "Science of Risk Prize" for the best research paper in the category "Cyber Risk". The award-winning paper "Mandatory Security Information Sharing with Authorities: Implications on Investments in Internal Controls" was prepared with co-author Rainer Böhme. It is motivated by security breach notification laws, such as the "IT-Sicherheitsgesetz", which are high on the policy agenda around the globe. The paper investigates how the enforcement of breach notification laws affects the incentives of firms to invest in productive activity and cyber risk mitigation. Lloyd's judging panel, comprised of experts from academia and insurance, felt that the paper is of excellent use to cyber risk insurers as well as of wider benefit to society.

Congratulations, Stefan!

**IN SEARCH OF INFORMATION SYSTEMS (GRAND) CHALLENGES**

What are the grand challenges of a scientific discipline? Finding the Higgs boson or flying to the moon were grand challenges and could only be achieved through collaborative, cross-disciplinary efforts and the allocation of considerable resources. But what are the challenges of the information systems (IS) discipline? Considering that IS have been the major contributor to economic growth and productivity over the past decades, this question definitely warrants our attention. The ERCIS network provides a great structure to think about such fundamental questions. With the help of the network, we were able to conduct a Delphi study with 143 information systems (IS) academics that was designed to explore what IS academics perceive to be the grand challenges of the IS discipline. Marco de Marco, Bjørn Erik Munkvold, Reima Suomi, and Stanislaw Wrycza were part of the steering committee and contributed to consolidating the findings from the different rounds of our Delphi study.

The results provide evidence that the scholarly IS discipline is still much concerned with itself, for instance, in terms of its identity, relevance, foundational theory, or methodological pluralism – suggesting that the old debate on IS identity is not yet overcome. It thus cannot be claimed that the study identifies the grand challenges of the discipline – still it becomes noticeable that the academic community sees potentials for the IS discipline to have societal impact. A total of 21 challenges are identified, of which six challenges are categorized as "meta challenges for further developing the IS discipline" and the remaining 15 challenges are categorized as "IS research challenges" pertaining to sociotechnical systems, IS infrastructures, society and ecology, as well as social well-being and affectivity. The study provides a ranking of all challenges according to their relevance, potential impact, and possible time frame of realization. The results have some important implications for IS as a discipline as well as its prospective future societal role. It is hoped that through our study we can contribute to the important debate on the challenges of the academic IS discipline.



Source: Becker J, vom Brocke J, Hedder M, Seidel S (2015). In Search of Information Systems (Grand) Challenges. Business & Information Systems Engineering (BISE).





## ABOUT THE INSTITUTION

The Institute of Business-to-Business Marketing (IAS) is part of the ERCIS Headquarters located in Münster and represents the first senior professorship under the roof of the Marketing Center Münster (MCM).

Business-to-Business Marketing is traditionally the main research area of the IAS. In addition, the research program is continuously expanded to other interesting and current areas of research, such as the emergence of dominant designs and service marketing. Parts of the research program are realized with the help of associates from research and industry.

The IAS has recently started to extend scenario analysis techniques in a research project together with the University Hospital Münster and the Institute of Public Auditors in Germany.

Beyond high-quality research, the IAS has always defined itself through outstanding educational efforts. We maintain close ties with partners from a variety of industries and academic institutions all over the world to offer our marketing students compelling lectures and extraordinary seminars.



This winter semester the IAS offers a course on industrial marketing for master students in Münster. Additionally, professor Backhaus is mainly responsible for the development of the curriculum for the Bachelor program in Business Administration for the Turkish-German University in Istanbul. Following the finalization of the curriculum he took over the responsibility of organizing the flying faculty from Germany in 2012 with the enrollment of the first students and has continued to offer a variety of courses since then.

## RESEARCH TOPICS

Our research mainly focuses on topics from Industrial Marketing. One of the key areas represents the field of negotiation analysis. The outcome of this work has been published in internationally reviewed and highly ranked Journals. Beside that, the results of this applied research have, inter alia, been documented in the following five definitive textbooks: “Industriegütermarketing,” “Strategisches Marketing,” “Multivariate Analysemethoden,” “Fortgeschrittene Multivariate Analysemethoden,” and “Vermarktung hybrider Leistungsbündel.” The high quality of these publications has been highlighted by several awards, such as the BVM award of the year for the Multivariate Analysemethoden textbook.



## CURRENT RESEARCH PROJECTS

As the majority of research projects are funded institutionally, the IAS collaborates closely with industrial companies and practice-oriented associations to generate knowledge with a direct impact for the industry. Further research is focused on relevant topics in the international field of Marketing and conducted in the course of dissertation projects.

In cooperation with the Chair for Information Systems and Information Management in Münster, the IAS is currently working on a research project founded by the Federal Ministry of Education and Research to develop a business model for electrical mobility.

In addition to that, we are using our expertise in a research project to reduce the risk structures of international large scale projects such as Desertec.

Furthermore, the IAS is conducting a scenario analysis project in order to further develop the future strategy of the University hospital Münster. Although not a core Marketing topic, we use our expertise in multivariate methodology to provide a substantial contribution to the goals of the project.

Moreover, the IAS is part of the leading-edge cluster “it’s OWL”. In collaboration with industrial companies located in eastern Westphalia, the IAS continuously expands its expertise in multivariate methodology by developing a statistical method that is able to test the acceptance of technological complex innovations.

We continue to deliver relevant insights with focus on negotiations research and the emergence of dominant designs.

## PUBLICATIONS

### Books

*Backhaus, K., Erichson B., Plinke, W. und Weiber, R. (2015):* Multivariate Analysemethoden – Eine anwendungsorientierte Einführung, 14<sup>th</sup> edition

*Backhaus, K., Erichson B., Weiber, R. (2015):* Fortgeschrittene Multivariate Analysemethoden – Eine anwendungsorientierte Einführung, 3<sup>rd</sup> edition

*Backhaus, K., Voeth, M. (2015):* Handbuch Business-to-Business Marketing, 2<sup>nd</sup> edition

*Backhaus, K., Voeth, M. (2014):* Industriegütermarketing, 10<sup>th</sup> edition

### Dissertations

*Jasper, Jonas:* Virtual Reality-Based Product Representations in Conjoint Analysis – Empirical Insights into Its Applicability for Early Customer Integration in the Development Process of a Technical Innovation

*Westhoff, Katharina:* Dynamic Preference Formation Within Organizational Buying Centers – Behavioral Insights into Reconciliation Processes

*Witt, Sascha:* Plattformwahl in zweiseitigen Märkten: Empirische Analysen des nachfragerseitigen Entscheidungsverhaltens

### Contributions to Anthologies

*Backhaus, K., Koch, M., Mühlfeld, K., Witt, S.:* Kundenbindung im Industriegütermarketing, in: Bruhn, M./Homburg, C. (Eds.): Handbuch Kundenbindungsmanagement, 8. Auflage.

*Backhaus, K., Bröker, O., Brüne, P. A., Gausling, P.:* Die Relevanz digitaler Medien in B-to-B-Transaktionen, in: Kliewe, T., Kesting, T. (Eds.): Moderne Konzepte des organisationalen Marketing.

*Backhaus, K., Becker, J., Beverungen, D., Breuker, D., Bröker, O., Brüne, P. A., Dietrich, H.-A., Knacksted, R., Rauer, H. P., Reichle, F., Wilken, R.:* Effizienzmessung industrieller Dienstleistungen mittels Data Envelopment Analysis – Projekt ServDEA, in: Möller, K., Schulze, W. (Eds.): Produktivität von Dienstleistungen.

### Articles in International Journals

*Backhaus, K.:* Every Future Needs a Past: A Personal View of the History of JBBM, Journal of Business-to-Business Marketing, Vol. 22, No. 1–2, 2015

*Backhaus, K., Gausling, P., Hildebrand, L.:* Comparing the incomparable: Lessons to be learned from models evaluating the feasibility of Desertec, in: Energy, Vol. 82, 2015

*Wiegand, N., Witt, S., Steiner, M., Backhaus, K.:* Platform Adoption in Network Markets: Selecting Beneficial Partners to Achieve Market Dominance, in: International Journal of Innovation Management, Vol. 19, No. 3, 2015



## CONTACT DETAILS

**PROF. DR. DR. H. C. KLAUS BACKHAUS**  
Institute of Business-to-Business Marketing

University of Münster  
Königsstraße 47  
48143 Münster, Germany  
P +49 251 83-22861  
[www.marketingcenter.de/ias](http://www.marketingcenter.de/ias)  
[ias@uni-muenster.de](mailto:ias@uni-muenster.de)

## KEY FACTS

### INSTITUTION

- Founded in 1986
- 9 researchers

### RESEARCH TOPICS

- Industrial marketing
- Customer preferences in sharing economy models
- Standardisation processes
- Scenario analysis
- Project finance
- Multivariate analysis





## ABOUT THE INSTITUTION

The Chair for Information Systems and Information Management at the University of Münster, directed by Prof. Dr. Dr. h.c. Dr. h.c. Jörg Becker, Professor h.c. (NRU-HSE, Moscow), currently comprises nine postdocs and 21 research assistants. The courses offered for BSc and MSc in Information Systems study programs include Application Systems, Information Modeling, and Workflow Management (Process Modeling field), as well as Data Management and Management Information Systems and Data Warehousing (Data Modeling field). Members of the Chair are involved in research projects funded nationally and internationally. They publish results of their work in journals like BISE (Business & Information Systems Engineering), BPMJ (Business Process Management Journal), Electronic Markets, EMISA (Enterprise Modeling and Information Systems Architectures), ISeB (Information Systems and e-Business Management), and GIQ (Government Information Quarterly) as well as in conference proceedings like ECIS (European Conference on Information Systems), ER (International Conference on Conceptual Modeling), HICSS (Hawaii International Conference on System Sciences), and ICIS (International Conference on Information Systems).

## RESEARCH TOPICS

Conceptual modelling has become a mainstream method for describing, designing,

and reorganizing Information Systems in the last decade. Many large companies use conceptual models for such common tasks as business process reengineering, software introduction, and compliance management. Conceptual Modelling, when being transferred into practice, supports creation of business value for companies and governmental organizations.

Retail is a research area which is focused on organizations and application systems in the respective domain including wholesale, stationary retail and e-commerce. Focal topics to account for interdependencies between an organization and an application system involve process management and conceptual modelling in retail, as well as Enterprise Resource Planning (ERP) systems.

E-Government deals with the aspects of administrative processes and services within governmental and inter-governmental organizations and the citizens and businesses through the use of Information and Communication Technology (ICT). E-Government links the field of the strategic management with aspects of process management and economic viability and focuses on front- and back-office. E-Government topics can be addressed in terms of content, as well as from technical and conceptual perspectives.

Service Science research addresses such aspect as servitization – the integration of in-

dustrial machinery with customized service offerings without selling physical goods. Our research is focused on understanding and facilitating the creation of value in service systems, which involves interactions between service providers and service customers. The goals of the Service Science team at the Chair are to develop a sound theory on service phenomena and to design innovative IT artifacts supporting competitive edge of the service economy.

## SELECTED CURRENT RESEARCH PROJECTS



Propelling Business Process Management by Research and Innovation Staff Exchange (RISE\_BPM)

The RISE\_BPM project aims at networking world-leading research institutions and corporate innovators to develop new horizons for Business Process Management (BPM). BPM is a boundary-spanning discipline focused on division and re-integration of day-to-day work in organizations and on analysis of process data for organizational decision-making. Recent breakthrough innovations in Social Media, Smart Devices, Real-Time Computing and Big Data Technology create a strong impetus for propelling BPM into a pervasive corporate topic that enables the design of entirely new products and services.

For more information, please visit: <http://www.rise-bpm.eu>



As long as the existing battery technology does not allow for longer ranges of electric

vehicles, a widespread charging infrastructure is necessary to make electric vehicles suitable for the daily use. The CrowdStrom project's goal is to develop an innovative service that, encourages private people to set up charging stations and grant access to third parties. This crowd-sourced concept faces the challenges of developing new, standardised processes that cover the entire range of requirements for setting up and operating a charging infrastructure for electric vehicles. The project's analysis on customers' willingness to pay enables the creation of an incentive system. Additionally, legal difficulties are analyzed and a software implementation is provided.

For more information, please visit: <http://www.crowdstrom.de>

## SELECTED AWARDS

Dr. Martin Matzner, postdoctoral researcher at the Chair of Jörg Becker, has received the prestigious "Emerald Citation of Excellence 2015" award for his paper "Beyond Process Monitoring: A Proof-of-Concept of Event-driven Business Activity Management". The article was published in 2012 in the Business Process Management Journal (Vol. 18, Iss. 4, pp. 625–643).

**Best Paper Award:** *Delfmann, P., Höhenberger, S.:* Supporting Business Process Improvement through Business Process Weakness Pattern Collections. Proceedings of the 12. Internationale Tagung Wirtschaftsinformatik Osnabrück 2015, pp. 378–392.

## SELECTED PUBLICATIONS

Please see <https://www.wi.uni-muenster.de/departments/groups/is/publications> for a complete list of publications.

*Becker, J., Delfmann, P., Dietrich, H.-A., Steinhorst, M., & Eggert, M. (2015).* Business Process Compliance Checking – Applying and Evaluating a Generic Pattern Matching Approach for Conceptual Models in the Financial Sector. *Information Systems Frontiers*, 17.

*Breuker, D.; Matzner, M.; Delfmann, P.; Becker, J. (2016).* Comprehensible Predictive

Models for Business Processes. *Management Information Systems Quarterly (MISQ)* (forthcoming).

*Delfmann, P., Steinhorst, M., Dietrich, H.-A., & Becker, J. (2015).* The Generic Model Query Language GMQL – Conceptual Specification, Implementation, and Runtime Evaluation. *Information Systems*, 47(1), pp. 129–177.

*Köffer, S., Ortbach, K., Junglas, I., Niehaves, B., & Harris, J. (2015).* Innovation through BYOD? – The Influence of IT Consumerization on Individual IT Innovation Behavior. *Business & Information Systems Engineering (BISE)*, 1.

*Walter, N., Ortbach, K., & Niehaves, B. (2015).* Designing Electronic Feedback – Analyzing the Effects of Social Presence on Perceived Feedback Usefulness. *International Journal of Human-Computer Studies*, 76.

## DISSERTATIONS/HABILITATIONS

*Breuker, Dominic:* Comprehensible Predictive Models for Process Models - Design, Implementation, and Evaluation of Techniques for Fitting, Visualizing, and Analyzing Probabilistic Models of Event Log Data

*Fechner, Hendrik:* Referenzprozessmodell für eine serviceorientierte IT-Leistungsverrechnung

*Heide, Tobias:* Research Portals - Knowledge Access, Content Design, and Quality Management

*Hofmann, Sara:* Citizens' Adoption of Electronic Government Services – Recommendations for Government Communication and Service Provision on Social Networking Sites

*Holler, Justus:* Tool Support for Consultants in Business Process Modeling Projects – Design and Evaluation of the Business Process Modeling Tool icebricks

*Öksüz, Ayten:* Building Trust through Communication via Websites in the Context of Cloud Computing

*Ortbach, Kevin:* IT Consumerization and Individualization of Information Systems

*Walter, Nicolai:* Building Trust through Social Presence in Online Environments



## CONTACT DETAILS

PROF. DR. DR. H.C. DR. H.C.  
JÖRG BECKER, PROFESSOR H.C.  
(NRU-HSE, MOSCOW)  
Chair for Information Systems  
and Information Management

University of Münster  
Leonardo-Campus 3  
48149 Münster, Germany  
P +49 251 83-38100  
F +49 251 83-38109  
[www.wi.uni-muenster.de/is](http://www.wi.uni-muenster.de/is)  
[becker@ercis.uni-muenster.de](mailto:becker@ercis.uni-muenster.de)

## KEY FACTS

### INSTITUTION

- 9 post docs
- 21 research assistants
- 15 student assistants

### RESEARCH TOPICS

- Process management
- Conceptual modelling
- Retail
- E-Government
- Service science
- Business intelligence





Information security and privacy: new research perspectives at 2,200 m altitude (picture taken at a joint retreat in the Tyrolean alps with members of the group from Münster, Wiesbaden and Innsbruck and Prof. Dr. Herbert Kuchen's Practical Computer Science group)

## ABOUT THE GROUP

Professor Dr. Rainer Böhme and four researchers of his IT Security Research Group transferred to the Institute of Computer Science of the University of Innsbruck in Austria by the start of the summer term 2015. Rainer Böhme took up an appointment as full professor for Security and Privacy. This transfer was planned and is very typical for the career path prescribed by the German position of Juniorprofessors (assistant professors) without tenure track at the same institution.

We are very grateful in particular to our friends and colleagues at the Department of Information Systems, the ERCIS, and all staff of the University of Münster for their tremendous support over the past four years. Leaving Münster was certainly not an easy step.

Rainer Böhme and his team in Innsbruck will stay in close contact with the ERCIS. In particular, he remains principal investigator of altogether four research projects hosted at the University of Münster. The part of his team residing in Germany consists of four researchers from various disciplines, such as computer science, information systems, and law.

## RESEARCH PROJECTS

 **BITCRIME**, a bilateral project co-funded by the German BMBF and the Austrian FFG, researches new approaches to prosecute and prevent organized financial crime with virtual currencies. The University of Münster is the lead research institution of the German consortium. Principal investigator Rainer Böhme is spokesperson for the bilateral project. Other partners and stakeholders include law enforcement and financial regulation authorities, experts in cyber criminal law, as well as industry partners specializing in blockchain technologies.



**VeriMetrix**, a collaborative project funded by the German BMBF, looks at new ways of establishing privacy metrics in cloud environments. The project envisions a world where cloud providers compete on price and quality, including privacy standards, and potential customers can make informed decisions based on the metrics developed by the project team.

**AppPETS**, a collaborative project about to be funded by the German BMBF, seeks to develop middleware that enables developers of mobile applications to include privacy-enhancing features with little effort. Prior solutions suffered from the problem that end users had to trust developers in correctly implemented the privacy guards – a risky endeavor given the manifold ways of how sensitive data can leak. AppPETS takes an innovative approach by combining the middleware and backend infrastructure with static analysis of the mobile applications' code base, thereby assisting developers and signaling proper implementation to the end user.



AppPETS: Privacy-friendly mobile applications without compromises

A project on the information-theoretic bounds in digital image forensics, funded by the German DFG, seeks to improve the foundations of methods that detect image forgeries by statistically analyzing traces of the involved image processing operators. The project tries to formally derive upper bounds for the information that can be extracted with image forensics. This promises new methods for quantifying the confidence of conclusions and decisions based on forensic evidence.

## CONFERENCE ORGANISATION

Rainer Böhme and Tatsuaki Okamoto, cryptographer at NTT in Japan, have co-chaired the technical program committee of the 19<sup>th</sup> International Conference on Financial Cryptography and Data Security, held on January 26–30, 2015 in San Juan, Puerto Rico. Many technologies that shape the online payments landscape have been presented first at this venue, most prominently PayPal.

Rainer Böhme also served as program co-chair of the New Security Paradigms Workshop, along with Paul Van Oorschot from Carleton University in Canada. The workshop took place on September 7–10, 2015 in Twente, The Netherlands. Since 1992, this annual workshop strives to discuss proposals for new and disruptive principles on which to base information security.

In the context of the VeriMetrix project, Rainer Böhme co-organized a workshop on Automatization of Compliance in Cloud Environments (ACCU), co-located with the annual symposium INFORMATIK organized by the German GI association.

## INVITED TALKS

Rainer Böhme gave keynote lectures at the International Conference on Availability, Reliability and Security (ARES), the IEEE International Workshop on Information Forensics and Security (WIFS), the German OWASP Day, and held an invited lecture at a workshop on New Trends in Mechanism Design organized by the University of Copenhagen.

## ERCIS TEACHING COLLABORATION

Stefan Laube, Paulina Pesch, Markus Riek and Rainer Böhme have organized the Münster end of the joint project seminar on "Cybercrime and Cybersecurity" together with psychologists and criminologists from the University of Twente in the Netherlands (see page 111 in this report).

## YOUNG ACADEMICS

We are also very proud to work with brilliant graduate student assistants. In 2015, Maximilian Hils served as Google Summer

of Code tutor on behalf of the HoneyNet Project, Malte Möser was visiting researcher at the crypto-currency research group at Cornell, an Ivy League institution, and Erwin Qiring wrote his master thesis at State University of New York, funded by DAAD. Two more master theses lead to scientific publications.

## SELECTED PUBLICATIONS

*Böhme, R., Christin, N., Edelman, B., and Moore, T.*: Bitcoin: Economics, Technology, and Governance. *Journal of Economic Perspectives*, 29, 2 (2015), 213–238.

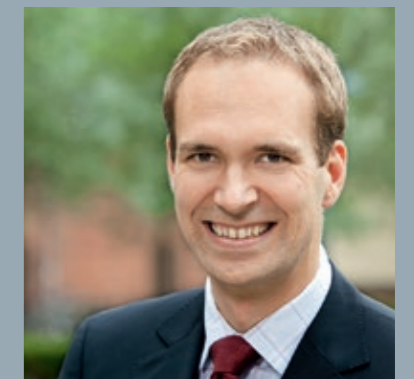
*Johnson, B., Schöttle, P., Laszka, A., Grossklags, J., and Böhme, R.*: Adaptive Steganography and Steganalysis with Fixed-Size Embedding. *Transactions on Data Hiding and Multimedia Security*, 10, (2015), 69–91.

*Laube, S. and Böhme, R.*: Mandatory Security Information Sharing with Authorities: Implications on Investments in Internal Controls. In *ACM Conference on Computer and Communication Security (ACM CCS)*, 2nd Workshop on Information Sharing and Collaborative Security. Denver, Colorado, 2015.

*Möser, M. and Böhme, R.* *Trends, Tips, Tolls: A Longitudinal Study of Bitcoin Transaction Fees*. In M. Brenner, N. Christin, B. Johnson and K. Rohloff, eds., *Financial Cryptography and Data Security*, 2<sup>nd</sup> Workshop on BITCOIN Research. Lecture Notes in Computer Science 8976, Springer, Berlin Heidelberg, 2015, pp. 19–33.

*Riek, M., Böhme, R., and Moore, T.*: Measuring the Influence of Perceived Cybercrime Risk on Online Service Avoidance. *IEEE Transactions on Dependable and Secure Computing*, (2015).

*Spiekermann, S., Acquisti, A., Böhme, R., and Hui, K.-L.*: The Challenges of Personal Data Markets and Privacy. *Electronic Markets*, 25, 2 (2015), 161–167.



## CONTACT DETAILS

**PROF. DR.-ING.  
RAINER BÖHME, M.A.**  
IT Security Research Group

University of Münster  
Leonardo-Campus 3  
48149 Münster, Germany  
P +49 251 83-38230  
[www.wi.uni-muenster.de/security](http://www.wi.uni-muenster.de/security)  
[boehme@ercis.de](mailto:boehme@ercis.de)

## KEY FACTS

12 researchers and  
2 administrative staff  
at three locations:  
Innsbruck (Austria),  
Münster and Wiesbaden  
(both in Germany)

## RESEARCH TOPICS

- Economics of information security
- Digital forensics
- Cybercrime
- Steganography and steganalysis
- Privacy-enhancing technologies
- Economics of privacy
- Security and usability





## ABOUT THE INSTITUTION

The Institute of Medical Informatics (IMI) is dedicated to research and teaching for the full range of informatics applications in medicine. It was founded in 1973 and belongs to the Medical Faculty. Since 2009 it is headed by Martin Dugas. It provides lectures, seminars and courses in small groups regarding Medical Informatics for medical as well as informatics students. The institute has a long tradition regarding research on information systems in healthcare. The Systematised Nomenclature of Human and Veterinary Medicine (SNOMED), which is now used world-wide in medical information systems, was initiated in Münster more than 30 years ago. Nowadays, the future of information systems in healthcare, specifically regarding electronic health records (EHRs), is a key research focus. Personalised medicine is built upon clinical and molecular data. Therefore data mining and pattern recognition techniques for genomic data, in particular derived from next-generation sequencing of cancer tissue, is an important research focus.

## RESEARCH TOPICS

IMI focuses on informatics for personalised medicine. The relevance of informatics within all fields of medicine is constantly rising. There is a wide scope of applications, ranging from molecular biology over clinical medicine to public health.

The integration of clinical and molecular data, especially analysis of next-generation sequencing (NGS) in cancer research, is a well-established focus of the institute with national and international cooperations for many years. The rapid increase in data volumes of high-throughput sequencing in molecular medicine (“big data”) poses constant challenges from an informatics point of view. Whereas a gene expression chip provided 10,000 data points per patient a few years ago, this number increased to multiple million sequence-reads per patient with modern techniques nowadays.

A major proportion of the data needed for clinical studies is also relevant for routine patient care. At present, data for studies and patient care are managed in separate systems. Hence, design and efficient implementation of interoperable information systems in healthcare is a major research topic. Open Metadata is key for interoperability. Specific research topics are data models with semantic annotations and methods for metadata management. Application fields are electronic health record (EHR) and electronic data capture (EDC) systems.

## CURRENT RESEARCH PROJECTS

### Health Informatics (eHealth)

The world-wide largest public portal of medical data models (<http://www.medical-data-models.org>) was established by IMI. In 2015 it was recognised as official European Research Infrastructure ([http://portal.meril.eu/converis-esf/publicweb/research\\_infrastructure/3574](http://portal.meril.eu/converis-esf/publicweb/research_infrastructure/3574)). To date it contains more than 4,300 data models and more than 100,000 data items with semantic codes. IMI is coordinating the pilots for the European project Electronic Health Records for Clinical Research (<http://www.ehr4cr.eu>). EHR4CR is a large-scale initiative with 10 major pharmaceutical companies and 11 university hospitals in 5 countries. The IMI project mobile patient questionnaires (<http://mopat.uni-muenster.de>) integrates EHR and patient reported outcomes.



### Biomedical Informatics

In a joint project with Prof. Carsten Müller-Tidow (Director Oncology and Hematology Department, University of Halle), improved diagnostics of tumor diseases with new DNA sequencing methods and algorithms are being developed (funded by German Cancer Aid foundation).

MDS-RIGHT, a European project coordinated by Prof. Joop Jansen (Nijmegen Centre for Molecular Life Sciences), was started to analyse mutations in Myelodysplastic Syndrome (MDS). MDS-RIGHT will assess approximately 1,000 patient cases with Next-Generation Sequencing (NGS) technology. IMI performs bioinformatics for project partners from the Netherlands, France, Sweden and Austria. About one third of MDS patients develop leukemia – the objective of the project is to improve diagnostics and therapy using biomarkers from NGS.

## PUBLICATIONS

Bartenhagen, C., Dugas, M.: Robust and exact structural variation detection with paired-end and soft-clipped alignments: SoftSV compared to eight algorithms. Briefings in Bioinformatics 2015 May 20. pii: bbv028. PMID: 25998133

Dugas, M.: Clinical Research Informatics: Recent advances and future directions. Yearb Med Inform. 2015;10(1):174-7. PMID: 26293865

Dugas, M.: Missing semantic annotation in databases – the root cause for data integration and migration problems in information systems. Methods of Information in Medicine 2014; 53(6):516–517

Dugas, M., Jöckel, K., Friede, T., Gefeller, O., Kieser, M., Marschollek, M., Ammenwerth, E., Röhrig, R., Knaup, P., Prokosch, H-U.: Open access to documentation forms and item catalogs in healthcare: Memorandum “Open Metadata”. Methods Inf Med. 2015 Jun 25;54(4)

Dugas, M.: ODM2CDA and CDA2ODM: Tools to convert documentation forms between EDC and EHR systems. BMC Medical Informatics and Decision Making 2015, 15:40.

Fritz, F., Tilahun, B., Dugas, M.: Success Criteria for Electronic Medical Record Implementations in Low-resource Settings – A Systematic Review. J Am Med Inform Assoc. 2015 Mar;22(2):479–88

Moor, GD., Sundgren, M., Kalra, D., Schmidt, A., Dugas, M., Claerhout, B., Karakoyun, T., Ohmann, C., Lastic, PY., Ammour, N., Kush, R., Dupont, D., Cuggia, M., Daniel, C., Thienpont, G., Coorevits, P.: Using Electronic Health Records for Clinical Research: the Case of the EHR4CR Project. J Biomed Inform. 2015(53): 162–173

Ständer, S., Zeidler, C., Riepe, C., Steinke, S., Fritz, F., Bruland, P., Soto-Rey, I., Storck, M., Agner, T., Augustin, M., Blome, C., Dalgard, F., Evers, AW., Garcovich, S., Gonçalo, M., Lambert, J., Legat, FJ., Leslie, T., Misery, L., Raap, U., Reich, A., Şavk, E., Streit, M., Serra-Baldrich, E., Szepietowski, J., Wallengren, J., Weisshaar, E., Dugas, M.: European EADV network on assessment of severity and burden of Pruritus (PruNet): first meeting on outcome tools. J Eur Acad Dermatol Venereol. 2015 Sep 15. PMID: 26370062

Varghese, J., Dugas, M.: Most Frequent Medical Concepts in Clinical Trial Eligibility Criteria and their Coverage in MeSH and SNOMED-CT. Methods Inf Med. 2015;54(1):83–92



## CONTACT DETAILS

PROF. DR. MARTIN DUGAS  
Institute of Medical Informatics

University of Münster  
Albert-Schweitzer-Campus 1/A11,  
48149 Münster, Germany  
P +49 251 83-55262  
<http://imi.uni-muenster.de>  
[dugas@uni-muenster.de](mailto:dugas@uni-muenster.de)

## KEY FACTS

### INSTITUTION

- Founded in 1973
- Institute of the Medical Faculty

### RESEARCH TOPICS

- Health informatics (eHealth)
- Medical data models
- Electronic health records
- Mobile documentation
- Biomedical informatics
- Personalised medicine
- Next generation sequencing





## ABOUT THE INSTITUTION

Today's supply chains (SC) have to cope with growing uncertainties and complexity, e.g. from increasingly volatile customer demand, natural or human threats, or through an increasing number of actors in the value adding process. Tackling these issues is the major objective of the Chair for Information Systems (IS) and Supply Chain Management (SCM), directed by Prof. Dr.-Ing. Bernd Hellingrath. In particular, the research group develops application-oriented research contributions in the areas of SCM, logistics and operations management with regard to the support by IS. Special focus lies in understanding current logistics and manufacturing issues, resolving them by applying and newly developing modeling and planning methods, e.g. Industrie 4.0 enabled predictive maintenance solutions. In this context, research is fostered by a culture of internationalization, exemplified by the growing number of international research partners and projects conducted.

## RESEARCH TOPICS

Within the area of **Industrie 4.0**, the research group actively develops solutions aiming at improving overall product and spare part supply chain efficiency by developing planning methods, incorporating newly available algorithmic techniques and data sources. Additional efforts research how those new insights can be commercialized, e.g. in the form of new business models and smart services.

**Supply Chain Planning:** Managing the material and information flows in supply chains is a challenging task. The group conducts research in three important related areas.

1) Evaluation of collaborative planning methods of legally independent companies which are highly inter-dependent in their actions. 2) Leveraging the flexibility of a SC as a means to cope with uncertainty through balancing flexibility measures and flexibility costs. 3) Development of meta-heuristic based methods to efficiently solve complex planning problems.

**Spare Parts:** The early identification of machine breakdowns by condition monitoring enables more precise planning and management of spare parts and maintenance services. The group focuses on integrated as well as decentralized planning by means of modelling processes of the spare parts supply chain. Moreover, improved diagnostics and prognostics methods for predictive and prescriptive maintenance and spare parts management are developed.

**Smart Services:** New technologies like Big Data or cyber-physical systems not only allow optimizing internal operations but also enable new business opportunities. The group investigates how so-called technology enabled smart services can be efficiently developed and implemented in businesses, using models and methods from business model canvas and enterprise architecture management.

Moreover, the long-standing commitment of the group to the fields of **Supply Chain Security** and **Humanitarian Logistics** is emphasized by successfully developing further research contributions, currently in the process of being adapted by numerous practitioners' organizations.

**Supply Chain Security:** Threatened by theft, smuggling, and other criminal activities, SC need to be protected to ensure the global flow of goods and to maintain civil security. The group focuses on the design and analysis of security relevant processes by means of business process management and enterprise architecture management.

**Humanitarian Logistics:** Responding to disasters effectively is a cornerstone of humanitarian logistics. In order to enable humanitarian organizations to improve their logistics performance, the group conducts research on modeling, performance measurement, and simulation of humanitarian supply chains. Additionally, the group investigates the application of methods and information gathering tools for infrastructure assessments after disasters.

## RESEARCH PROJECTS

The group's research is organized in a variety of projects, closely aligned with the three research areas Industrie 4.0, Supply Chain Security and Humanitarian Logistics.

Within the European Commission-funded demonstration project **"Driving Innovation in Crisis Management for European Resilience"** the chair contributes with modeling, simulation and measurement of humanitarian logistics processes to the sub-project focusing on professional response in crisis management. [EC FP7, [www.driver-project.eu](http://www.driver-project.eu)]

Together with Prof. Stefan Klein the group is part of the Marie Curie Initial Training Network dedicated to the international Graduate School **"Networks, Information, Technology and Innovation Management" (NITIM)**. Hereby, two humanitarian logistics PhD projects are supervised. [EC FP7, [www.nitim.org](http://www.nitim.org)]

The joint Franco-German project **InPoSec** (Integrated Postal Security) aimed at strengthening security in postal SC and ended successfully with a demonstration of the results in May 2015. [BMBF; Deutsche Post, La Poste, University of Bordeaux, WWU Faculty of Law]

The research on spare parts management and prescriptive maintenance is embedded into the Brazilian-German project **I2MS2C** (Integrating Intelligent Maintenance Systems and Spare Parts Supply Chains). [DFG 2012-2016; UFRGS Porto Alegre, UFSC Florianópolis, FURG Rio Grande]

In the project **CI SC Epidemics** computational intelligence algorithms such as social simulation and meta-heuristics are applied to enhance today's capabilities for solving supply chain planning tasks and predicting the spreading of epidemic diseases. [BMBF 2013-2016; UPE Penambuco]

**MatuFlex** (Development of a Maturity Measurement Framework for Supply Chain Flexibility) targets the development of a maturity measurement framework for SCF. [DAAD PROBRAL 2013-2015; UFSCar Sao Carlos, PUC Rio de Janeiro].

## EVENTS

After receiving very good feedback, Prof. Hellingrath and Adam Widera together with colleagues from the University of Washington, department of Human Centered Design & Engineering, again co-chaired the "Practitioner Cases and Practitioner-Centered Research" track at the **ISCRAM 2015 Conference** in Kristiansand (Norway). This close cooperation has been extended by co-chairing the track "Humanitarian Challenges & Opportunities" at the **IEEE Global Humanitarian Technology Conference**, Seattle (USA).

During the **2015 European Conference on Information Systems**, Prof. Hellingrath has been the corresponding chair of the track "Supply Chain Management in Volatile and Uncertain Environments". Talks during this track dealt with methods for the successful management of various risks in public and private sector supply chains.

After the success of the workshop series **"Strengthening German-Pernambuco Relations"** in 2014, Prof. Hellingrath and Prof. Buarque (UPE Recife) jointly chaired another logistics workshop in Recife, Brazil.

Thereby, Prof. Hellingrath also gave a keynote speech on global supply chain trends and challenges.

## PUBLICATIONS

*Fischer, J.-H. et al. (2015)*. Development and application of a maturity measurement framework for supply chain flexibility. CIRP CMS, Ischia, Italy.

*Hellingrath, B., Pereira, C., Espíndola, D., Frazzon, E., Cordes, A., Saalman, P., & Zuccolotto, M. (2015)*. On the Integration of Intelligent Maintenance and Spare Parts Supply Chain Management. 15<sup>th</sup> IFAC Symposium on Information Control Problems in Manufacturing, Ottawa, Canada.

*Küppers, P., Saalman, P., & Hellingrath, B. (2015)*. An Approach for Assessing the Applicability of Collaborative Planning Concepts. HICSS, Kauai, USA.

*Link, Daniel et al. (2015)*. A Method for Extracting Task-related Information from Social Media based on Structured Domain Knowledge. AMCIS, Puerto Rico, USA.

*Terlunen, S., Horstkemper, D., Wölck, M. & Hellingrath, B. (2015)*. Simulation-based Decision Support for Vertical Supply Chain Segmentation Scenarios. ASIM, Dortmund.

*Vanauer, M., Böhle, C., Hellingrath, B. (2015)*. Guiding the Introduction of Big Data in Organizations: A Methodology with Business- and Data-Driven Ideation and EAM-Based Implementation. HICSS, Kauai, USA.

*Widera, A., Hellingrath, B., Bubbich, C. (2015)*. Humanitarian Logistics Dashboards – A Design-related Requirements Analysis. 6<sup>th</sup> IEEE Global Humanitarian Technology Conference, Seattle, USA.

## DISSERTATIONS

*Pfeiffer, D. (2014)*. Flexibility Planning in Distribution Networks – A Flexibility Planning Model for the Consumer Goods Industry.



## CONTACT DETAILS

**PROF. DR.-ING.  
BERND HELINGRATH**  
Chair for Information Systems  
and Supply Chain Management

University of Münster  
Leonardo-Campus 3  
48149 Münster, Germany  
P +49 251 83-38000  
[www.wi.uni-muenster.de/  
department/groups/logistik](http://www.wi.uni-muenster.de/department/groups/logistik)  
[hellingrath@ercis.uni-muenster.de](mailto:hellingrath@ercis.uni-muenster.de)

## KEY FACTS

### INSTITUTION

- 1 visiting professor
- 14 research assistants
- 1 post doc
- 16 student assistants

### RESEARCH TOPICS

- Supply Chain Flexibility
- Spare Parts Management
- Decentralized Supply Chain Planning
- Meta-Heuristics for Supply Chain Planning
- Supply Chain Security
- Humanitarian Logistics
- Impacts of Industrie 4.0 on SC



# UNIVERSITY OF MÜNSTER – INSTITUTE FOR INFORMATION, TELECOMMUNICATION AND MEDIA LAW (ITM) – CIVIL LAW DEPARTMENT

itm



## ABOUT THE INSTITUTION

The ITM is the leading Institute for Information, Telecommunication and Media Law in Germany. The Institute's work aims at exploring the legal framework and underlying policies of the information society with a particular focus on "information" as an economic and cultural good. The Institute emphasises the importance of interdisciplinary work since a proper understanding of technological or economic backgrounds is a prerequisite for successful regulation. Many activities are carried out in close cooperation with the Faculty of Economics of the University of Münster. In 2002, the ITM was appointed the Competence Centre in Information, Telecommunication and Media Law for North Rhine-Westphalia.

Dr. Thomas Hoeren is a professor of civil law at the University of Münster and has been the director of the ITM since 1997. Due to international projects such as TIMBUS Prof. Hoeren has become recognised as a specialist in information law throughout Europe.

## RESEARCH TOPICS

Our research focuses on Information Law, Telecommunication Law and Media Law as well as related areas such as Antitrust and Consumer Protection Law. Since Information, Telecommunication and Media Law is characterised as a cross-sectional matter, it cannot be fully covered by any of the traditional legal disciplines by itself. The ITM, therefore, strives for interdisciplinary research and teaching activities.

## CURRENT RESEARCH PROJECTS

Currently, the ITM is involved in several EU-funded and national projects

**ABIDA** (Assessing Big Data) is an interdisciplinary research cluster funded by the Federal Ministry of Education and Research (BMBF) focusing on social, legal, political, ethical and economic research with regard to Big Data. The project is managed by the ITM and the Institute for Technology Assessment and System Analysis in Karlsruhe (ITAS). Furthermore, the Humboldt University of Berlin, the Technical University Dortmund, the Ludwig-Maximilians-University Munich as well as the University of Hannover are project partners. The project aims at monitoring and assessing current developments regarding Big Data, taking into account public opinion and bringing together expert knowledge. Several research groups will work on interdisciplinary in-

depth studies, which will be assessed in expert workshops and a national symposium. Moreover, three citizens' conferences and a representative opinion survey are scheduled in order to ensure an extensive involvement of the public. On this basis all relevant issues will be analysed and evaluated to provide options for political decisions, further research and economic approaches as well as to point out possible alternatives. Initiated in March 2015, the project is scheduled for a period of 48 months.

**Research Center for Industrial Property Rights:** The ITM also hosts the Research Center for Industrial Property Rights, which offers training and conducts research activities in the field of industrial property rights.

**ITS.APT** (IT-Security Awareness Penetration Testing) is an interdisciplinary project promoted by the German Federal Ministry for Education and Research (BMBF). Since January 2015 the responsible parties have tried to develop a measuring dial for the IT-security awareness of IT-users. Because of the increasing number of appearing cyber attacks, operators of critical infrastructure struggle to ensure IT-security. Up to now they did not take into account how IT-users create risks by themselves. With the usage of a special software the project wants to answer the question to what extent IT-users influence the IT-security of a company or an institution. Regarding the research work, the ITM focuses on aspects of liability law concerning the usage of such a scale software. In addition, the ITM gives expert advice to law related questions concerning the project.

**Matters of Law in the German Research Network (DFN):** The German Research Network (Deutsches Forschungsnetz/DFN) supports communication and the exchange of information or data between representatives of science, research, education and culture in national and international networks. Increasingly our DFN-members are being faced with issues regarding legal questions on liability, telecommunications and data protection. Therefore the ITM acts as a legal consultant in terms of communication and data protection services.

## DISSERTATIONS

*Ina Bruns (2015):* Lösungs- und Berichtigungsansprüche bei Online-Pressearchiven

*Matthias Försterling (2015):* Zivilprozessuale und zivilrechtliche Probleme der DE-Mail-Nutzung

*Johannes Franck (2015):* Verarbeitung von Energiedaten im Smart Grid aus datenschutzrechtlicher Perspektive

*Marten Hinrichsen (2015):* Die kartellrechtliche Beurteilung von Mediathekezusammenschlüssen

*Philipp Roos (2015):* Die AGB-Verbandsklage im Urhebervertragsrecht

*Isabel Skara (2015):* Der patentrechtliche Übertragungsanspruch nach § 8 PatG

*Lydia Tilch, geb. Bornhütter (2015):* Verwaiste Werke – die Schrankenregelung der §§ 61 ff. UrhG

*Silviya Yankova (2015):* Das Folgerecht und die Realisierung der folgerechtlichen Vergütungsansprüche



## CONTACT DETAILS

**PROF. DR. THOMAS HOEREN**  
Institute for Information,  
Telecommunication and Media Law  
(ITM), Civil Law Department

University of Münster  
Leonardo-Campus 9  
48149 Münster  
P + 49 251 83-38600  
[www.uni-muenster.de/jura.itm/hoeren](http://www.uni-muenster.de/jura.itm/hoeren)  
[hoeren@uni-muenster.de](mailto:hoeren@uni-muenster.de)

## KEY FACTS

### INSTITUTION

- Founded in 1997
- 26 researchers
- 3 additional education programmes

### RESEARCH TOPICS

- Information law
- Telecommunication law
- Media law
- Informatics in the legal profession





## ABOUT THE INSTITUTION

Our research explores the impact of information and communication infrastructures in an organizational context. We are interested in the development of the digital organization: how do organizations and leaders respond to the challenges and opportunities of an informed society and economy. In particular we study new modes of organizing, coordination and collaboration from the micro level of work practices, to the meso level of group practices and the macro level of infrastructure development.

We aim to understand the dynamics of transformation in a historical, societal, regulatory, and economic context. Our work is theoretically and empirically grounded, we employ multiple methods and research approaches with an emphasis on qualitative, interpretative approaches.

It is our research philosophy that the implications of innovative ICT become visible and understandable in the context of (communities of) practices. In order to study practices in situ, we advocate approaches which facilitate research and experimentation in complex real world settings addressing business or societal innovation. Typically multiple stakeholders and researchers from different disciplinary backgrounds are involved.

## RESEARCH TOPICS

We pursue this agenda through three inter-related fields of research:

**1. The Communication and Collaboration Management** group is broadly concerned with understanding the role of technologies, knowledge and collaborative processes, both within and between organizations and broader social networks. The principal aim of the Group is to promote

the critical study of communication, coordination and collaboration practices that are seen as central to the relationship between technology and organizational and societal changes. A prominent focus in our research is the examination of the material and affective aspects of organisational and social life, and the practices through which they are being mediated and performed. Some of our research themes include:

- Virtual and distributed forms of working and organizing
- Collaborative practices and trust production in complex network arrangements
- Role of affectivity and embodiment in process of learning and collaboration
- Critical approaches to project management, and its performativity and politics
- Ethics, technology and technocratic practices in post-disaster recovery

**2. The research group on Strategic Information Management** comprises a team of researchers particularly interested in how managers in information age organizations come to well informed decisions on the use of information and communication technology. The research group's current research is on

- IS/IT strategies and their implementation via IS/IT programmes,
- the organizational benefits of IT investments, i. e. the organizational value of IT,
- the IT organization, outsourcing, and the governance of sourcing relationships,

- the paradigm of "IT service management", esp. its viability for managing IT operations.

The research group aims at providing guidance to senior executives by offering recommendations that are both theoretically well founded and carefully validated in industry practice.

**3. The Interorganizational Systems** group studies the evolution of information infrastructures, such as electronic markets or electronic platforms for the exchange of logistics or health care information, over long periods of time. We take a particular interest in the development and transformation of interorganizational information infrastructures and related theoretical as well as methodological questions. Specifically we study

- how to facilitate collective action in heterogeneous actor constellations or coalitions, as the development of infrastructures involves commitment and coordination of diverse actors,
- how standards, which may affect strategic interests, can be developed and widely diffused,
- how industry structures, specifically structures of intermediation, are transformed alongside the proliferation of ICT.

We study these issues in the context of international accreditation agencies and crisis management, the health care sector, the tourism and the publishing industry.

## CURRENT RESEARCH PROJECTS

### Automatic Drug Dispensing

In 2005 the German parliament approved an amendment of the medication law

(AMG), which clarified the conditions for producing patient-specific medication packages, including the industrial production of such packages, called Automatic Drug Dispensing (ADD). Patient-specific medication packages aim at improving medication compliance, in particular for patients, who take at least four distinct medications. Subsequently there have been two initiatives to build a national ADD infrastructure. Such infrastructures combine production, labelling and distribution of patient specific blisterpacks with an information flow of prescriptions, which are consolidated to a patient medication plan, several controls and reimbursement claims. The information flow links patients, doctors (GPs and specialists), pharmacies, the ADD operator(s), wholesalers or logistics operators and insurance companies. The information infrastructure is a prerequisite for quality controls at the prescription end, i.e. overall dosage and critical interactions based on the consolidated medication plan, as well as quality controls (proper assembly of blister packs). While both ADD initiatives have set up pilot operations, which served hundreds of patients, both were eventually terminated.

Our research aims at reconstructing the set-up and design of the infrastructure initiatives against the backdrop of the status of the development of patient health cards and e-prescription on the one side and a broad consensus on the health risks and economic cost of low levels of medication adherence or compliance. It explores the reasons, why these initiatives have failed.

### Scientific Research and Web 2.0: Technology, Innovation and Actor Constellations

The scientific publishing industry has witnessed a plethora of innovations across the life cycle of writing, publishing and archiving. Open Access is only the visible tip of the iceberg of new players and indeed new services and modes of publishing that have become available over the past years (which span from new review processes, online citation indexes and social media

tools). One might have the impression that disruptive innovations are under way and many of the well-established themes of digital transformation - business model and service innovation, disintermediation, cybermediation, ProSuming, new pricing models – have a profound impact in distinct ways in this industry. Nonetheless, the segment of commercial academic publishing (the incumbents) appears to be still stable with clear concentration pattern around a few big players. By categorizing the innovations underway, the project reflects on and tries to explain the lasting influence of traditional publishers in the market.

This project is led by Dr. Diego Ponte, University of Trento, Italy.

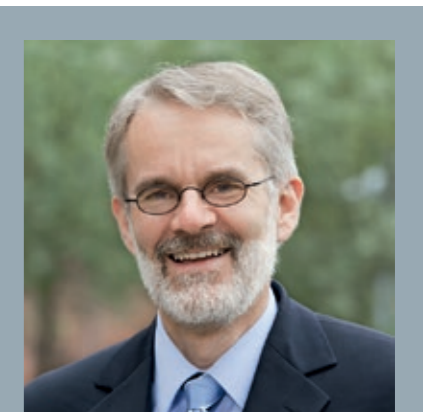
## PUBLICATIONS

*Holland, C. P., Jacobs, J. A., & Klein, S. (2015). An Analysis of Consumer Search Patterns in the German Airline Market using Panel Data. In I. Tussyadiah & A. Inversini (Eds.), Information and Communication Technologies in Tourism 2015 (pp. 87–100). Heidelberg: Springer International Publishing.*

*Kramer, M. (2015). Aneignung von Kommunikations- und Kollaborationsplattformen als Entwicklungsprozess betrieblicher Kommunikationsinfrastrukturen, Dissertation, Münster, urn:nbn:de:hbz:6-57299623313.*

*Remfert, C., & Teubner, R. (2015). Bringing IT services to life — Insights into the challenges of IT service identification. In: Proceedings of the CENTERIS- Conference on ENTERprise Information Systems (pp. 190–198). Vilamoura/Algarve, Portugal, ISBN: 978-989-97433-6-6.*

*Schellhammer, Stefan; Klein, Stefan (in press): Benefits and perils of virtual modes of organizing – a call for practical wisdom, In: N. Dalal; A. Intezari and M. Heitz (eds.) Practical Wisdom in the Age of Technology: Insights, Issues and Questions for a new Millennium, Surrey: Gower Publishing.*



## CONTACT DETAILS

**PROF. DR. STEFAN KLEIN**  
Chair for IS and Interorganizational Systems, Department of Information Systems, Münster

University of Münster  
Leonardo-Campus 11  
48149 Münster  
P +49 251 83-38110  
[www.wi.uni-muenster.de/wi](http://www.wi.uni-muenster.de/wi)  
[klein@ercis.uni-muenster.de](mailto:klein@ercis.uni-muenster.de)

## KEY FACTS

### RESEARCH TOPICS

- Information and communications infrastructures
- Strategic alignment
- IT value
- Organization theory of IS
- Transformation of work
- Appropriation of communication infrastructures
- Communities of practice
- Collective action and standardization
- Living Lab research approach





## ABOUT THE INSTITUTION

Since 1997, the Chair of Practical Computer Science has been led by Prof. Dr. Herbert Kuchen. He is responsible for teaching in the area of software engineering, programming languages, and programming. Maintaining close partnerships and collaborations with several local companies, his group is offering students the chance to write bachelor's and master's theses with high practical relevance.

## RESEARCH TOPICS

The research of the group focuses on selected aspects of Software Engineering. Our fields of research are Business Apps, Model Driven Software Development, Domain-Specific Languages (DSL), Testing, Parallel Programming, and E-Assessment.

## CURRENT RESEARCH PROJECTS

During a cooperation with a geoinformatics company, the our framework for the model-driven development of business apps was further refined: its DSL now allows for improved definitions of apps. In addition, a reference architecture for resulting apps was developed and evaluated.

For our E-Assessment system EASy, we have developed a further module that supports assessing fundamental concepts of data structure operations (i.e. search, insert, and delete operations) taught in Computer Science lectures. Currently, we are developing an e-assessment module to support assessment of UML class diagrams.

We have extended our parallel programming library Muesli with a new skeleton for stencil computations. Stencil computations are most commonly found in e.g. computer simulations, solving partial differential equations, and image processing. Additionally, we have implemented a prototype implementation of Muesli in Java.

In our testing project, we have recently developed a tool for statically detecting assertion violations in Java. It is based on a program transformation, which transforms assertion assertions into “ordinary statements” and propagates violations as part of the result. The transformation helps existing test-case generators to reach an increased detection rate. This has been done in a DAAD project in cooperation with our partners of the Universidad Complutense de Madrid.

## PUBLICATIONS

*Hanschke, S., Ernsting, J., and Kuchen, H.:* Integrating Agile Software Development and Enterprise Architecture Management. In: Proceedings of the 48<sup>th</sup> Annual Hawaii International Conference on System Sciences (HICSS), Computer Society Press, 2015.

*Majchrzak, T., Ernsting, J., and Kuchen, H.:* Model-Driven Cross-Platform Apps: Towards Business Practicability. In: Proceedings of the CAiSE 2015 Forum at the 27<sup>th</sup> International Conference on Advanced Information Systems Engineering (CAiSE), CEUR Workshop Proceedings, 2015.

*Majchrzak, T. A., Ernsting, J., and Kuchen, H.:* Achieving Business Practicability of Model-Driven Cross-Platform Apps. Open Journal of Information Systems (OJIS), 2015.

*Majchrzak, T., and Ernsting, J.:* Reengineering an Approach to Model-Driven Development of Business Apps. In: Proceedings of the 8<sup>th</sup> SIGSAND/PLAIS EuroSymposium, 2015.

*Ernsting, S., Kuchen, H.:* Java Implementation of Data Parallel Skeletons on GPUs. In: Proceedings of the PARCO 2015, Edinburgh.

*Ernsting, S., Kuchen, H.:* Data Parallel Algorithmic Skeletons with Accelerator Support. In: International Journal of Parallel Programming 2015, accepted for publication.

*Caballero, R., Montenegro, M., Kuchen, H., von Hof, V.:* Checking Java Assertions Using Automated Test-Case Generation, Proceedings LOPSTR 2015, Siena, Italy.

*Caballero, R., Montenegro, M., Kuchen, H., von Hof, V.:* Automatic Falsification of Java Assertions, Proceedings VALID 2015, Barcelona, Spain.

*Usener, C. A.:* EASy-DSBuilder: Automated Assessment of Tree Data Structures in Computer Science Teaching. In Proceedings of the 30<sup>th</sup> ACM Symposium On Applied Computing (SAC 2015), Salamanca, Spain, 220–226, 2015.

## DISSERTATIONS AND HABILITATIONS

*Usener, C. A.:* Formatives E-Assessment in der Hochschullehre – Elektronisches Prüfen komplexer Aufgabentypen in der Informatiklehre. Dissertation, Münster, 2015.

*Majchrzak, T. A.:* Software Engineering for Mobile Devices, Habilitations, Münster, 2015.

## EVENTS

Prof. Kuchen served on the programme committees of the following conferences:

International Workshop on Semantic and Web (SaW 2015), Porto, Portugal.

IEEE International Conference of Software Quality, Reliability & Security (QRS 2015), Vancouver, Canada.

8<sup>th</sup> International Symposium on High-Level Parallel Programming (HLPP 2015), Pisa, Italy.

1<sup>st</sup> International Conference on Advances and Trends in Software Engineering (SOFTENG 2015), Barcelona, Spain.

18. Kolloquium Programmiersprachen und Grundlagen der Programmierung (KPS 2015), Pörschach, Austria.

30<sup>th</sup> ACM/SIGAPP Symposium on Applied Computing (SAC 2015), SE track, Salamanca, Spain.

5<sup>th</sup> International Conference on Advanced Communications and Computation (INFOCOMP 2015), Brussels, Belgium.

International Conference on Parallel Computing (ParCo 2015), Edinburgh, Scotland.

7<sup>th</sup> International Conference on Advanced Geographic Information Systems, Applications, and Services (GEOProcessing 2015), Lisbon, 2015.

Moreover, he was:

Member of the Scientific Advisory Board of IMDEA-Software (Research Institute on Technologies for Software Development), Spain.

Managing Director of the Institute for Applied Informatics at the University of Münster.

Editor of the Open Journal of Web Technologies

Track-Co-Chair of the track on Information System Development at the 23<sup>rd</sup> European Conference on Information Systems (ECIS 2015), Münster, Germany.

## OUTLOOK

In summer 2016, the 9<sup>th</sup> International Symposium on High-Level Parallel Programming (HLPP) will be organised in Münster.



## CONTACT DETAILS

PROF. DR. HERBERT KUCHEN  
Chair of Practical Computer Science

University of Münster  
Leonardo-Campus 3  
48149 Münster, Germany  
P +49 251 83-38250  
[www.wi.uni-muenster.de/pi](http://www.wi.uni-muenster.de/pi)  
[sek-pi@wi.uni-muenster.de](mailto:sek-pi@wi.uni-muenster.de)

## KEY FACTS

### INSTITUTION

- Founded in 1997
- Researchers: 9

### RESEARCH TOPICS

- Business Apps
- Model Driven Software Development
- Parallel Programming
- Software Testing
- Integration of Programming Paradigms
- E-Learning



# UNIVERSITY OF MÜNSTER / DUISBURG-ESSEN – PROFESSIONAL COMMUNICATION IN ELECTRONIC MEDIA / SOCIAL MEDIA

› University of Münster [www.wi.uni-muenster.de/kuk](http://www.wi.uni-muenster.de/kuk) University of Duisburg-Essen [www.uni-due.de/proco](http://www.uni-due.de/proco)

## ABOUT THE INSTITUTION

Our research group has experienced an exciting and very busy year 2015. In February, Stefan Stieglitz accepted a job offering as a professor for "Professional Communication in Electronic Media/Social Media" at the University of Duisburg-Essen. Besides him, Christian Meske and Milad Mirbabaie left beautiful Münster to continue research on communication and collaboration in the department of computer studies and applied cognitive science in Duisburg (not too far away from Münster).

However, our research focus has not changed too much. We still explore how technologies and concepts such as Social Media and mobile applications change the usage of the Internet towards communication and collaboration. Our group focuses on the evolving and continuously changing structures and their impacts on organizations and individuals from the perspective of Information Systems.

In 2015, the research group successfully published research articles in journals like Business and Information Systems Engineering (BISE) and Mobile Information Systems. Besides this, we presented research activities at well-recognized conferences such as the International Conference on Information Systems (ICIS) in Auckland, the Hawaii International Conference on System Sciences (HICSS), and the Americas Conference on Information Systems (AMCIS) in Puerto Rico.

Last but not least, we are proud that two members of the research group successfully finished their PhD studies. Congratulations go to Dr. Tobias Brockmann and Dr. Christian Meske!

## RESEARCH TOPICS

### Social Media Analytics

Social media have led to wide-ranging changes in public communication as well as between enterprises and customers. Whereas companies were equipped with



the "speaker role" in public communication, they now obtain the possibility of publishing opinions and discussing them. As a result, new requirements for companies and political actors arise in respect to the comprehension of this communication and the participation in it. A main aspect of Social Media Analytics is to adopt interdisciplinary methods from other research fields in order to analyze larger data-sets.

### Communication- and Knowledge-Management

Based on the research fields "Computer Supported Cooperative Work" and "Social Computing" the research focus is on introduction and management strategies of social media in organizations. In this context, it will be mainly empirically analyzed, how social media affect employee communication and cooperation, as well as which possibilities exist to influence user behavior in such open systems.

### Social Media Marketing

Based on classic Marketing theories and methods we analyze Social Media content regarding the following questions: Which role has Social Media for the public perception of organizations? How can customers be involved in innovation processes through Electronic Media.

## CURRENT RESEARCH PROJECTS

### Graduate School "User-Centred Social Media"

The DFG-funded graduate school "User-Centred Social Media" started on 1<sup>st</sup> October 2015, in which ten chairs of Computer

Science, Information Systems and Psychology participate. Twelve PhD students conduct research in the fields of "Modelling and Understanding User Behaviour", "Social Media Engineering" and "Social Media Analytics". Our research group is deeply involved in the training group: Prof. Stieglitz is one of the principal investigators and Dr. Christian Meske participates as the scientific coordinator and as an associated member of the graduate school.

### Issue Dynamics of Public Online Communication

In this project we closely cooperate with the Ludwigs-Maximilians-University Munich (Prof. Dr. Neuberger). We apply methods such as network analysis and text mining on Twitter data that we collected. The data sets include structured as well as unstructured data from communication in Twitter. We concentrate on-going domains that have a high impact on society such as the German plans for energy transition. The overall goal of the project is to detect mechanisms of rising topics in Twitter, which have economic or political relevance. The project was selected by the DFG to be presented at "Terra Digitalis" (<http://www.terra-digitalis.dfg.de/32-werzweitschert-lauter.html>) and will be funded until 2017.

### Discourse Analysis in Social Media

In this interdisciplinary research project started in May 2012 and funded by the Federal Ministry of Education and Research (BMBF), four German universities cooperate to investigate and develop new methods

of social media analytics and eHumanities. One major goal is to combine the time-consuming manual content analysis with methods of automatic text analysis (e.g. sentiment analysis, opinion mining, text classification). Therefore, we track content of Facebook, Twitter, and blogs and analyze it on a large scale. Stefan Stieglitz as a researcher of information systems coordinates the overall project. Additionally, scholars are involved from disciplines of communication studies (Profs. Neuberger and Quandt) as well as from computer linguistics (Prof. Stede). ([www.social-media-analytics.org/](http://www.social-media-analytics.org/)). The project successfully ended in May 2015.

## SCIEBO

SCIEBO (science box) is an on-premise cloud service for up to 500,000 users in North Rhine-Westphalia, hosted by the Universities of Münster, Bonn, and Duisburg-Essen. In cooperation with Dr. Raimund Vogl and Dr. Dominik Rudolph from the Centre for Applied Information Technology of Muenster University (ZIV), we conduct research on the design and adoption of cloud services in higher education. In June 2015 the project "sciebo – the Campuscloud for NRW" was honored with the Elite Award for Excellence by the EUNIS (European University Information Systems). In June 2015 a scientific advisory board was established. ERCIS members Jörg Becker, Gottfried Vossen, and Stefan Stieglitz (spokesperson) are members of the board.

## DAAD

The project Crisis Response Information Classification Framework runs in cooperation with the University of Sydney (Prof. Dr. Deborah Bunker & Prof. Dr. Kai Riemer) and is funded by the German Academic Exchange Service. How is Social Media used during crisis situations, especially by Emergency Service Agencies, is one of the main questions that is addressed in this project.

## AWARDS

11/2015–03/2016 – The University of Sydney Business School awarded Prof. Stieglitz with the title of a visiting professor

10/2015–09/2017 – Dr. Christian Meske became a member of the Global Young Faculty (<http://www.global-young-faculty.de/>)

01/2015 – One of our papers was nominated for a best paper award at the 48<sup>th</sup> Hawaii International Conference on Systems Sciences

## PUBLICATIONS

Riemer, K.; Stieglitz, S.; Meske, C.: From top to bottom: investigating the changing role of hierarchy in enterprise social networks. In: Business & information systems engineering Jg. 57 (2015); Nr. 3, S. 197–212

Stieglitz, S.; Lattemann, C.; Brockmann, T.: Mobile applications for knowledge workers and field workers. In: Mobile Information Systems Jg. (2015) ; , S. 1–8, art. no. 372315

Stieglitz, S.; Bruns, A.; Krüger, N.: Enterprise-related crisis communication on Twitter. In: Smart enterprise engineering : 12. Internationale Tagung Wirtschaftsinformatik (WI 2015): Tagungsband: 4. bis 6. März 2015 / Thomas, Oliver (Hrsg.) Osnabrück Univ. (2015) 917–932

Chinnov, A.; Meske, C.; Kerschke, P.; Stieglitz, S.; Trautmann, H.: An Overview of Topic Discovery in Twitter Communication through Social Media Analytics. In: Proceedings of the 20<sup>th</sup> Americas Conference on Information Systems (AMCIS) (2015)

Larosiliere, G.; Meske, C.; Carter, L. 2015: Determinants of Social Network Adoption: A Country-Level Analysis. Proceedings of the 48<sup>th</sup> Hawaii International Conference on Systems Sciences (HICSS), pp. 3424–3433.

Stieglitz, S. (2015). Gamification – Vorgehen und Anwendung. HMD Praxis der Wirtschaftsinformatik. Online First (DOI 10.1365/s40702-015-0185-6), 1–10.

Meske, C.; Brockmann, T.; Wilms, K.; Stieglitz, S. (2015). Gamify Employee Collaboration – A Critical Review of Gamification Elements in Social Software. Australasian Conference on Information Systems (ACIS).



## CONTACT DETAILS

**PROF. DR. STEFAN STIEGLITZ**  
Professional Communication  
in Electronic Media/Social Media  
(PROCO)

University of Duisburg-Essen  
Forsthausweg 2,  
47057 Duisburg, Germany  
P +49 203 379 1341  
[www.uni-due.de/proco](http://www.uni-due.de/proco)  
[stefan.stieglitz@uni-due.de](mailto:stefan.stieglitz@uni-due.de)

<https://www.facebook.com/Professionelle.Kommunikation>  
[www.youtube.com/ProfStieglitz](http://www.youtube.com/ProfStieglitz)  
<https://twitter.com/RGStieglitz>

## KEY FACTS

### INSTITUTION

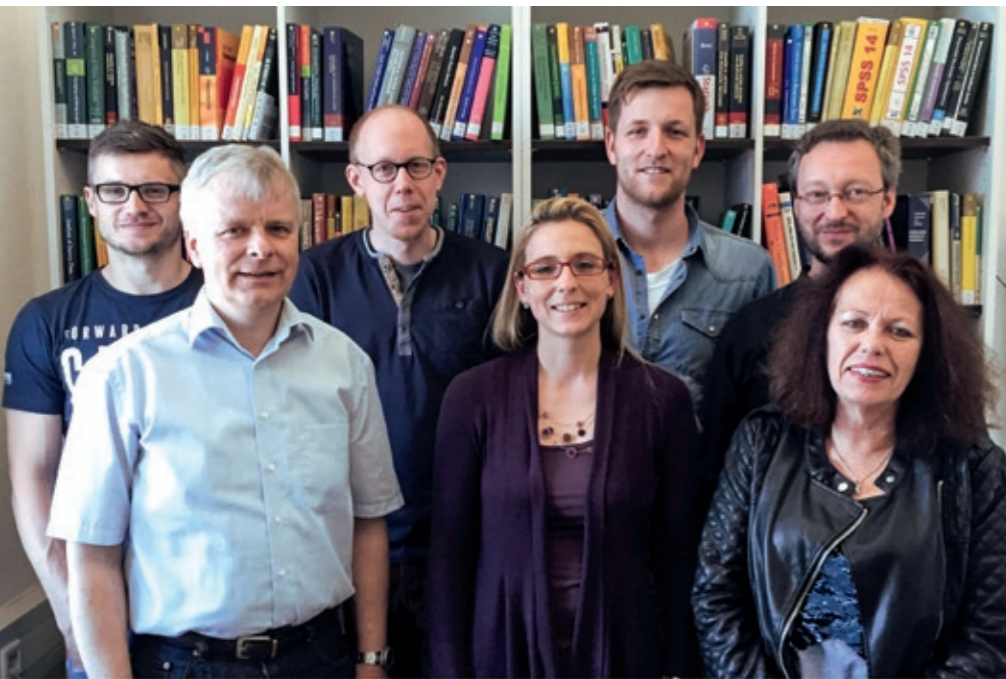
- Professional Communication in Electronic Media/Social Media
- Joint projects with international researchers and industry partners.

### RESEARCH TOPICS

- Enterprise social networking
- Social media analytics
- Collaboration in virtual worlds
- Gamification
- Hedonic information systems
- Social media marketing
- Communication- and knowledge-management







## ABOUT THE INSTITUTION

Heike Trautmann is head of the Information Systems and Statistics group and a director of ERCIS. Currently, three post-doctoral researchers and two post-graduate researchers are part of the group. The team contributes to the research areas of data mining and Big Data, multiobjective optimization, evolutionary computation, algorithm evaluation and selection, computer games as well as statistical quality management in several international collaborations. Additionally, the group offers many courses in Bachelor and Master Degree programs. Industrial collaborations support the transfer from theory to applications in industry.

## RESEARCH TOPICS

Some of the most challenging real-world problems involve the systematic and simultaneous optimization of multiple conflicting objective functions. *Multiobjective Optimization* deals with the simultaneous optimization of contradicting objectives. As most of the multiobjective problems cannot be solved exactly, we apply optimization techniques from Evolutionary Computation. Heike Trautmann organized the Evolutionary Multiobjective Optimization Track at this year's GECCO Conference together with a researcher from the University of Minho, Portugal. Moreover, the group

develops and evaluates new algorithm architectures and hybridization principles with a user-centric perspective.

In the context of *Algorithm Benchmarking*, the group evaluates the performance of different evolutionary and nature inspired techniques and contributes to algorithm development and enhancement. Directly related, *Algorithm Selection* means the selection process of suitable algorithmic approaches. Methodologically, identified problem properties are matched to known algorithms' solving characteristics in order to find the best performing approaches for a given problem. Due to cooperation with international researchers of the COSEAL research group, the team is strongly involved in this area. Specifically, transportation problems, i.e. the famous TSP and orienteering problems are matters of current research.

Computational Intelligence methods are also well suited to *Computer Game AI* problems because they can deal well with partial information, uncertainties, and real-time conditions. We are currently mainly dealing with two hot topics in Game AI, namely game balancing and procedural content generation. Special courses and project seminars are currently offered to

the students. Additionally, we also take "non-leisure" games into account and employ current Game AI techniques for Gamification and Serious Games.

## CURRENT RESEARCH PROJECTS

The DAAD funded the two-year project "Hybridization of indicator-based metaheuristics with modern local search methods in multiobjective optimization" of the group in collaboration with TU Dortmund University and CINVESTAV-IPN, Mexico, which started in January 2014. This project realizes international expertise exchange between German and Mexican researchers in the context of hybrid evolutionary multiobjective optimization. A special focus lies on integrating local search into state-of-the-art meta-heuristics. The Mexican team visited WWU Münster early in 2015 to work on the ongoing projects and the research stay of the German team in October successfully fostered the collaboration.

The COSEAL (configuration and selection of algorithms) research group (<http://www.coseal.net>) is an international consortium of researchers from Canada, USA, Netherlands, Denmark and Germany which addresses current challenges from Algorithm Selection, Algorithm Configuration and Machine Learning. Members of COSEAL, including the group from Münster, created an online platform for benchmarking algorithm selection problems (<http://www.coseal.net/aslib/>). In September, the 3<sup>rd</sup> COSEAL workshop was held at the University of Paderborn. There, the group presented results of its joint collaboration with University of British Columbia in Vancouver.

An application within the DAAD funded Joint Research Cooperation Scheme with the Computer Science Department at the University of Adelaide, Australia, was submitted dealing with "Automated Algorithm Selection for Vehicle Routing Problems".

## EVENTS

Algorithm selection results on the TSP were presented at the Learning and Intelligent Computation conference in Lille, France.

At the ECIS 2015 conference in Münster, group members served as track chairs and associate editors in the decision support and big data tracks.

The Genetics and Evolutionary Computation (GECCO) conference in Madrid, Spain was strongly influenced by the group. Current research was presented and the track on "Evolutionary Multiobjective Optimization" as well as the competitions were organized.

The group took part in the 6<sup>th</sup> Annual ERCIS Workshop at University of Minho, Portugal.

Recent works of the Information Systems and Statistics group in game AI were presented at the IEEE conference on Computational Intelligence and Games in Taiwan. Mike Preuss also organized the tutorials at this conference.

The group took part in the 3<sup>rd</sup> Configuration and Selection of Algorithms (COSEAL) Workshop at the University of Paderborn.

Research results in the area of Evolutionary Computation were presented at the NEO workshop in Tijuana, Mexico.

The ERCIS Disrupts workshop (<http://www.ercis-disrupts-muenster.de>) dealing with disruptive business innovations in the context of increasing digitalization in society was organized in Münster.

The group's proposal to organize the next Evolutionary Computation Conference (EMO) in 2017 in Münster together with Prof. Dr. Rudolph from TU Dortmund was accepted. The conference will take place on 19–22 March at Münster Palace.

## PUBLICATIONS

*Mersmann, O., Preuss, M., Trautmann, H., Bischl, B., & Weihs, C. (2015). Analyzing the BBOB Results by Means of Benchmarking Concepts. Evolutionary Computation Journal.*

*Grimme, C., Meisel, S., Trautmann, H., Rudolph, G., & Wölck, M. (2015). Multi-Objective Analysis of Approaches to Dynamic Routing Of a Vehicle. In Proceedings of the European Conference On Information Systems, Münster, Germany.*

*Kerschke, P., Preuss, M., Wessing, S., & Trautmann, H. (2015). Detecting Funnel Structures by Means of Exploratory Landscape Analysis. In Proceedings of the Genetic and Evolutionary Computation Conference, Madrid, Spain.*

*Meisel, S., Grimme, C., Bossek, J., Wölck, M., Rudolph, G., & Trautmann, H. (2015). Evaluation of a Multi-Objective EA on Benchmark Instances for Dynamic Routing of a Vehicle. In Proceedings of the Genetic and Evolutionary Computation Conference, Madrid, Spain.*

*Bossek, J., Bischl, B., Wagner, T., & Rudolph, G. (2015). Learning Feature-Parameter Mappings for Parameter Tuning via the Profile Expected Improvement. In Proceedings of the Genetic and Evolutionary Computation Conference, Madrid, Spain.*

*Sosa, H. V., Schütze, O., Trautmann, H., & Rudolph, G. (2015). On the Behavior of Stochastic Local Search within Parameter Dependent MOPs. In Proceedings of the 8<sup>th</sup> International Conference on Evolutionary Multi-Criterion Optimization, Guimaraes, Portugal.*

*Kotthoff, L., Kerschke, P., Hoos, H., & Trautmann, H. (2015). Improving the State of the Art in Inexact TSP Solving using Per-Instance Algorithm Selection. 9<sup>th</sup> Learning and Intelligent Optimization Conference, Lille, France.*

*Stammer, D., Günter, T., Preuss, M. (2015). Player-Adaptive Spelunky Level Generation. Computational Intelligence and Games Conference, Tainan, Taiwan.*

## DISSERTATIONS/HABILITATIONS

The habilitation of Dr. Christian Grimme was initiated and the supervising committee was formed.



## CONTACT DETAILS

**PROF. DR. HEIKE TRAUTMANN**  
Information Systems and Statistics

University of Münster  
Leonardo-Campus 3  
48149 Münster, Germany  
P +49 251 83-38200  
[www.wi.uni-muenster.de/department/groups/statistik](http://www.wi.uni-muenster.de/department/groups/statistik)  
[trautmann@wi.uni-muenster.de](mailto:trautmann@wi.uni-muenster.de)

## KEY FACTS

### INSTITUTION

- Launched in April 2013
- 6 Researchers

### RESEARCH TOPICS

- Multiobjective Optimization
- Evolutionary Computation
- Algorithm Benchmarking
- Algorithm Selection
- Computer Games: Gamification and Serious Games
- Hybridization of Algorithms
- Statistical Quality Management
- Data Mining
- Big Data

### OUTLOOK

Prof. Trautmann and Prof. Rudolph (TU Dortmund) will organize the Evolutionary Multiobjective Optimization Conference 2017 at Münster University.





## ABOUT THE INSTITUTION

Databases and database systems have always been at the heart of information systems. While their visibility has been decreasing in recent years, their importance as a core infrastructure underlying modern IT systems, including those on the Web and in the cloud, has always been growing. This is due to the fact that database systems offer functionality, such as high-level querying or transactional contracts, that is central to many applications, and that they have adapted to the growing requirements regarding availability, scalability, and data modelling. The DBIS Group in the Department of Information Systems at the University of Münster is a member of the European Research Centre for Information Systems (ERCIS) and as such studies challenges regarding the adoption, application, exploitation, and usage of databases, data warehouses, and other data management systems in business-oriented domains.

Dr. Gottfried Vossen, Professor of Computer Science and head of the group, is a Fellow of the German Computer Science Society (GI), Honorary Professor at the University of Waikato Management School in Hamilton, New Zealand, and the European Editor-in-Chief of Information Systems, an International Journal. He is chairman of the steering committee of the German information technology certification agency Cert-IT and serves on several editorial boards and programme committees.

## RESEARCH TOPICS

Research topics currently studied by the DBIS Group include challenges involving data and processes, data warehousing, (social) business process management, Big Data processing and handling, data marketplaces, data pricing, information provisioning and specific modern applications involving social media. Our approach is based on the conviction that (business) processes and process models are elementary tools for perceiving and analysing data-driven applications. In order to execute a process, however, appropriate means for managing the data that arises are needed. This data typically comes in high quantities, high frequency, and high variety, and hence requires suitable tools for its processing. This is where we derive our research topics from.

## CURRENT RESEARCH PROJECTS

### Big Data Lab

The DBIS Group's Big Data Lab is an environment for familiarising small and medium enterprises (SMEs) in particular with concepts related to Big Data. While large organisations lead the use and adoption of Big Data technologies, SMEs are still hesitant to follow. Built with modern software on top of commodity hardware, the Lab is designed as a playing field that can be used as an entry point to conveniently try out Big Data technologies. The Lab architecture facilitates an exploitation of traditional technologies through data ware-

housing with Pentaho BI Servers for OLAP and novel Big Data technologies through Spark and Hadoop 2.0, which includes the distributed storage engine HDFS and MapReduce. The Lab features sample uses cases as demonstrators that are tailored for the resource situation in SMEs, where existing analytics are not abolished but enhanced with Big Data technology.

### Gamification of Business Process Modelling

Business Process Modelling is an activity during which a modeller creates a graphic representation of the business processes of an organisation. As part of its research portfolio, the DBIS Group is working together with Horus software GmbH from Ettlingen to analyse the potentials of Gamification within this context. The relatively novel term Gamification describes the use of game elements within non-game contexts to enable the design of better products and services and to increase customer engagement. The goal of this research endeavour is the conceptualisation, implementation, and evaluation of a Gamification module for the Horus Business Modeler, a process modelling software developed and marketed by Horus software GmbH. Expected benefits are an increased motivation of process stakeholders to participate in modelling, a higher quality of process models through timely and suitable feedback, and process modelling "learning-by-doing."

### Data Marketplaces and Data Pricing

Information and data (as the basic unit in which information is exchanged) have gained substantial importance in today's economy and society. As a result, data is increasingly being traded on data-marketplaces, which, from a technical point of view, are platforms leveraging big data technologies that allow for gathering, cleansing, transforming, analysing, and storing very large amounts of data. From an economic point of view, they bring together providers and consumers of data and data-related services, such as data mining algorithms, to interact with each other

and exchange their goods and services for money. DBIS Group's research interest is at the intersection of the two fields. Our research investigates how the technologies available can be used to the economic benefit of both parties to result in a fair exchange of data and data-related services. To this end, we study how different product versions can be created based on the quality of the data to be traded.

## PUBLICATIONS

*St. Dillon, F. Stahl, G. Vossen:* BYOD and Governance of the Personal Cloud; International Journal of Cloud Applications and Computing (IJCAC) 5 (2), 2015, 23–35

*St. Dillon, F. Stahl, G. Vossen:* Towards Future IT Service Personalization: Issues in BYOD and the Personal Cloud; in S. Aljawareh (ed.): Advanced Research on Cloud Computing Design and Applications; IGI Global Information Science Reference, 2015, 102–119

*St. Dillon, G. Vossen:* SaaS Cloud Computing in Small and Medium Enterprises: A Comparison between Germany and New Zealand; International Journal of Information Technology, Communications and Convergence 3 (2), 2015, 87–104

*D. Fekete, G. Vossen:* The GOBIA Method: Towards Goal-Oriented Business Intelligence Architectures; Proc. of the LWA 2015 Workshops: KDML, FGWM, IR, and FGDB, 2015, 409–418

*Ch. Forster, Ph. Dziuballe, J. Lechtenbörgler, B. Breil, F. Fritz, G. Vossen, M. Dugas:* Connecting Clinical Care and Research: Single-Source with x4T-Process Design, Architecture, and Use Cases; it – Information Technology, 57 (1), 2015, 63–72

*J. Lechtenbörgler, F. Stahl, V. Volz, G. Vossen:* Analyzing Observable Success and Activity Indicators on Crowdfunding Platforms; International Journal of Web Based Communities 11 (3/4), 2015, 264–289

*S. Papagiannidis, B. Gebka, D. Gertner, F. Stahl:* Diffusion of web technologies and practices: a longitudinal study. Technological Forecasting and Social Change, 96 (1), 2015, 308–321

*N. Pflanzl, G. Vossen:* Gamification im Unternehmen; DOAG Business News 01-2015, 5–7

*N. Pflanzl, G. Vossen:* Social BPM – Die Aktivierung der "Weisheit der Masse". DOK. magazin, Ausgabe #3–15, 2015, 6–11

*F. Stahl, A. Godde, B. Hagedorn, B. Köpcke, M. Rehberger, G. Vossen:* High Quality Information Delivery: Demonstrating the Web in Your Pocket for Cineast Tourists. Proc. Datenbanksysteme für Business, Technologie und Web (Proc. 16.GI-Fachtagung BTW) 2015, 667–670

*F. Stahl, A. Löser, G. Vossen:* Preismodelle für Datenmarktplätze; Informatik-Spektrum 38 (2), 2015, 133–141.

*F. Stahl, F. Schomm, G. Vossen:* Data Marketplaces: An Emerging Species. In Haav, H.-M., Kalja, A., & Robal, T. (Eds.), Databases and Information Systems VIII, Frontiers in Artificial Intelligence and Applications Series, Vol. 270, IOS Press, Amsterdam 2014, 145–158

*F. Stahl, G. Vossen:* Data Quality Adjustments for Pricing on Data Marketplaces; Proc. of the LWA 2015 Workshops: KDML, FGWM, IR, and FGDB, 2015, 419–421

*G. Vossen:* Big Data: Daten sammeln, aggregieren, analysieren, nutzen; in T. Schwarz (Hrsg.): Big Data im Marketing; Haufe-Verlag, Freiburg, 2015

## DISSERTATIONS/HABILITATIONS

*Florian Stahl:* High-Quality Web Information Provisioning and Quality-Based Data Pricing, University Münster, 2015



## CONTACT DETAILS

**PROF. DR. GOTTFRIED VOSSEN**  
Chair of Computer Science

University of Münster  
Leonardo-Campus 3  
48149 Münster, Germany  
P +49 251 83-38150  
<https://www.wi.uni-muenster.de/department/groups/dbis>  
vossen@uni-muenster.de  
g.v@wwu.de

## KEY FACTS

### RESEARCH TOPICS

- (Social) Business process management and gamification
- Big data processing and handling
- Data marketplaces and data pricing
- Data warehousing, ETL processes, data profiling
- Information provisioning (Web in your Pocket)
- Modern applications involving social media

### EVENTS

- Regular meetings of the TDWI Roundtable as well as of the GI Regional Group Münsterland
- ERCIS Disrupts Münster, 26<sup>th</sup> October
- ERCIS Launch Pad, annually in fall in Münster, in 2015 on 9<sup>th</sup> December



# KEDGE BUSINESS SCHOOL – DEPARTMENT OF OPERATIONS MANAGEMENT AND INFORMATION SYSTEMS

› Kedge Business School – Department of Operations Management and Information Systems [www.kedgebs.com](http://www.kedgebs.com)



## ABOUT THE INSTITUTION

### KEDGE Business School

Kedge Business School offers a large portfolio of degree programs ranging from bachelor's and master's degrees to MBAs and Executive Education. Research performed by its faculty is highly regarded, and covers such areas as global responsibility, supply chain management, wine and spirits management, arts & culture management and innovation in SME. International students can also take a semester abroad in one of its 280 partner universities.

Kedge Business School holds three accreditations – from EQUIS, AACSB and AMBA – and has been ranked by the Financial Times since 2008. Kedge Business School is committed to excellence, social responsibility and diversity. Therefore, it has decided to offer financial support to talented international students.

The "Operations Management and Information Systems" department is valued for its competency in purchasing, logistics, supply chain and information systems management. The team members are highly recognized for expertise in the area of Information and Decision Science, in Knowledge Management, Serious games, e-business, and Organizational Learning research fields.



## RESEARCH TOPICS

The areas of research pursued by the team members are wide-ranging: developing business models of electronic marketplaces and measurement of electronic service quality, a systemic analysis of organizational design and the performance of inventory control systems, formal modelling for the different organizational learning mechanisms and causal mapping applications in managerial decision-making.

## CURRENT RESEARCH PROJECTS



### The e-DENT Project

The e-DENT project sets out to provide access to a dental consultation for those for whom access to a dentist is limited, such as the dependent elderly and disabled people, by offering an asynchronous remote consultation to the patient, assisted by a healthcare professional. It is based in Languedoc-Roussillon; it involves a spe-

cially designed "intraoral" camera and collaboration between Montpellier University Hospital and ORAL-B (Procter & Gamble).

Currently, the key challenge is finding a robust method to evaluate technology acceptance for patients who may suffer from minor, mild or severe cognitive impairment. So far data on the acceptability of the system has been gathered from over 100 of the expected 800 patients and some initial descriptive statistics have been produced. The long term aim is to be able to use this data in models such as TAM (Technology Acceptance Model) or the UTAUT (Unified Theory of Acceptance and Use of Technology) model.

### Journal, Global Business and Organizational Excellence

Global Business and Organizational Excellence is published six times a year by Wiley in collaboration with KEDGE Business School. GBOE publishes original applied research and case studies that provide practical guidance on operational issues for global organizations. Articles should stress the practical/applied value of the work rather than the contribution it



makes to theory. In general, the theoretical content of the article should be used to provide context for the subject rather than being the principal focus of the article. Articles should not exceed 7,500 words.

<http://onlinelibrary.wiley.com/doi/10.1002/joe.v33.2/issuetoc>

Detailed author guidelines are available here: [http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1932-2062/homepage/ForAuthors.html](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1932-2062/homepage/ForAuthors.html)

Articles should be submitted directly to Chris Kimble: [chris.kimble@kedgebs.com](mailto:chris.kimble@kedgebs.com)

## EVENTS

ILS 2016 conference will be organized at KEDGE Business School, Talence, France.

### Topics:

- Information and Decision Systems for Supply Chain Management
- Collaboration and Sharing Practices in the Supply Chain
- Supply Chain Management under Risk and Uncertainty
- Innovative and Smart Technologies for Interconnected Era in Logistics
- Smart and Durable City Logistics

Full paper submission (10 pages max):  
November 30<sup>th</sup>, 2015

To submit: <http://ils2016conference.com/>  
and [ils2016@kedgebs.com](mailto:ils2016@kedgebs.com)

## PUBLICATIONS

Allal-Chérif, O., Makhlouf, M. (2015). Using Serious Games to Manage Knowledge: The SECI Model Perspective. Journal of Business Research, In Press, Corrected Proof, Available online 20 October 2015.

Allal-Chérif O., Makhlouf M. (2015). "Serious Games and Their Use in HRM: A Typology of Uses in CAC40 Companies", HICSS International Conference on System Sciences, Kauai, Hawaii, USA, January 5–8.

Bourdon, I., Kimble, C., Tessier, N. (2015). Knowledge Sharing in Online Communities: The Power Game. Journal of Business Strategy, 36(3), 11–17.

Kimble, C., Milolidakis, G. (2015). Big Data and Business Intelligence: Debunking the Myths. Global Business and Organizational Excellence, 35(1), 23–34.

Kimble, C. (2015). Business Models for E-Health: Evidence From Ten Case Studies. Global Business and Organizational Excellence, 34(4), 18–30.

Makhlouf, M., Allal-Chérif O. (2015). "Pertinence and feasibility of unifying holistic approach of IT governance", HICSS International Conference on System Sciences, Kauai, Hawaii, USA, January 5–8.

Podinovski, V.V., Bouzdine-Chameeva, T. (2015). Consistent weight restrictions in data envelopment analysis. European Journal of Operational Research, 244(1), 201–209

Wang, H., Alon, I., & Kimble, C. (2015). Dialogue in the Dark: Shedding Light on the Development of Social Enterprises in China. Global Business and Organizational Excellence, 34(4), 60–69.



## CONTACT DETAILS

### OIHAB ALLAL-CHÉRIF

Head of Operations Management and Information Systems Department

KEDGE Business School  
680 Cours de la Libération  
33400 Talence, France  
P +33 5568 44200  
[www.kedgebs.com](http://www.kedgebs.com)  
[oihab@kedgebs.com](mailto:oihab@kedgebs.com)

## KEY FACTS

### INSTITUTION

- Founded in 1874
- One of the oldest "Grandes Écoles" en France
- 20 programmes
- 160 permanent professors
- EQUIS, AMBA and AACSB accredited

### RESEARCH TOPICS

- IS in operations management
- Purchasing and IS
- e-distribution, e-commerce, e-business
- Supply chain and OM decision-making and decision analysis
- Organisational learning, knowledge management and competences
- Electronic marketplaces
- Serious games



# QUEENSLAND UNIVERSITY OF TECHNOLOGY – SCIENCE AND ENGINEERING FACULTY – INFORMATION SYSTEMS SCHOOL

## ABOUT THE INSTITUTION

QUT is one of Australia's premier institutions for Information Systems (IS) as evidenced by its number of under-graduate, post-graduate and PhD students, the international standing of its researchers as well as the quality, intensity and impact of its industry partnerships. Research informs and inspires teaching, making our courses innovative and students well prepared for an opportunity-rich future in the digital economy.



The Information Systems School is one of six schools in the Science & Engineering Faculty at QUT. With more than 10,000 students incl. 1,000 PhD students and more than 650 researchers working towards new discoveries, the faculty is QUT's realization of the goal to be a leader in the development of courses and research in the fields of science, technology, engineering and mathematics (STEM).

QUT's Information Systems School has a vision to change the world by connecting processes, information, services and people, and inspire future solutions in this field through excellent research, teaching and provision of services to the profession.

QUT has produced more award-winning doctorate students in the field than any other Australian university. Our solid reputation has led to the university successfully hosting some of the most significant global and regional IS conferences in this discipline (e.g., BPM, ACIS, PACIS) and it attracted some of the world's leading scholars to QUT.

## RESEARCH DISCIPLINES

Research within the School is decomposed into three Disciplines, i.e.

- Business Process Management
- Service Sciences
- Information Ecology

The Business Process Management (BPM) Discipline is one of the most influential in the world, and its research is widely quoted and adopted by organizations. Research members have authored and edited leading BPM textbooks and developed core artifacts including the open source process modeling repository APROMORE, the open source workflow environment YAWL and a BPM maturity model that is now adopted globally. In 2015, we launched a global MOOC on Business Process Management attracting more than 6,800 participants.

Services Science expertise is diverse and has a dedicated focus on the theoretical foundations, applications, technologies and impacts of services across organizations, industries, ubiquitous computing environments and the Web. Key research focuses on empirical and business-related methodologies, conceptualization of services, architecture and provisioning of services, service delivery platforms, public/private cloud infrastructure, and mobile and smart device service consumption.

Information Ecology investigates understanding, modelling, enhancing and enabling contextual connections between information, people and their environment. It aims to improve how people and enterprises share, comprehend, and effectively use and interact with structured and unstructured information. Binding these investigations is the contextual connections

from which meaning is developed from information, whether mediated through systems or interactions with other people, individually, or in groups.

In 2015, the revised post-graduate IT courses at QUT were launched and the School is now involved in the following under-graduate and post-graduate courses:

- Bachelor of Information Technology
- Bachelor of Games and Interactive Entertainment
- Master of Information Technology
- Master of Business Process Management
- Master of Information Science

## RESEARCH PROJECTS

The Information Systems School manages large research programs and engages via industry-funded Chairs with selected industry partners. In addition to previous industry-funded Chairs in Airport Innovation and Retail Innovation, two more industry-funded Chair were established in the IS School in 2015. The SIBA Chair in Spatial Information is held by Prof. Tim Foresman, former United Nations' Chief Environmental Scientist and US national manager for the Digital Earth Initiative. The PricewaterhouseCoopers Chair in Digital Economy is also supported by Brisbane Marketing and Queensland Government and Prof Marek Kowalkiewicz, former SAP Senior Director of Products and Innovation started as

the newly appointed Chair in September. As part of this Chair in Digital Economy we produce, among others, DigitalWeek, a weekly podcast covering the latest on digital strategies and opportunities.

Further new industry-funded projects that started in 2015 are related to the deployment of cross-organizational process mining in the insurance sector (partner: Queensland Government), the potential of C2C-relationship management in the finance sector (Bank of Queensland), the conceptualization of digital identity services (Australia Post), the notion of a proactive/predictive government (Queensland Government), the affordances of smart meters (Queensland Urban Utilities) and the future of libraries (Queensland State Library). In 2015, QUT researchers were again in high demand as opening keynote speakers at prestigious international conferences including the 34<sup>th</sup> International Conference on Conceptual Modeling (ER 2015, Stockholm). Furthermore, QUT staff members were co-chair of the BPM and the CoopIS conferences and co-chaired tracks at conferences such as ICIS, ECIS and ACIS.

Of particular significance in 2015 has been the appointment of Prof Jan Recker as the Editor-in-Chief of the journal Communications of the Association for Information Systems (CAIS) in July. In December, a special issue of the MISQ Executive on 'Enterprise Architecture and Business Transformation' co-edited by Michael Rosemann was published.

## PUBLICATIONS

2015 has been another very successful year in terms of publications including a number of books, journal papers in European Journal of Information Systems, BISE, Information Systems, Information & Management, CAIS, Information Systems and Information and Management among others and a range of conference papers including five accepted ICIS 2015 papers.

## Selected journal papers

*Bruza, P. D.; Kitto, K.; Ramm, B. J.; Sitbon, L. (2015)* A probabilistic framework for analysing the compositionality of conceptual combinations. *Journal of Mathematical Psychology*, 67, pp. 26–38.

*Chan, T.; Xu, Y.; Ayed M Algarni, A. (2015)* 'Susceptibility to Social Engineering in Social Networking Sites: The Case of Facebook', in *Proceedings of the International Conference on Information Systems*, Fort Worth.

*Tate, M.; Evermann, J.; Gable, G. G. (2015)* An integrated framework for theories of individual attitudes toward technology. *Information & Management*, 52(6), pp. 710–727.

*Hjalmarsson, A.; Recker, J.; Rosemann, M.; Lind, M. (2015)* Understanding the Behavior of Workshop Facilitators in Systems Analysis and Design Projects: Developing Theory from Process Modeling Projects. *Communications of the Association for Information Systems*, Vol. 36. No. 22, pp. 421–447.

*La Rosa, M.; Dumas, M.; Ekanyake, C.; Garcia-Banuelos, L.; Recker, J.; ter Hofstede, A. (2015)* Detecting Approximate Clones in Business Process Model Repositories. *Information Systems*, Vol. 49, pp. 102–125.

## COMPLETED DISSERTATIONS

*Attapatu, M.* Customer Agility: 'Smart shopping apps and their implications: Customer relationship management systems in the digital age'

*Davis, K.* 'The information experience of new mothers in social media: a grounded theory study'

*Mazhaar, S.* 'A configurable airport reference model for passenger facilitation'

*Pika, A.* 'Mining process risks and resource profiles'

*NSafrudin, N.* 'Business transformation management: Composition and orchestration of management services'



## CONTACT DETAILS

**PROF. DR. MICHAEL ROSEMANN**  
Head of Information Systems  
School, Science and Engineering  
Faculty

Queensland University of Technology  
Science and Engineering Faculty  
2 George Street  
Brisbane QLD 4000  
Australia

P +61 7 3138 9473  
[www.qut.edu.au/science-engineering](http://www.qut.edu.au/science-engineering)  
[m.rosemann@qut.edu.au](mailto:m.rosemann@qut.edu.au)  
CRICOS No 002131

## KEY FACTS

### INSTITUTION

- Founded in 1989
- 46,000 students
- Information Systems School:  
29 researchers, 90 PhD students

### RESEARCH TOPICS

- Business process management
- Services sciences
- Information ecology





## ABOUT THE INSTITUTION

The Department of Information Technology Management (ITM) is one of the largest ITM departments in Europe. ITM is a multi-disciplinary department that embraces theories and methods from the fields of information systems, business administration, computer science, organization studies, political science, economics, sociology, psychology and communication theory. The mission statement of the department is: Co-creating knowledge with enduring consequences through the study of the interrelationships among people, information and technology.

The Association of Information Systems (AIS) is the core community of the department. The AIS community is inclusive and open to all the current research areas of the department. With our journal contributions to the Senior Scholars' Basket of Journals we are ranked number two in Europe.

Other communities are also relevant, e.g. human-computer interaction, e-government, organization studies, learning sciences, and software design and development.

We strive for a high level of collaboration with representatives from industry and society (also called engaged scholarship) while also organizing our research to accommodate for the fast-moving pace and radical innovation that characterizes the IS research field. We achieve this by organizing part of our research around themes that address societal or business challenges. The themes are topical, popular, interdisciplinary and dynamic in nature. In addition

to the research themes, ITM still maintains the more traditional research areas for the disciplinary development of its researchers.

The faculty and administrative staff of the department are primarily teaching within the following degree programs: Bachelor in Business Administration and Information Systems, Bachelor in Information Management, MSc in Business Administration and Information Systems and the MSc in IT (eBusiness).

## RESEARCH TOPICS

The Department of IT Management conducts research within the following research areas related to information technology and information systems: Design, Implementation, Use and exploitation and Information management.

The research at ITM is organized around a number of cross disciplinary themes and we cover a number of research areas like mergers & acquisition, social media, cashless society, internet of things, or open big data.

Themes are emergent, topical, interdisciplinary and dynamic in nature. They emerge from bottom up activities where researchers find that they share a common excitement about a new phenomenon and encompass several tenured faculty members who meet regularly about a common research phenomenon over a longer period of time.

Example Research Theme IoT. The group 'Internet of Things' (IoT) has the objective to create an Internet of People and Societies by creating multidisciplinary and cross-disciplinary approaches with researchers, politicians, citizens, NGO's and enterprises pursuing socially productive scenarios in the merging of our physical world and the virtual world.

## CURRENT RESEARCH PROJECTS

**Big Social Data Analytics.** CBS ITM received a 6.2 m DKK grant from the Danish Industry Foundation and has started a research project on big social data analytics. The research project is case based and can, by building new analytical models that collect big data streams from company databases, websites and social media such as Facebook, Instagram, Pinterest, Twitter and LinkedIn, provide companies with necessary algorithmic approaches to address current business challenges.

**Cashless Society.** The vision behind 'Cashless Society' is to make Denmark the first cashless society in the world. Compared with the rest of the world, the Danish based entirely unique, and the cashless society will only further strengthen Denmark's international competitiveness. The idea of a cashless society leads to a number of issues and challenges that will be explored and investigated. Some of the key research questions are: How does the digitization of money affect the use and experience of money? How does the digitization of transactions influence the performance of and preference for different payment systems? How can we design a digitized payment ecosystem?

The complexity in the challenges requires us to apply multi methodological approach ranging from anthropological studies, field studies, experiments, and design science in close collaboration with practice, including The Danish Bankers Association, NETS, Dansk Bank, Cell Point Mobile, IBM, and Innovation Lab.

**NEXT-TELL.** Our vision of the 21st Century classroom is that of a technology- and data-rich environment that supports teachers and students to use various sources of information generated in the classroom and during homework in pedagogical decision-making. Such an information infrastructure will improve instruction, diagnosis, workflow, and productivity as well as enhance collaboration and communication among students, teachers, and other stakeholders, especially parents. Teachers in particular will be supported in their function as diagnosticians who have to constantly and rapidly make decisions in a highly dynamic and complex environment. To bring this vision to life, we are collaborating in the project NEXT-TELL, an integrating project (ip) in the ICT challenge of the 7<sup>th</sup> framework program of the European Commission. NEXT-TELL's main objective is to provide, through research and development, computational and methodological support to teachers and students.

**3gERP.** The enterprise resource planning (ERP) software market is deeply fragmented. For small and medium sized enterprises (SME) the number of vendors is around 10,000 globally. With so many options market leadership is difficult, standardization next to impossible and the achievement of economy of scale not easy. In this context, the 3gERP project aims to develop a standardized, yet highly configurable and flexible, global ERP system for SME's based on fundamentally new software architecture. This would make implementation and maintenance possible at a fraction of their current cost.

## PUBLICATIONS

*Eaton, Ben; Elaluf-Calderwood, Silvia; Sørensen, Carsten; Yoo, Youngjin* / Distributed Tuning of Boundary Resources : The Case of Apple's iOS Service System. In: M I S Quarterly, Vol. 39, No. 1, 2015, p. 217–244, A1–A12.

*Stein, Mari-Klara; Newell, Sue; Wagner, Erica L.; Galliers, Robert D.* / Coping with Information Technology : Mixed Emotions, Vaccillation, and Nonconforming Use Patterns. In: M I S Quarterly, Vol. 39, No. 2, 2015, p. 367–392.

*Trier, Matthias; Richter, Alexander* / The Deep Structure of Organizational Online Networking : An Actor-oriented Case Study. In: Information Systems Journal, Vol. 25, No. 5, 2015, p. 465–488.

*Shollo, Arisa; Constantiou, Ioanna; Kreiner, Kristian* / The Interplay Between Evidence and Judgment in the IT Project Prioritization Process. In: Journal of Strategic Information Systems, Vol. 24, No. 3, 2015, p. 171–188.

*Kallinikos, Jannis; Constantiou, Ioanna* / Big Data Revisited : A Rejoinder. In: Journal of Information Technology, Vol. 30, 03.2015, p. 70–74.

*Henningsson, Stefan* / Learning to Acquire : How Serial Acquirers Build Organisational Knowledge for Information Systems Integration. In: European Journal of Information Systems, Vol. 24, No. 2, 2015, p. 121–144.

*Constantiou, Ioanna; Kallinikos, Jannis* / New Games, New Rules : Big Data and the Changing Context of Strategy. In: Journal of Information Technology, Vol. 30, No. 1, 03.2015, p. 44–57.

*Hedman, Jonas; Sarker, Suprateek* / Information System Integration in Mergers and Acquisitions : Research Ahead. In: European Journal of Information Systems, Vol. 24, No. 2, 2015, p. 117–120.

*Dwivedi, Yogesh K.; Wastell, David; Zinner Henriksen, Helle; De', Rahul* / Guest Editorial: Grand Successes and Failures in IT : Private and Public Sectors. In: Information Systems Frontiers, Vol. 17, No. 1, 2015, p. 11–14.



## CONTACT DETAILS

**DR. MATTHIAS TRIER,**  
ASSOCIATE PROFESSOR  
Department of IT Management

Copenhagen Business School  
Howitzvej 60, 4<sup>th</sup> floor  
DK-2000 Frederiksberg  
Denmark

P +4815 2047  
[www.cbs.dk/itm](http://www.cbs.dk/itm)  
[mt.itm@cbs.dk](mailto:mt.itm@cbs.dk)

## KEY FACTS

### INSTITUTION

- 20 tenured faculty
- 16 PhD candidates
- Plus a number of assistants, lecturers, adjuncts, external employees

### RESEARCH TOPICS

- Information management
- Social media management
- Social media analytics
- IT in mergers and acquisitions
- IT strategy and organization
- Internet of Things
- Open data, Big Data
- Electronic communication
- Human computer interaction
- Systems development
- E-Government



# UNIVERSITY OF TWENTE – CENTRE FOR TELEMATICS AND INFORMATION TECHNOLOGY

› University of Twente – Centre for Telematics and Information Technology [www.utwente.nl/mb/iebis](http://www.utwente.nl/mb/iebis)



UNIVERSITEIT TWENTE.

- Centre for Healthcare Operation Improvement (CHOIR)
- Centre for Sustainable Supply Chain Innovation (SSI)
- Centre for Tele-monitoring and Coaching
- Centre for Service Science

Various departments are joining efforts in these centers to address research challenges in an interdisciplinary way. More information on the centers can be found via [www.ctit.nl](http://www.ctit.nl).

## CURRENT RESEARCH PROJECTS

CTIT is active in dozens of research projects financed at the national and European level and directly by industry. Departments directly related to ERCIS research themes are the IEBIS (Industrial Engineering and Business Information Systems) group and the SCS (Services, Cybersecurity and Safety research group). Current research projects include:

The IEBIS group is concerned with studying novel ways of managing business processes and supply chains using innovative techniques such as simulation, (social) data mining, multi-agent coordination and gamification. Researchers in IEBIS use design science methods to develop Decision Support Systems and Inter-Organizational Systems connecting networks of businesses and governments.

The goal of the SCS group is to develop methods and techniques for developing IT-based services that balance service levels with safety- and security levels, and to develop methods and techniques that make existing IT-based services more secure.

Selected research projects include:

**Catalog** – Ebusiness architecture and fulfillment

**Social media content analysis** – Data-driven service development. Integrating Internet and social media content reports with internal log data for service development decisions

**TREsPASS** – methods and tools to analyse and visualise information security risks in dynamic organisations, as well as possible countermeasures.

**SynchromodalIT** – this project aims at designing advanced algorithms and business-IT architectures to facilitate dynamic planning of logistics across various modalities.

**Hubways** – development of a serious game to design and experience inter-organizational processes for a coordination hub for the flower industry.

## AWARDS

IEBIS is an important partner in the newly EU awarded Sharebox project: SHAREBOX, a new research project coordinated by IRIS and funded by the EC under the H2020-SPIRE program, will pave the way forward for industrial symbiosis in order to migrate to the energy and resource efficient zero-waste process industry of the future. Sharebox will develop a secure platform for the flexible management of shared process resources.

The chapter “Interorganizational Shared Services: creating value across organizational boundaries” published in *Advanced Series in Management* co-authored by prof. Henk Zijm of IEBIS and Paul C. van Fenema and Bianca Keers has been selected by the editorial team as an Outstanding Author Contribution in the 2015 Emerald Literati Network Awards for Excellence.

## PUBLICATIONS

*Yu, Yijun; Franqueira, Virginia N.L.; Tun, Thein Tan; Wieringa, Roel J.; Nuseibeh, Bashar (2015)* Automated analysis of security requirements through risk-based argumentation. *Journal of systems and software*, 106. pp. 102–116

*Azevedo, Carlos L.B.; Iacob, Maria-Eugenia; Almeida, João Paulo A.; Sinderen, Marten van; Ferreira Pires, Luis; Guizzardi, Giancarlo (2015)* Modeling resources and capabilities in enterprise architecture: A well-founded ontology-based proposal for ArchiMate. *Information Systems*, 54. pp. 235–262

*Spoel, Sjoerd van der; Amrit, Chintan; Hillegersberg, Jos van (2015)* Predictive analytics for truck arrival time estimation: a field study at a European distribution center. *International journal of production research*

*Effing, Robin; Spil, Ton A.M. (2016)* The social strategy cone: Towards a framework for evaluating social media strategies. *International journal of information management*, 36 (1). 1–8.

*Spil, Ton and Klein, Richard*, The personal health future, *Health policy and technology* 4 (2), 131–136

## DISSERTATIONS

*André van Cleeff* successfully defended his PhD thesis entitled: *Physical and Digital Security Mechanisms: Properties, combinations and Trade-offs*.

*Christoph Bösch* successfully defended his doctoral thesis entitled “Cryptographically Enforced Search Pattern Hiding”.

*Arviansyah* successfully defended *Unraveling Equivocality in Evaluations of Information Systems Projects*. He earlier won a best paper award at AMIC 2013 for his work and will present results at the ICIS2015 conference.

*Jaelyn lee* will defend her thesis *A Computer-Based Group Discussion Support Tool for Achieving Consensus and Culture Change using the Organizational Culture Assessment Instrument (OCAI): An Action Design Research Study on Dec 1<sup>st</sup>, 2015*

All dissertations are available at: <http://doc.utwente.nl/>

## OUTLOOK

In 2016 again several events will be organized connected to ongoing research projects and PhD defenses. Monitor our website [www.utwente.nl](http://www.utwente.nl) and IEBIS and SCS departments to stay tuned.



## CONTACT DETAILS

**PROF. DR. JOS VAN HILLEGERSBERG**  
Centre for Telematics and Information Technology

University of Twente  
Drienerloaan 5, 7522 NB Enschede  
The Netherlands

P +31 53 489 9111  
[www.utwente.nl](http://www.utwente.nl)

**IEBIS:** <http://www.utwente.nl/mb/iebis>  
Head of Department:  
Prof. Dr. Jos van Hillegersberg  
[j.vanhillegersberg@utwente.nl](mailto:j.vanhillegersberg@utwente.nl)

**SCS:** <http://scs.ewi.utwente.nl>  
Head of Department:  
Prof. Dr. Roel Wieringa

**CTIT:** <http://www.ctit.nl>  
Scientific Director:  
Prof. Dr. Maarten van Steen

## KEY FACTS

### INSTITUTION

- Centre for Telematics and IT
- One of the largest academic ICT research institutes in Europe
- 375 researchers / 239 fte
- Budget: 29 million Euro



PhD defense arviansyah

## ABOUT THE INSTITUTION

The University of Twente is where talent can best realize its full potential. Students and staff are the key. Together, 3,300 scientists and professionals carry out ground-breaking research, bring about socially relevant innovation, and provide inspiring teaching for more than 9,000 students. To us, entrepreneurship comes as second nature. The campus is home to around 100 businesses, including student-run businesses. The University of Twente has also generated more than 700 successful spin-off companies including well known E-businesses such as Booking.com and Takeaway.com. The university's business park, Kennispark Twente, encourages and assists entrepreneurs to start new companies. But there's so much more than that happening on our wonderful, green campus. Our sports and cultural facilities are unique and we host events such as the world's largest student think tank, Create Tomorrow. Another legend of the Twente campus is the Netherlands' largest student sports event, the Batavieren Race. The campus is a hive of activity – a truly inspirational place to be! – the University of Twente, the entrepreneurial university.



The UT has ICT and Information Systems Research among its focus areas. The Center for Telematics and ICT (CTIT) is the largest ICT research institute in the Netherlands and among the largest in Europe. CTIT is involved in more than 30 EU funded research projects and generates around 7 spinoff companies per year. CTIT recently co-founded ICT labs, a European EIT dedicated towards accelerating ICT innovations in business.

## RESEARCH TOPICS

The research of CTIT is organized in centres that bundle efforts and closely align to topics addressed in the Dutch top-sector agenda and the European Horizon2020. The CTIT centers are the:

- Centre for Dependable Systems and Networks (C.DSN)
- Centre for Cyber Security and Public Safety
- Centre for Interactive Service Robotics
- Centre for Green ICT
- Centre for Array Technology (CAT)
- Centre for Wireless and Sensor Systems (WISE)







## ABOUT THE INSTITUTION

With over 30,000 students, eleven faculties and about 1,700 academic staff members, the University of Gdansk is the largest higher education institution in the Pomeranian, Poland. It offers the opportunity to study in almost seventy different fields with over a two hundred specializations.

The Department of Business Informatics (BI) of the University of Gdansk is involved in research and teaching in the field of Business Informatics on the Bachelor, Master and Doctoral levels, according to Bologna process standards. The Department is the main contributor to the E-learning Educational Platform of the University of Gdansk.

Moreover, it coordinates the Pomeranian Regional CISCO Academy, conducting numerous courses in educating computer network administrators with international certificates. The master theses and doctoral dissertations promoted by the BI staff were distinguished in the domestic and international Business Informatics competitions. In 1995 the Department founded NTIE – Naukowe Towarzystwo Informatyki

Ekonomicznej (Polish Society for Business Informatics Research), and in 2006 PLAIS – Polish Chapter of Association for Information Systems.

The Department is involved in the following international and research initiatives:



- Polish Chapter of Association for Information Systems – PLAIS



- The Annual International Conference on Perspectives in Business Informatics Research – BIR



- NTIE (Naukowe Towarzystwo Informatyki) – Polish Society for Business Informatics Research

## RESEARCH TOPICS

The areas of research interest at Department of Business Informatics cover the following themes:

- Big Data
- Business Informatics
- Business Processes Modeling
- Computer Networks
- Computer Programming
- Databases
- E-Business
- E-Learning
- Enterprise Modeling
- ERP, CRM, SCM, WFM, BI Systems
- ICT Global Development
- Information Systems Development
- IT Acceptance Research
- UML and SysML



## CURRENT RESEARCH PROJECTS

- Development and launching of the specialisation of Master Studies at the Faculty of Management of the University of Gdansk – Informatic Applications in Business (AiB);
- University of Tomorrow Project: Internationalisation of education at the University of Gdansk by co-operation with the University Houston-Downtown (USA): The Determinants of the Acceptance and Adoption of Uptodate Academic e-learning;

## EVENTS

The 8<sup>th</sup> SIGSAND/PLAIS EuroSymposium'2015 (Gdansk, Poland, September 25, 2015)

## AWARDS

- Polish Chapter of Association for Information Systems led by the Department, gained the title of the Outstanding Chapter 2014 in the competition of AIS.
- Students in the new specialisation Informatic Applications in Business (AiB) took third place in World AIS Student Chapters Competition held at the University of Alabama (USA) in the category “Information Systems that Serve Society”
- Two student teams:
  - Coding Pandas was honored in the category Innovation at Top 30 Innovation Polska Imagine Cup
  - Help&Care was awarded in the International Pitch Video Challenge competition at Imagine Cup in the category World Citizenship

## PUBLICATIONS

*Wrycza, S., 2015.(ed.)* Proceedings of the 8<sup>th</sup> SIGSAND/PLAIS EuroSymposium 2015, Springer LNBIP series 232

*Marcinkowski, B., Gawin, B., 2015.* Beyond BPMN data objects – method tailoring and assessment In: Proceedings of the 8<sup>th</sup> SIGSAND/PLAIS EuroSymposium 2015, Springer LNBIP series 232, pp. 89–102

*Gawin, B., Marcinkowski, B., 2015.* How close to reality is the "as-is" business process simulation model?, Organizacja. Vol. 48, no 3, pp. 155–176

*Kuciapski, M., 2015.* Methodology for Elaboration and Implementation of Effective Educational Simulations Systems – Towards the Priority View In: Proceedings of the 8<sup>th</sup> SIGSAND/PLAIS EuroSymposium 2015, Springer LNBIP series 232, pp. 134–144

*Kuciapski M., 2015.* Does the Integration of the Concept of Rapid Instructional Design in Project Management Approaches Support the Efficient Realisation of E-learning Projects?, Kaindl H., Kálmán G., Tamir D. (eds), The Tenth International Multi-Conference on Computing in the Global Information Technology (ICCGI 2015), St. Julians, IARIA, ISBN: 978-1-61208-432-9, pp 119–125

## DISSERTATIONS

*Rynkiewicz M.,* A model of teleworking implementation in IT firms, University of Gdansk, 2014, supervisor – Prof. S. Wrycza (in Polish)



## CONTACT DETAILS

PROF. DR HAB. STANISLAW WRYCZA

University of Gdansk  
Piaskowa 9  
81-864 Sopot, Poland  
P +48 58 523 1400  
<http://kie.wzr.ug.edu.pl>  
[www.wrycza.wzr.pl](http://www.wrycza.wzr.pl)  
[swrycza@univ.gda.pl](mailto:swrycza@univ.gda.pl)  
skype: swrycza

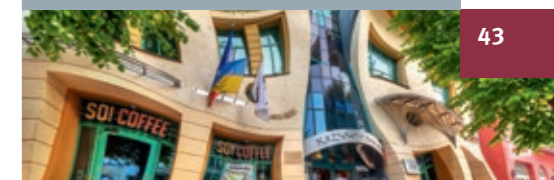
## KEY FACTS

### ABOUT THE PERSON

- Head of Department of Business Informatics at the University of Gdansk
- Senior Editor of Information Systems Management Journal
- Editorial Review Board of Journal of Database Management
- Advisory Board of Information Systems Journal
- Editorial Board of Information Systems and e-Business Management
- President of PLAIS
- General Chair of SIGSAND/PLAIS EuroSymposium
- Steering Committee of BIR
- Honourable Ambassador of Polish Congresses

### INSTITUTION

- Founded in 1967
- Researchers: 12 staff members and 5 doctorants







## Universidade do Minho

### UNIVERSITY OF MINHO

The University of Minho (UMinho) is one of the Portuguese new universities created in the early 1970s. Currently it has around 20,000 students enrolled in the degree programs offered by its eleven schools that cover most areas of knowledge (sciences, engineering, psychology, education, social sciences, economics and management, law, humanities and arts, architecture, medicine, nursing).

The University is named after the Northwest region of Portugal where it is located. The University campi, and other main infrastructures, are situated in the cities of Braga and Guimarães. The region has a strong tradition of vibrant entrepreneurship rooted in a rich history associated to the Roman empire, to the Christianisation of the Iberic Peninsula and to the foundation of the Portuguese nation.

In its establishment, back in 1974, UMinho sought to set up its strategy taking into consideration the socio-economic characteristics of the region and paying attention to emerging fields of knowledge with major potential for development and consolidation of the small and medium enterprises that constitute the majority of Minho's economic fabric. By the time, informatics was such an emerging academic field. At UMinho informatics emerged associated to the areas of industrial management and control, areas that gave origin to several degree programs and departments related to computers and to informatics.

### INFORMATICS AT UMINHO

UMinho has been the first Portuguese university to offer a full degree program in Informatics in the country. It is not surprising, thus, that informatics is an important area at UMinho, with more than 10% of its students enrolled in degree programs in the area. UMinho currently offers five initial degree programs in informatics or somehow related to computers, namely: Informatics Engineering (integrated master); Engineering and Management of Information Systems (integrated master); Telecommunications and Informatics (integrated master); Industrial Electronics and Computers (integrated master); Computation Sciences (bachelor). The annual intake of new students for these programs amounts to close to 400. The offer of postgraduate programs includes several master programs (information systems; informatics; entrepreneurship in information technologies and services; technology and digital arts; bioinformatics; law and informatics; engineering of networks and telematics services; management of engineering projects) and several PhD programs (Information Systems and Technologies; Informatics (in cooperation with universities of Porto and Aveiro); Telecommunications (in cooperation with universities of Porto and Aveiro); Electronics and Computers Engineering).

Several departments are associated to this educational offer. Not just the departments more related to the informatics and computers (Informatics, Information Systems, and Industrial Electronics) but also departments from other schools like the Math-

ematics and the Biology departments from the School of Sciences, the School of Law; and the Management department from the School of Economics and Management (this School is an important contributor to the integrated master in Engineering and Management of Information Systems, taking care of most courses in the areas of economics, organizational sciences and management).

### THE DEPARTMENT OF INFORMATION SYSTEMS

The academic interests of the Department of Information Systems are related to the adoption and use of information technology (IT) in organizations and society. They address two concerns: (1) those related to the development and improvement of socio-technical units (work units, processes, organizations, businesses, society sectors); (2) those related to the construction of IT applications capable of addressing the needs of the contexts where they will be used or to enable new forms of setting up work structures.

The Department of Information Systems has around 35 faculty members. Most of them hold a doctoral degree and are in a tenure track. A few of them, collaborating with the department in a part time basis, are recruited among reputed IST professionals. The department has also six collaborators with administrative and technical duties.

The department aims at providing a rich and challenging environment for teaching and research. Cultural diversity is viewed

as an asset. Creativity and innovation are valued as crucial to the department's academic mission. The department is installed in modern facilities, adequate to the fulfillment of its mission.

The portfolio of educational offer promoted by the Department of Information Systems in the information systems and technologies (IST) area – TSI@UMinho, <http://tsiuminho.dsi.uminho.pt/> – covers all levels of higher education. Initial training of IST professionals is achieved through the integrated Master in Engineering and Management of Information Systems. This program has its roots in an early program created in 1990. Challenges from keeping up with constant evolution of IST professional training and the demands of adjusting higher education programs to the new principles and rules for higher education have been addressed through several changes in the program structure. Besides this IST initial training program, the TSI@UMinho portfolio also includes the following programs: Master in Information Systems; Master in Information Services and Technologies Entrepreneurship; Doctoral Program in Information Systems and Technologies.

TSI@UMinho students are offered a broad range of possibilities in what concerns international mobility and cooperation. The department has mobility agreements with a large set of partners from several countries and promotes the affiliation to networks whose thematic motivation might facilitate the exchange of students (e.g., ERCIS, IS-

LINK, AIS Student Chapter@UMinho).

### RESEARCH AND OUTREACH

R&D activities are central to the university vision assumed by the UMinho, the Engineering School and the Department of Information Systems. Therefore it is a concern of the department to ensure that there are R&D programs that address the development of the IST body of knowledge and the application of this knowledge to whatever problems and situations where it might be beneficial.

Providing services to the community is also viewed as an important academic activity as it is an opportunity to contact with real world situations that constitute potential R&D cases. This is particularly relevant due to the fact that the nature of most problems addressed in the IST area does not allow their study in laboratorial settings.

### Research – the ALGORITMI R&D centre

Research activities in the information systems and other informatics-related fields are carried out in the ALGORITMI R&D centre. ALGORITMI is a UMinho's research unit funded by the Portuguese agency for science and technology. It combines basic, applied and translational research in a broad range of areas that include: information systems, software, multimedia, communications, networks, pervasive computing, electronics, operations research, statistics. Most researchers of ALGORITMI centre are also faculty in four departments of the schools of engineering: Information Systems; Informatics; Production and Systems; Industrial Electronics.

ALGORITMI organizes its activities along two dimensions. On one dimension (research lines) R&D activities are aligned with the areas of the departments associated to the centre mentioned above. On the other dimension (research strands), activities focus on a selection of societal challenges, namely: wealthy and innovative industry; sustainable and smart cities; healthy and secure people; resilient and agile organizations.



## CONTACT DETAILS

**PROF. ISABEL RAMOS**  
Department of Information Systems

University of Minho  
Campus de Azurém  
4800-058 Guimarães  
Portugal

P +351 253 510317  
[www.dsi.uminho.pt](http://www.dsi.uminho.pt)  
[iramos@dsi.uminho.pt](mailto:iramos@dsi.uminho.pt)

## KEY FACTS

- Founded in 1999, 35 faculty (27 tenure track)
- Exploitation of Information Technology to enhance desirable organizational and societal traits, namely collective intelligence, agility, resilience, transparency and citizen empowerment.
- Adaptive systems that use data to enhance individual, group or organizational work or to enable new work practices and structures.
- Processes of building and deploying information systems.





## Research in Information Systems and Technologies

Information Systems and Technologies (IST) is a research line close to the interest of the Information Systems Department. It embraces three research groups: i) Information systems and technologies for the transformation of organizations and society; ii) Advanced and intelligent technologies for information systems; iii) Engineering and management of the development process of software-based information systems.

The first area addresses the adoption, use and exploitation of Information Technology to enhance desirable organizational and societal traits, namely collective intelligence, agility, resilience, transparency and citizen empowerment. The second area focuses on adaptive systems that use data to enhance individual, group or organizational work or to enable new work practices and structures. Finally, the third area addresses the processes of building and deploying information systems. It covers both the engineering and the management dimensions of the development process. The three groups are highly complementary and interdependent, acting as a crosscut research agenda for stimulating cooperation when addressing specific IST research topics, such as: business intelligence & process management, information services, information systems security & audit, knowledge management, semantic web & scholarly communication, and sustainable development of organizational software.

The IST R&D line covers the full range of research activities that precede innovation, including basic, applied and translation research. The addressed phenomena include Information Technology (IT artifacts, methods and conceptual tools and also the behaviour of individuals, groups, organizations or even societal phenomena. This diversity of research activities and phenomena of interest leads to a diversity of research methods, which is likely to include: case studies, field studies, field experiments, surveys, laboratory ex-

periments, computer simulations, action-research, proof-of-concept, benchmarking, panels of specialists, and Delphic studies. For further details about the Information Systems and Technologies research line, please visit <http://algoritmi.uminho.pt/research/teams/ist/>.

## ABOUT THE INSTITUTION

UMINHO is located in the Minho region of Northern Portugal, a region with an extremely strong tradition of vibrant enterprise, essentially of small and medium-sized businesses. The University has taken up the challenges of knowledge with the consolidation of its research activities, recognizing this as a vital strategy for generating knowledge, affirming the internationality of the University, differentiating teaching projects and establishing an effective cooperation with society as a whole.

The Department of Information Systems brings together faculty and researchers whose valences as well as teaching and R & D interests are strongly related to the challenges posed by the development of Information Technology artifacts that leverage innovative ways of work and social interaction. Special attention is given to organizations (companies and other institutions, public or private) as particularly relevant areas where such artifacts are relevant and the processes of adoption pose important challenges to Information Systems professionals.

The department has established strong collaborative links with universities around the world in order to create an enabling environment for the development of internal skills and maximizing the impact of its teaching and research projects.

## RESEARCH TOPICS

IS researchers at UMINHO have been focusing three main R&D areas. The first area addresses the adoption, use and exploitation of Information Technology to enhance desirable organizational and societal traits, namely collective intelligence, agility, resilience, transparency and citizen

empowerment. The second area focuses on adaptive systems that use data to enhance individual, group or organizational work or to enable new work practices and structures. Finally, the third area addresses the processes of building and deploying information systems. It covers both the engineering and the management dimensions of the development process.

The three major areas are highly complementary and interdependent, acting as a crosscut research agenda for stimulating cooperation when addressing specific IST research topics, such as: business intelligence & process management, information services, information systems security & audit, knowledge management, semantic web & scholarly communication, and sustainable development of organizational software.

By addressing complex questions that bring together all the dimensions of the issues at stake, IS researchers at UMINHO contribute to a more dynamic development of research and education activities targeted at the information systems and software industries, which can spill over to society at large and result in sustainable and inclusive growth and quality of life through a more productive use of IT.

## CURRENT RESEARCH PROJECTS

During 2015, UMINHO was involved in the following activities:

- Organization of the Annual Workshop will take place in Guimarães, Portugal (24<sup>th</sup>–26<sup>th</sup> August 2015);
- Ongoing interactions with the University of Twente (Fons Wijnhoven) to create a double master diploma in Information Systems;
- Coordination of efforts to produce an Erasmus+ project proposal – Project Title: Information Systems Participatory Science Lab (ISPSLab), Erasmus+, Cooperation for innovation and exchange of good practices.



- Isabel Ramos got a visiting scholarship from the University of Agder, Norway. During the two week visit in September 2015, several activities were performed: (1) presentation of UMINHO and the research performed by the group “Information Systems and Technologies for the Transformation of Organizations and Society” (ISTTOS); (2) attendance of a doctoral defense; (3) conducting a workshop on grounded theory and the interpretive criteria of rigor (“Grounded Theory: researching the management of knowledge and innovation”); (4) meeting with Prof. Bjørn-Tore Flåten and Prof. Rotem Shneur from the Business School in order to identify common research interests; (5) meeting with colleagues from the Centre for Integrated Emergency Management (CIEM) – Prof. Bjørn Erik Munkvold, Assoc. Prof. Tim Majchrzak, Prof. Jose Gonzalez (Dept. of ICT); (6) preparation of a project initial idea focusing open innovation in SMEs with Prof Dag Olsen, Prof. Eli Hustad, Prof. Tom Roar Eikebrokk and Ass. Prof. Niels Frederik Garmann-Johnsen; and (7) discussion of possible future collaboration at the level of the PhD in Information Systems with Prof Bjørn Erik Munkvold.

In addition to the academic activities, there was still time to participate in social activities including a dinner offered by the newly PhD Adeola Wale-Kolade, a boat trip to the fjords and a trip to a farm market in Seljord with Prof. Hans Olav

Omland and post doctoral researcher Mihoko Sakura followed by sightseeing that included the a visit to Eidsborg church. During the last day of the visit, Sept 18<sup>th</sup>, after the meeting on the campus of Grimstad (CIEM), there was a visit to Grimstad.



## EVENTS

UMINHO organized the pre-ECIS 2015 workshop "Resilience and Information Systems". At the workshop, 6 papers were presented:

*Sukaina Al-Nasrawi, Carl Adams and Ali El-Zaart* – Measuring Smartness and Sustainability of Cities

*Maysoun Ibrahim, Carl Adams and Ali El-Zaart* – Transformation Towards Smart Sustainable Cities

*Rui Gomes* – Resilience and enterprise architecture in SME's

*Kendra L. Smith, Isabel Ramos, Kevin C. Desouza* – Economic Resilience and Crowdsourcing Platforms



*Arminda Lopes* – Using research methods to design technology for resilience

*Carl Adams* – Sustainability and resilience: an IS perspective

The papers are now undergoing a final review process to be published in the Journal of Information Systems and Technology Management (<http://www.jistem.fea.usp.br/index.php/jistem>)

The commemorations of the 25<sup>th</sup> anniversary of the graduation in Information Systems (Licenciatura em Informática de Gestão) e of the IST education at UMINHO was celebrated on September 24<sup>th</sup> and 25<sup>th</sup>. Prof. Jorge Becker talked to attendees about "Research in IS: The ERCIS and the grand challenges of modern society".

UMINHO is involved in the organization of the ECIS 2017 in Guimarães. In this last quarter of 2015, the image and website of the conference are being developed. The website will go live on Dec 12<sup>th</sup> ([www.ecis2017.eu](http://www.ecis2017.eu)).







## ABOUT THE INSTITUTION

The Waikato Management School is accredited by AACSB International, EQUIS – the European Quality Improvement System, and AMBA – the UK-based Association of MBAs. AACSB is the US-based Association to Advance Collegiate Schools of Business and is the world's oldest-established quality assurance body in management education.

The Department of Management Systems is one of eight departments in the Waikato Management School and oversees the disciplines of digital-business, e-commerce, supply chain management, and logistics. The Department also teaches project management, decision making and knowledge management. It was one of the first places in the world to introduce the Bachelor of Electronic Commerce degree, and complementary qualifications, including the Master in Electronic Commerce and Postgraduate Diploma in Electronic Commerce, have grown out of the Department's success in this area.

## RESEARCH TOPICS

Our research reflects the multidisciplinary nature of the department. Recent relevant research projects focus on:

- Beacons
- Data curation
- IT project management
- Data marketplaces
- Mobile commerce
- Electronic government
- Systems intelligence
- Knowledge transfer

## CURRENT RESEARCH PROJECTS

A number of research projects are currently underway, primarily around the business application of emerging technologies. One such topic seeks to conceptualise the possible applications of beacon technologies, particularly within the financial sector. Beacons are a relatively new concept based around Bluetooth 4.0 and 4.1. Early research has focused on the potential of beacons within retailing whereas this project seeks to broaden its application base. The development of mesh beacons has provided further business applications.

One of the Department's other key research projects, involving collaboration with Prof Gottfried Vossen from Muenster, and his research assistant Dr Florian Stahl, examines a range of related issues associated with data curation, presentation of curated data on mobile devices, and data storage and

presentation without internet access. An important output of this work to date has been the Web In Your Pocket (WiPo) tool, which allows selected data to be 'pushed' to a digital device and remain available to the user, even in areas where there is no internet access. The WiPo tool has the potential to be used in a range of areas, including e-tourism, emergency management and healthcare sectors. Most recently this has been applied to the specific emergency management example of search and rescue where a number of search and rescue experts have evaluated the potential of WiPo to enhance their operations.

A number of other relevant research projects are on-going in the areas of systems intelligence, knowledge sharing, supply chain integration, IT project management and emergency management.

## HOSTED SEMINARS

The Department regularly hosts seminars by visiting speakers which span a range of topics, reflecting the multidisciplinary research interests of the Department. Recent seminar topics include 'Dry Port Development', 'Using Change Management to Drive Sustainable Organisational Change',

'Offshore Software Development and Maintenance from a Non-Anglo-Saxon Perspective: Project Selection and Success Factors', 'Organising for Data Quality', and 'The Web in Your Pocket – Bringing an Idea to Life'.

## PUBLICATIONS

*Cataldo, A; McQueen, R (2014)* Strategic driver or unimportant commodity? Industrial Engineer, Vol. 46 No.2, pp. 37–41.

*Dillon, S; Taylor, H (2015)*, Employing Grounded Theory to Uncover Behavioral Competencies of Information Technology Project Managers, Project Management Journal, 46, 4, 90–104.

*Dillon, S; Vossen, G (2015)*, SaaS cloud computing in small and medium enterprises: A comparison between Germany and New Zealand, International Journal of Information Technology, Communications and Convergence, 3, 2, 87–104.

*Dillon, S; Stahl, F; Vossen, G (2015)*, BYOD and Governance of the Personal Cloud, International Journal of Cloud Applications and Computing, 5, 2.

*Dillon, S; Stahl, F; Vossen, G (2015)*, Towards Future IT Service Personalization: Issues in BYOD and the Personal Cloud, Advanced Research on Cloud Computing Design and Applications, 102–117.

*Dillon, S; Deakins, E; Hofmann, S; Rackers, M; Kohlbern, T (2015)*, A longitudinal study of local e-government development: The policy maker perspective, 23<sup>rd</sup> European Conference on Information Systems (ECIS).

*Dillon, S; Rastrick, K; Stahl, F; Vossen, G (2014)*, Cases for the web in the pocket (WiPo): Surviving offline with online data, International Journal of Information Technology and Web Engineering, 9 (3): 20

*Dillon, S; Buchanan, J; Al-Otaibi, K (2014)*, Perceived risk and online shopping intention: A study across gender and product type, International Journal of e-Business Research, 10 (4): 26 pgs

*Dillon, S; Vossen, G (2014)*, SaaS cloud computing in small and medium enterprises: A comparison between Germany and New Zealand, International Journal of Information Technology, Communications and Convergence, online, 17 pgs

*Hung, W-H; McQueen, R; Yen, D; Chau, P (2015)* Measuring the alignment of web-sites and organisational critical activities. Technology Analysis & Strategic Management, Vol. 27 No.5, pp. 550–568.

*McQueen, R; Yin, Z (2014)*, Perceptions of entrepreneurs about their zero employee web enabled businesses, Journal of Small Business and Enterprise Development, 21 (1): 26–48.

*McQueen, R; Yin, Z (2014)*, Perceptions of entrepreneurs about their zero employee web enabled businesses, Journal of Small Business and Enterprise Development, 21, 1, 26–48.

*Vossen, G; Dillon, S (2014)*, The impact of big data on future IS architectures, ACIS 2014 – Australasian Conference on Information Systems.

## DISSERTATIONS

*Mandal, Debashish: Social Media Adoption by Microbusinesses, 2015*

*Luo, Wen (Clark): Dynamics of supply chain relationships; a qualitative study of logistics triads, 2015*

*Ekanayake, Samantha: The Symbiotic Existence of Interorganizational and Interpersonal Networks in Collaboration, 2015.*

*Al Namani, Hamed: A Multi-level Technology Acceptance, Adoption and Implementation Model for Achieving Government-Citizen Dialogue: An Omani Case Study, 2014*

*Al Saifi, Said Abdullah: The Nature of the Relationships between Social Networks, Interpersonal Trust, Management Support, and Knowledge Sharing, 2014*



## CONTACT DETAILS

**DR. STUART DILLON**  
Associate Professor  
Chairperson, Department of  
Management Systems

Waikato Management School  
University of Waikato  
Private Bag 3105  
Hamilton 3240, New Zealand  
P +64 7838 4563  
[mngt.waikato.ac.nz/msys](http://mngt.waikato.ac.nz/msys)  
[stuart@waikato.ac.nz](mailto:stuart@waikato.ac.nz)

## KEY FACTS

### INSTITUTION

- founded in 1964
- The Department of Management Systems is one of eight departments in the Faculty of Management
- 2 full professors
- 3 associate professors
- 2 senior lecturers
- 1 lecturer
- 7 PhD students

### RESEARCH TOPICS

- IT project management
- Data marketplaces
- Data curation
- Website alignment
- Electronic government
- The IS research discipline
- Systems intelligence
- Knowledge transfer



# KAUNAS UNIVERSITY OF TECHNOLOGY – DEPARTMENT OF INFORMATION SYSTEMS – CENTRE OF INFORMATION SYSTEMS DESIGN TECHNOLOGIES

› Kaunas University of Technology – Department of Information Systems ktu.edu



## ABOUT THE INSTITUTION

The Department of Information Systems at the Kaunas University of Technology (KTU) was founded in 1993 as a result of more than 20 years of research in the field of information systems (IS). Since then, we have grown to become one of the leading departments in the KTU Faculty of Informatics. In 2012, the Department's Laboratory of Information Systems and Databases Design was restructured into the Centre of Information Systems Design Technologies (headed by prof. R. Butleris). In 2014, the Center was expanded as part of the move to the newly established Integrated Science, Studies and Business Centre (Valley) "Santaka". As of autumn 2015, the Department and Centre combined employed 27 researchers, lecturers, and engineers. Being among the leading IS R&D hubs in Lithuania, the Department has built good relationships with the local IT companies and accumulated valuable research experience with Lithuanian and international partners.

Our academic work is directed towards providing quality education on fundamental and advanced subjects in the field of information systems. The Department is responsible for both first and second cycle study programmes titled "Information Systems" and "Information Systems Engineering" respectively. In 2015, 34 students were accepted to the Bachelor study programme, and 18 to the Master's. There were also 10 PhD students in the Department.

## RESEARCH TOPICS

The KTU Department of Information Systems specialises in areas related to Information Systems Engineering. The majority of our R&D activities are carried out within the following topics:

- Conceptual modeling and databases
- Model-driven and service-oriented development
- Modeling of business processes and business rules
- Requirements specification
- Semantic Web languages and technologies
- Ontologies
- Enterprise modeling
- Project management
- Data mining and business intelligence
- Knowledge-based systems
- Model-driven testing of information systems
- Information systems user interface and usability

## CURRENT RESEARCH PROJECTS

Here are the main projects the Department and Centre staff have been involved in 2015:

- Business Semantics Based Integration of Business Processes and Business Rules (2013–2015), with No Magic Europe. Financed by the EU Structural Funds under the Human Resources Development Programme. The project was completed successfully producing the solution that

allows detailed integration of certain BPMN2, SBVR, and UML models thus facilitating model driven development of information systems. The fully functional prototype was developed for the MagicDraw CASE tool.

- Research and Development of Internet Technologies and their Infrastructure for Smart Environments of Things and Services (2012–2015). Financed by the EU Structural Funds under the Human Resources Development Programme. In 2015, our main contribution to this large scale initiative was the completion of the novel model-to-model (BPMN2-UML) transformation paradigm. The prototype implementation of customisable drag-and-drop transformations was successfully presented at the No Magic World Symposium in Allen, Texas.

- Professional network of Master's degrees in Informatics as a Second Competence – PROMIS (2013–2016). Financed by the Tempus Program and coordinated by the University Grenoble Alpes, this project is carried out by 5 European universities, 3 enterprises, and 10 beneficiary universities from five Central Asian (CA) countries. In 2015, in addition to monitoring activities, the Department organised a week long seminar devoted to the development and refinement of curricula for the master's courses of Databases and Data Mining and Data Warehouses.



- Lithuania's Membership in the International Research Infrastructure – CLARIN ERIC (2015–2016). In this Lithuanian Ministry of Education and Science supported initiative aimed at the development of the Common Language Resources and Technology Infrastructure, the Department is working together with the specialists of two other Lithuanian universities.

- Provision of Youth Consulting and Guidance Services in the Public e-Space (2012–2015). Financed by the EU Structural Funds under the Economy Growth Activities Programme, project coordinator – Youth Matters Department under the Ministry of Social Security and Labor of Lithuania.

In addition to aforementioned activities, the Department continued cooperation with local enterprises on a number of small-to-large scale projects. In 2015, the most notable result was the completion of the National Forest Inventory Information System that was developed in cooperation with the Lithuanian State Forest Survey Center and JSC Hnit-Baltic.

## EVENTS

21<sup>st</sup> International Conference on Information and Software Technologies, ICIST 2015. Druskininkai, Lithuania, October 15–16.

## PUBLICATIONS

*Skersys, T.; Pavalkis, S.; Nemuraite, L. (2015):* Implementing semantically rich business vocabularies in CASE tools // Proceedings of the international conference on numeri-

cal analysis and applied mathematics (ICNAAM-2014). Melville, NY: AIP Publishing, pp. 310002-1-310002-4.

*Mickeviciute, E.; Skersys, T.; Nemuraite, L.; Butleris, R. (2015):* SBVR business vocabulary and rules extraction from BPMN business process models // Information systems 2015 : proceedings of the 8<sup>th</sup> IADIS international conference. IADIS Press, pp. 211–215.

*Sinkevicius, E.; Nemuraite, L.; Butleris, R. (2015):* Merging business vocabularies and rules // Information systems 2015 : proceedings of the 8<sup>th</sup> IADIS international conference. IADIS Press, pp. 216–220.

*Vaiciukynas, E.; Verikas, A.; Gelzinis, A.; Bacauskiene, M.; Minelga, J.; Hallander, M.; Padervinskis, E.; Uloza, V. (2015):* Fusing voice and query data for non-invasive detection of laryngeal disorders // Expert systems with applications. Oxford: Elsevier. Vol. 42, issue 22, pp. 8445–8453.

*Adam, J.-M.; Milosz, M.; Merceron, A.; Ripphausen-Lipa, H.; Kapocius, K.; Toppinen, A. (2015):* Pedagogy sharing in the PROMIS project // Proceedings of 2015 IEEE Global Engineering Education Conference (EDU-CON 2015). IEEE, pp. 587–593.

## DISSERTATIONS

*Jaroslav Karpovic:* Representation of Semantics of Business Vocabulary and Business Rules in Web Ontology Language



## CONTACT DETAILS

**PROF. RIMANTAS BUTLERIS**  
Department of Information Systems / Centre of Information Systems Design Technologies

Kaunas University of Technology  
Studentu 50–313 a  
LT-51368 Kaunas  
Lithuania

P +370 37 453445  
isd.ktu.lt  
isptc.ktu.lt  
rimantas.butleris@ktu.lt

## KEY FACTS

### INSTITUTION

- Founded in 1993
- Part of the KTU Faculty of Informatics
- More than 20 researchers



# SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMICS – INFORMATION SYSTEMS DEPARTMENT



## ABOUT THE INSTITUTION

Simon Kuznets Kharkiv National University of Economics is the leading higher education institution of Eastern Ukraine, which provides a full range of educational services, carrying out multistage training, retraining and upgrading experts' skills in 23 specialties, such as Economics and Entrepreneurship, Management and Administration, Information Systems and Computer Science, Publishing and Printing Business.

Information Systems Department has more than 40 professors, 1,000 students, is an active member of IT-Ukraine Association, Kharkiv IT-cluster, 15 professors are Microsoft certified specialists. Microsoft IT-Academy works since 2009, IBM Academic Centre "Smarter Commerce" – since 2012.

Information Systems Department is a member of National Educational Methodical Commission in Information Systems and Computer Science. The Master Double Diploma Program MBA "Business Informatics" with the University of Lumiere Lyon-2, France, was established in 2005. According to research of SMBG Consulting Group the Program was included in the top 10 Master Programs in Business Intelligence in France in 2012–2015. 169 students have graduated from the Program.

Simon Kuznets Kharkiv National University of Economics has about 12,000 students (including 800 foreign students), 780 faculty members and offers training primarily structured around the new teaching architecture of the higher education.

Having a considerable experience in train-

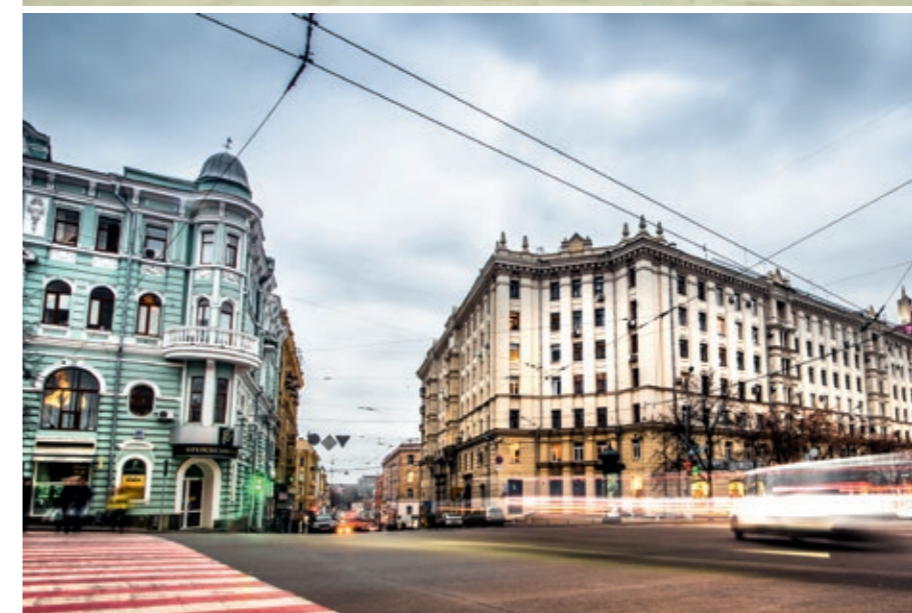
ing Ukrainian students, KhNUE influences HR, scientific, technical and economic policy of industrial enterprises and organizations in the country. The University trains highly skilled economists familiar with modern information technologies and innovative model of behavior.

The University established a flexible system of quality specialists preparation management, based on continuous monitoring of KhNUE graduates' achievements.

## RESEARCH TOPICS

(from November, 2015 we have 3 new professors in the IS Department)

The majority of Simon Kuznets Kharkiv National University of Economics Information Systems Department research activities are carried out within the following topics:



- Mobile technologies in operative management of an enterprise;
- Models and methods of distribution in GRID-Systems;
- System of monitoring in scientific researches in higher education;
- Fuzzy logic and modelling in logistic and marketing;
- Information security;
- Distributed data warehouses;
- Knowledge base and artificial intelligence;
- Innovative computer technologies in higher education;

- Cyber security of Instrumentation and Control Systems;
- Computer networks: performance, traffic and structure optimization, wireless and mobility;
- Natural computing: Neural Computation, Evolutionary Computation, Artificial Immune Systems, Swarm Intelligence;
- Multiobjective Optimization;
- Computational Intelligence for System Identification and Control



## CONTACT DETAILS

### PROF. IRYNA ZOLOTARYOVA

Member of the Ukrainian Higher Education Reform Experts Team/  
Head of the Ukrainian-French Master Double Diploma Program MBA "Business Informatics"/  
Information Systems Department

Simon Kuznets Kharkiv National University of Economics (KhNUE),  
Kharkiv, Lenin Avenue, 9a  
61166 Ukraine

P +38067759 61 58  
<http://ei.hneu.net/en/lecturer/5990>  
[Iryna.Zolotaryova@hneu.net](mailto:Iryna.Zolotaryova@hneu.net)

## KEY FACTS

### INSTITUTION

- Founded in 1930
- 12,000 students and 780 staff
- 8 faculties, 34 departments
- Double Master Diplomas with universities in France and Austria

### IS DEPARTMENT

- 42 professors
- 1,000 bachelor's & master's students







## CURRENT RESEARCH PROJECTS

- Algorithms and software scheduling for distributed computing in GRID-systems.
- Modern simulation technology and designing of information systems and management objects.
- The development of models and methods for scheduling in a distributed environment with inalienable and alienable resources for tasks with deadlines.
- Computer imitational modeling of industrial and commercial systems.
- Analysis of cryptographic means for information protection in banking systems.
- Modern digital technology support information systems of financial business.
- Developing differential game models complex of cyber-attacks processes in systems for bank information protection. Analysis and developing optimal strategies for information security in banking systems.
- Forecast dynamic processes methods using generating functions.

## AWARDS

- Ukrainian Student team's Programming Contest 2014 – 1<sup>st</sup> and 3<sup>rd</sup> places
  - International Championship of IT talents "Golden Byte" 1<sup>st</sup> place
  - 1<sup>st</sup> place in Ukrainian student's contest in Information Security
- Conferences:**
- VII Annual International Conference "IT Industry Development: Problems and Perspectives"
  - VI Annual Conference "Information technology in the contemporary world: studies of young scientists"

## PUBLICATIONS

- edited by Ponomarenko, V.* Information systems in management, education, industry. Monograph. Kharkiv, 2014. 498 p.
- Minukhin, S.* Models and methods for solving scheduling problems in distributed computing systems. Monograph. Kharkiv, 2014, 322 p.
- Ponomarenko, V.; Dorokhov, O.,; Malyaretz, L.* Reduction of the critical path finding problem to an ordinary transportation task in Excel. Bulletin of the Transylvania University of Brasov. Vol 7(56), No. 1 – 2014, p. 109–118

*Evseev, S.; Korol, O.; Sverdlo, T.* Mécanismes intégrés de sécurité et de fiabilité des données dans les systèmes d'information basés sur la théorie des codes correcteurs d'erreurs. French Journal of Science and Education, Paris, № 2, 2014. – p. 84–95

*Zolotaryova, I.; Plokha, O.* Using Capabilities of Microsoft Onenote for the organization of distance individual and group work of students. Innovative computer technologies in higher education: VI Scientific Conference, Lviv, 18–20 November 2014 Lviv Polytechnic National University, 2014. p. 25–31

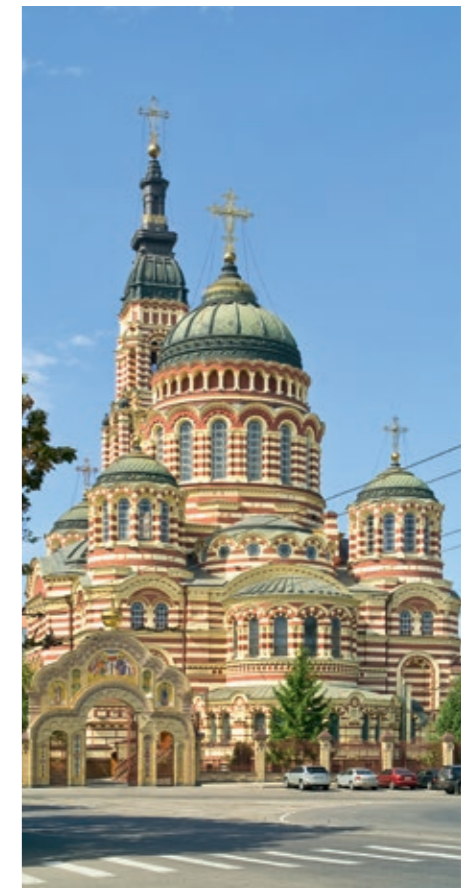
*Plokha, O.* Modeling of the information management system innovation activities of enterprises // Socio-economic problems and the state, 2015, p. 37–42

*Sklyar V.; Andrashov A.; Kharchenko V.; Kovalenko A.* Nuclear Power Plant Instrumentation and Control Systems for Safety and Security. A volume in the Advances in Environmental Engineering and Green Technologies (AEEGT) Book Series. – Hershey, Pennsylvania, United States of America. IGI Global, 2014. 470 p.

*Kovalenko A. A.* Approach to certify PLC configuration tools to meet functional safety requirements // Proceeding of 7<sup>th</sup> International Conference "DEpendable Systems, SERVICES and Technologies (DESSERT 2014). – Kiev, Ukraine. – May 16–18, 2014. – P. 21.

*Rudenko O. G.; Bezsonov O. O.* Robust neurodevelopmental identification of nonlinear non-stationary objects // Cybernetics and Systems Analysis. Kiev, Ukraine. – 2014. – v.50. – pp. 17–30

*Rudenko O. G.; Bezsonov O. O.* Multiobjective Optimization of Evolving Feedforward Neural Networks // Journal of Automation and Information Sciences. Kiev, Ukraine. – 2014. – v.46. – pp. 9–22.



## RESEARCH TOPICS

- Mobile technologies
- Business Process Management
- System of monitoring in scientific researches in higher education
- Fuzzy logic and modelling in logistic and marketing
- Information security
- Distributed data warehouses
- Knowledge base and artificial intelligence
- Innovative IT in higher education
- E-learning







## ABOUT THE INSTITUTION

The Department of Information Systems (IS) is one of four departments within the Faculty of Social Sciences at the University of Agder (UiA). With an academic staff of 15 permanent positions and 3 adjunct professors, this is one of the largest IS departments in Norway.

The department offers a three-year bachelor's programme in IT and Information Systems, a one year undergraduate study in IT and Information Systems, a two-year master's programme in Information Systems, and a three year PhD programme in Information Systems. The master's programme started in 1999 as the first IS master programme in Norway. The University of Agder also has a Department of ICT, responsible for education and research within computer science and ICT engineering.

The Department of Information Systems contributes actively to the IS community by publishing in leading IS journals, and hosting and participating in international conferences.

## RESEARCH TOPICS

The research in the Department of IS is currently organised in two centres and one research group:

**Centre on e-Government (CeG)** focuses on how ICT can be used to improve government processes and communication with citizens, how citizen participation can be advanced through social networks and how ICT can further development in the less

developed parts of the world. The Centre is involved in research, teaching and dissemination, and is a leading e-Government research group in Norway.

**Centre for Enterprise Systems (CENS)** was established as a response to the increasing demand for graduates with enterprise systems skills, both from the IS and the business programs. The Centre has two main goals: to provide hands-on enterprise systems modules in various IS and business courses, and to act as a resource centre for organisations on the acquisition, implementation and use of enterprise systems.

**The Research Group on Design Research** focuses on how information technology artefacts, such as information systems and software solutions, are developed in and for organisations. Especially, the group views development of artefacts as interaction between the processes of technical construction of artefacts and organisational implementation.

In addition, the Department is part of two multidisciplinary centres at the University of Agder:

**The Centre for e-Health and Health Care Technology** focuses on teaching, research, development and testing of new technology for the health and social sector. Taking a user perspective, the aim of the centre

is to make everyday life easier in today's health society by developing technological solutions such as smart house solutions and mobile home services.

**The Centre for Integrated Emergency Management (CIEM)** aims at releasing the potential of powerful evolving technologies for integrated emergency preparedness and management. The Centre conducts research on networks, mobile devices, human-centered sensing, social media, sensemaking, visualisation, decision support, collective intelligence and technology adoption.

## CURRENT RESEARCH PROJECTS

**Implementation of welfare technology. Digital surveillance in municipalities and its impact on innovation of services and organisation (2014–2017).** Project funded by the The Research Council of Norway. The project consortium consists of the University of Agder, the University College of Buskerud and Vestfold, five municipalities and one business partner. The project aims at researching innovation in business processes and learning needs.

**SmartEMIS (Smart Emergency Management Information Systems) (2012–2015).** Project funded by The Competence Development Fund of Southern Norway. The project focuses on how mobile devices such as smart phones combined with different

forms of social media can be applied for improving information sharing and collaboration in crises.

**Smart Mature Resilience (SMR) (2015–2018).** Project funded through the H2020 Secure Societies program. The project will develop and validate a European Resilience Management Guideline, using three pilot projects covering different security sectors in Critical Infrastructures, as well as climate change and social dynamics. The consortium involves the University of Agder, TECNUN Universidad de Navarra, the University of Strathclyde, Linköping University, ICLEI European Secretariat, and seven European pilot cities. More info on <http://ciem.uia.no/project/smart-mature-resilience>.

## EVENTS

The Centre for Integrated Emergency Management (CIEM) at the University of Agder hosted the 12<sup>th</sup> International Conference on Information Systems for Crisis Response and Management (ISCRAM 2015) on May 24–27 2015 in Kristiansand, Norway, with close to 300 participants (<http://iscram2015.uia.no/>)

## PUBLICATIONS

*Bygstad, B.; Munkvold, B. E.; Volkoff, O. (2015).* Identifying Generative Mechanisms Through Affordances: A Framework for Critical Realist Data Analysis. *Journal of Information Technology*, forthcoming.

*Eikebrokk, T. R.; Iden, J. (2015).* Strategising IT service management through ITIL implementation: model and empirical test. *Total Quality Management & Business Excellence*, forthcoming.

*Federici, T.; Braccini, A.M.; Sæbø, Ø. (2015).* 'Gentlemen, all aboard!' ICT and party politics: Reflections from a Mass-eParticipation experience. *Government Information Quarterly*, 32(3), 287–298.

*Majchrzak T. A.; Ernsting, J.; Kuchen, H. (2015).* Achieving Business Practicability of Model-Driven Cross-Platform Apps. *Open Journal of Information Systems (OJIS)*, 2(1).

*Merschbrock, C.; Munkvold, B. E. (2015).* Effective digital collaboration in the construction industry – A case study of BIM deployment in a hospital construction project. *Computers in Industry*, 73, 1–7.

*Princely, I.; Olsen, D. H. (2015).* An Empirical Research on the Impacts of organisational decisions' locus, tasks structure rules, knowledge, and IT function's value on ERP system success. *International Journal of Production Research*, 53(8), 2554–2568.

*Spagnoletti, P.; Resca, A.; Sæbø, Ø. (2015).* Design for social media engagement: Insights from elderly care assistance. *The Journal of Strategic Information Systems*, 24(2), 128–145.

*Wale-Kolade, A.; Nielsen, P. A. (2015).* Apathy towards the Integration of Usability Work: A Case of System Justification. *Interacting with Computers*, forthcoming.

*Webersik, C.; Gonzalez, J. J.; Dugdale, J.; Munkvold, B. E.; Granmo, O.-C. (2015).* Towards an integrated approach to emergency management: interdisciplinary challenges for research and practice. *Culture Unbound: Journal of Current Cultural Research*, 7(3), 524–540.

*Westin, S.; Sein, M. K. (2015).* The Design and Emergence of a Data/Information Quality System. *Scandinavian Journal of Information Systems*, 27(1), Article 1.

## DISSERTATIONS

*Garmann-Johnsen, Niels Frederik:* CBPM in E-health: Exploring and Modelling the Role of Inter-Organisational Coordination and Collaborative Business Process Management in E-health Innovation

*Moe, Carl Erik:* Public procurement of information systems – A dialectical analysis

*Wale-Kolade, Adeola:* Integrating usability work into agile systems development



## CONTACT DETAILS

**PROF. DR. ING. BJØRN ERIK MUNKVOLD**  
Department of Information Systems

University of Agder  
Post Box 422  
NO-4604 Kristiansand, Norway  
P +47 38 141 000  
[www.uia.no/is](http://www.uia.no/is)  
[bjorn.e.munkvold@uia.no](mailto:bjorn.e.munkvold@uia.no)

## KEY FACTS

### INSTITUTION

- Founded in 1994 (full university status from 2007)
- Approximately 11,000 students and 1,100 staff

### DEPARTMENT OF IS

- 18 researchers
- Approximately 300 bachelor and master students in IS
- 12 PhD students

### RESEARCH TOPICS

- E-Government and benefits realisation
- E-Participation and e-Democracy
- ICT for development
- Enterprise systems implementation in SMEs
- Business process management and process modelling
- Knowledge management and e-collaboration
- Systems development practice
- Emergency management IS



# KU LEUVEN – LEUVEN INSTITUTE FOR RESEARCH ON INFORMATION SYSTEMS & PUBLIC GOVERNANCE INSTITUTE



## KU LEUVEN

### ABOUT KU LEUVEN

Situated in Belgium, in the heart of Western Europe, KU Leuven has been a centre of learning for nearly six centuries. Today, it is Belgium's largest university and, founded in 1425, one of the oldest and most renowned universities in Europe. KU Leuven is a research-intensive, internationally oriented university that carries out both fundamental and applied research. It is strongly inter- and multidisciplinary in focus and strives for international excellence.

Following the integration of the university colleges, the 'entire' KU Leuven counted 57,284 students as of June 2015. The largest student populations are found in the faculties of Economics and Business, Medicine, Engineering Technology, Arts, and Law. Students from approximately 150 countries study at KU Leuven.

### LIRIS

The Leuven Institute for Research in Information Systems (LIRIS), founded in 1987, coordinates research in the area of

information technology and management in organizations. This research embodies: fundamental issues of information systems in organizations (dealing with concepts, models, generic methods, tools and techniques), applied research (relating general research results to specific problems and application areas), and research on the use and implications of information systems throughout society.

The LIRIS Faculty currently counts 7 professors, 2 postdocs and around 15 PhD researchers.

### PUBLIC GOVERNANCE INSTITUTE

The KU Leuven Public Governance Institute has as the mission to gain knowledge and insight regarding politics, administration and public policies on local, regional, federal, European and international levels. We intend to make scientific contributions to an improvement in the policy-making, organization and management of public administrations.

The KU Leuven Public Governance Institute is an internationally oriented and interdisciplinary research institute that focusses

on different aspects of public governance. Both fundamental and applied research are part of our activities, with special attention on theory, empirical research and practice. Comparative research in particular is one of our core competencies.

### RESEARCH TOPICS

Important research topics of LIRIS are:

- analysis, modeling and architecture of information systems;
- knowledge discovery, data and process mining;
- architecture and infrastructure;
- data, process and decision modeling;
- business data, process, service, rules and decision management;
- information strategy.

The research focuses on the entire trajectory of assessing the as-is business situation (through discovery, analysis, mining), modeling the concepts, improving the mod-

el to obtain the to-be situation, and engineering the model to an implementation. This integrated approach of models, rules, decisions, processes, structures aims at creating innovative business solutions and is referred to as Business Engineering. Business Engineering combines knowledge from the fields of business administration as well as information technology and relates it to the transformation from the industrial society into an information society, where creation, integration, processing, management and use of information and knowledge is a significant economic activity and a source of competitive advantage.

Public Governance Institute focuses on three distinguishable but partly overlapping clusters within the public governance domain:

- Politics, citizens and policies: this research cluster focuses on the understanding of the relationship between governments, citizens and policy practices.
- Administrative organization and HRM: this cluster focuses on the changes in the governmental landscape and the way in which the government handles its human capital. Examples of research lines are: Co-creation and Co-production of public services; Organization of public tasks; coordination and cooperation.
- Management of information, performance and finance: this cluster focuses on research about methods and approaches to manage use and exchange information by governments in the policy, management and financial cycles. This may be within as well as between administrative organizations, but also across and between governments. Examples of research lines are: Information management; E-Governance; Data Infrastructures, Analysis and evaluation of information streams; Performance management; Financial management; Trust in and within the government.

### CURRENT RESEARCH PROJECTS

Research projects within LIRIS are conducted in four major areas:

### Engineering information solutions

Engineering information solutions, dealing with conceptual modeling, data quality and requirements management is a first important area. It allows creating innovative solutions, based on sound modeling principles and aligned with the business. Example:  
- KBC Research Chair, A Data Quality Framework for Effective Risk Data Aggregation and Risk Reporting, 2015–2019.

### Business processes intelligence

A second important area is the area of business processes intelligence. This includes some important new contributions to the theory of process analytics and discovery, and applies process analytics to some specific new domains (auditing, learning, service, customers and administrative processes), giving rise to auditing analytics, e-learning analytics, service analytics, etc.  
- New techniques in Process Analytics, 2015–2019.

### Business decision management

Business decision management (modeling, mining and implementing decision representations and business rules) is an area with a long tradition in FEB. The research recently led to an industry standard, DMN (Decision Model & Notation), adopted by the OMG.

- Fund for Scientific Research – Flanders (F.W.O.-Vlaanderen), Project FWO Go804 13N, Improving Process Modeling and Control using Advanced Business Process Analytics and Enriched Event Logs, 2013–2016.

### Business Analytics & Data Science

In close collaboration with a world-wide network of companies and fellow researchers, we study various research topics within the field of data science. Another key research track concerns the development of social network based analytical models for fraud detection, credit risk modeling and marketing analytics (e.g. churn prediction).  
- Fund for Scientific Research – Flanders (F.W.O.-Vlaanderen), Gotcha: fraud detection through network analysis, 2015–2018.



## CONTACT DETAILS

### LIRIS

PROF. DR. JAN VANTHIENEN  
Leuven Institute for Research  
on Information Systems

KU Leuven  
Faculty of Economics and Business  
Naamsestraat 69  
3000 Leuven, Belgium

P +32 16 326 878  
<http://feb.kuleuven.be/liris>  
[Jan.Vanthienen@kuleuven.be](mailto:Jan.Vanthienen@kuleuven.be)

## KEY FACTS

### RESEARCH AREAS

The LIRIS research covers fundamental issues of information systems in organizations (dealing with concepts, models, generic methods, tools and techniques), applied research (relating general research results to specific problems and application areas), and research on the use and implications of information systems throughout society.





# KU LEUVEN – LEUVEN INSTITUTE FOR RESEARCH ON INFORMATION SYSTEMS & PUBLIC GOVERNANCE INSTITUTE

Recent research projects of Public Governance Institute are:

- Geospatial technology innovations for land tenure security in East Africa (H2020) (2016–2017).
- Governance for effective Spatial Data Infrastructures (2015–2018).
- Centre of Excellence in Territorial Management and Cadastre (CENTRIC) (H2020) (2015–2016).
- Developing a strategy for National Spatial Data Infrastructure (NSDI) for the Republic of Kosovo (World Bank) (2014–2015).
- Development of a knowledge base on land and buildings policy set of instruments (2014).
- Towards optimal management of intergovernmental information processes (2012–2016).
- Strengthening institutional capacity to Support Public Administration and/or Development Management Programmes at Ambo University (2013–2018).
- Learning from Innovation in Public Sector Environments (LIPSE) (2013–2016).
- LOCREF: Local Public Sector Reforms: An International Comparison (2013–2017).

#### LIRIS RESEARCH CHAIRS WITH INDUSTRY

The Business Information Systems group has a long tradition in industry-funded research chairs. This partnership with industry is a strong valorization of the research efforts and a good source of relevant research questions. Some current research chairs in business processes, decisions and information management:

**Colruyt – Symeta** Research Chair: Smart Data and Decisions in Marketing



**KBC** Research Chair: A Data Quality Framework for Effective Risk Data Aggregation and Risk Reporting

**Coca Cola** Research Chair on Gaining Business Value out of Big Data and Predictive Analytics

**Bpost Bank** Research Chair on ACT: Actionable Customer Analytics

**VDAB** Research Chair on CARMA: CAReer Management Analytics

**Ageas** Research Chair on Insurance Analytics

**RSZ** FAIR Research Chair on Forecasting and Network Analytics for Collection Risk Management

In the past, other research chairs in cooperation with TicketMatic, OpenConnect, Microsoft, KBC, VReP Amsterdam-Amstelland, SAP and PwC have been completed successfully.

The site <http://feb.kuleuven.be/liris> contains an overview of current research projects, top publications, doctoral dissertations and research chairs with industry.

#### AWARDS

**Public Governance Institute:** Prof. dr. ir. Joep Crompvoets' nomination for being an expert in the United Nations initiative on Global Geospatial Information Management (UN-GGIM) has been recently accepted.

In 2014, The Anneliese Maier Research Award (Alexander von Humboldt Stiftung/Foundation) was granted to prof. dr. Geert Bouckaert of the Faculty of Social Sciences in recognition of his outstanding achievements in academic research.

Prof. dr. Geert Bouckaert has been elected President of the IIAS/IISA (International Institute of Administrative Sciences/Institut International des Sciences Administratives), for a 3-year mandate, succeeding Pan Suk Kim from Korea.

#### JOURNAL PUBLICATIONS

*Pollitt, C. (2016)* Be prepared? An outside-in perspective on the future public sector in Europe. *Public Policy and Administration*: forthcoming.

*Serral Asensio, E.; De Smedt, J.; Snoeck, M.; Vanthienen, J. (2015)* Context-adaptive petri nets: supporting adaptation for the execution context. *Expert Systems with Applications*: 42(23), pp. 9307–9317.

*De Smedt, J.; De Weerd, J.; Vanthienen, J. (2015)* Fusion miner: process discovery for mixed-paradigm models. *Decision Support Systems*: 77, pp. 123–136.

*Moreno-Montes de Oca, I.; Snoeck, M.; Reijers, H.; Rodríguez-Morffí, A. (2015)* A systematic literature review of studies on business process modeling quality. *Information and Software Technology*: 58, pp. 187–205.

*Van Cauter, L.; Bannister, F.; Crompvoets, J.; Snoeck, M. (2015)* When innovation stumbles: applying Sauer's failure model to the Flemish road signs database project. *International Journal of Public Administration in the Digital Age (IJPADA)*.

*Dirick, L.; Claeskens, G.; Baesens, B. (2015)* An akaike information criterion for multiple event mixture cure models. *European Journal of Operational Research*: 24, pp. 449–457.

*Novák, P.; Serral Asensio, E.; Mordinyi, R.; Šindelář, R. (2015)* Integrating heterogeneous engineering knowledge and tools for efficient industrial simulation model support. *Advanced Engineering Informatics*: 29, pp. 575–590.

*Zhu, X.; Zhu, G.; van den Broucke, S. (2015)* 地理空间约束的业务流程建模方法. *Journal of Software*: 26(3), pp. 584–599.

*Goedertier, S.; Vanthienen, J.; Caron, F. (2015)* Declarative business process modeling: principles and modeling languages. *Enterprise Information Systems*: 9(2), pp. 161–185.

*Minnaert, B.; Martens, D.; De Backer, M.; Baesens, B. (2015)* To tune or not to tune: rule evaluation for metaheuristic-based sequential covering algorithms. *Data Mining and Knowledge Discovery*: 29(1), pp. 237–272.

*Wynen, J.; Verhoest, K.; Demuzere, S. (2015)* Quality Management in Public Sector Organizations: Evidence from Six EU Countries. *International Journal of Public Administration*.

*Crompvoets, J.; Broucker, B. (2015)* Geospatial Information Broker. A new role of National Mapping Agencies. *Micro, Macro & Mezzo Geoinformation*: 4, pp. 1–10.

*Op de Beeck, S.; Wynen, J.; Hondeghem, A. (2015)* Effective HRM Implementation by Line Managers: Relying on Various Sources of Support. *International Journal of Public Administration*.

*Masser, I.; Crompvoets, J. (2015)* Building European Spatial Data Infrastructures. Esri Press, Redlands, CA, USA, 100 pgs.

*Masser, I.; Crompvoets, J. (2015)* Progress on INSPIRE Implementation: Four national case studies. *GEOInformatics*: 18(1), pp. 22–24.

*Sedrakyán, G.; Snoeck, M.; Poelmans, S. (2014)* Assessing the effectiveness of feedback enabled simulation in teaching conceptual modelling. *Computers and Education*: 78, pp. 367–382.

*Huysegoms, T.; Snoeck, M.; Dedene, G.; Goderis, A.; Stumpe, F. (2014)* Using and extending formal concept analysis to visualise variability during requirements engineering. *Journal of Universal Computer Science*: 20(6), pp. 842–858.

*Tobback, E.; Martens, D.; Van Gestel, T.; Baesens, B. (2014)* Forecasting loss given default models: impact of account characteristics and the macroeconomic state. *Journal of the Operational Research Society*: 65(3), pp. 376–392.

*Pana, F.; Put, F. (2014)* Performance evaluation of RSVP using OPNET modeler. *Simulation Modelling Practice and Theory*: 49, pp. 85–97.

#### DISSERTATIONS

##### LIRIS:

*09-10-2015, Véronique Van Vlasselaer* "FAIR: Forecasting and network analytics for collection risk management".

*19-02-2015, Alex Seret* "Business-driven data mining: new techniques and applications".

*16-12-2014, Helen Tadesse Moges* "A contextual data quality analysis for credit risk management in financial institutions".

*12-11-2014, Flavius-Alexandru Pana* "Quality of service on the internet: evaluation of RSVP based solutions".

*31-10-2014, Seppe vanden Broucke* "Advances in Process Mining: Artificial negative events and other techniques".



#### CONTACT DETAILS

##### PUBLIC GOVERNANCE INSTITUTE

**PROF. DR. JOEP CROMPVOETS**  
Public Governance Institute  
P +32 16 323 134  
[Joep.Crompvoets@soc.kuleuven.be](mailto:Joep.Crompvoets@soc.kuleuven.be)

**PROF. DR. BRUNO BROUCKER**  
Public Governance Institute  
P +32 16 373 526  
[Bruno.Broucker@kuleuven.be](mailto:Bruno.Broucker@kuleuven.be)

KU Leuven  
Public Governance Institute  
Parkstraat 45  
3000 Leuven, Belgium

<http://soc.kuleuven.be/io/english>

#### KEY FACTS

##### RESEARCH AREAS

The KU Leuven Public Governance Institute conducts research into different aspects of public governance from a public administration and political science perspective. The results of our research are of value in higher and continuing education, in public organizations, and for society in general.







## ABOUT THE INSTITUTION

The main campus of Luleå University of Technology (LTU) is located in Luleå, Sweden, on the northern coast of the Gulf of Bothnia. In 2015, the university had 1,700 employees and 16,000 students. Research is carried out in close cooperation with partners from industry such as Bosch, Ericsson, Scania, LKAB and SKF, with partners from the public sector and with other leading international universities. Externally funded research has a turnover of more than EUR 90 million per year.

Information Systems (IS) at LTU is defined by its inter-disciplinary research approach, which covers topics connected to the design and use of information technology in relation to people, organizations and societies. IS has a faculty of 25 persons and 11 doctoral students. IS-related research is also conducted within other research subjects such as Industrial Marketing and Mobile, Pervasive Computing, e-Communication, e-Commerce, e-Government, and e-Health. Externally financed projects are organized and supported by four research centers: Centre for Distance-Spanning Technology, Centre for Long-term Digital Preservation, the e-Health Innovation Centre and Centre for Inter-organizational Innovation Research.

## RESEARCH TOPICS

Enabling ICT, which is one of nine strategic areas of excellence in research and innovation within the university, is hosted by IS and gathers researchers to collaborate

within the information and communication field.

Digital Service Innovation regards services as a driver for individual, organizational, and societal change, in which interaction between design and evaluation processes is vital. The challenges include enabling sustainable life through transformative services, creating and maintaining a service innovation culture, enhancing the service experience through co-creation, and assessing service value.

Information Security focuses management and behavioral aspects of information, network and infrastructure security, as well as pedagogical issues of on-line security education. The topic covers security as a part of organizational practice, security and IT-management practices, business risk practices and technical design of enterprise security controls. An international, on-line master's program and an on-line information laboratory for both educational and research purposes are continuously developed.

Sustainable Data and Information Management regards data, information, and knowledge as a valuable resource to be managed, cultivated, and utilized systematically throughout its life-cycle both in enterprises and in the public sector. The challenges include effective knowledge creation and acquisition, processing and storage of big data, data and information quality, open data and information distribution, data mining and analytics for

decision-making, enterprise content management, digital curation and long-term digital preservation of information beyond governance of individual services and applications.

## CURRENT RESEARCH PROJECTS

Related to Digital Service Innovation: SATIN II that aims to make it easier for end users to develop mobile services ([www.satinproject.se](http://www.satinproject.se)), EAR-IT that focuses on existing challenges of using acoustic sensing in smart cities and smart buildings ([www.ear-it.eu](http://www.ear-it.eu)), and IoT Labs that will research crowdsourcing to extend Internet of Things (IoT) testbed infrastructure for multidisciplinary experiments and end-user interactions ([www.iotlab.eu](http://www.iotlab.eu)).

Related to Information Security: USEMP project that studies how to empower individual data subjects with regard to sharing their personal data, while protecting their privacy by design ([www.usemp-project.eu](http://www.usemp-project.eu)). The MSB project on protective measures and guidelines to national authorities is funded by the Swedish Civil Contingency Agency.

Related to Sustainable Data and Information Management: ForgetIT focuses on concise digital preservation by combining managed forgetting and contextualized remembering of archived information ([www.forgetit-project.eu](http://www.forgetit-project.eu)) and DURAARK that focuses on the preservation of 3D architectural data ([www.duraark.eu](http://www.duraark.eu)). Research is also conducted in Cloudberry ([www.cloudberry-datacenters.com](http://www.cloudberry-datacenters.com)), a research and innovation milieu for green data centers and clouds.

Research and projects within related research subjects: e-Communication, e-Commerce and e-Government are studied from a market-oriented perspective, which involves understanding customers' needs, behavior and attitudes; developing customized services, messages, and strategies; creating customer value; and understanding how customers' behavior and attitudes can be influenced or changed.

Projects are, for example: CUP (Customer focus for increased use of public e-services), EKO (Effective communication in crisis), DIGIVÅX (Digital strategies for growth in the hospitality industry).

## EVENTS

The second bi-ennial Luleå seminar on design-oriented research was organized by IS Sept 15-16 2015. The topic for the seminar was design research and action design research, and prof. Maung Sein, Sandeep Puroo and Matti Rossi were acting as mentors sharing their expertise with the participants.

## DISSERTATIONS

Josefin Lassananti has presented and discussed her licentiate thesis with Prof. Debra Howcroft. The work addresses public sector open data in relation to social, political and technical aspects.

## RECENT JOURNAL PUBLICATIONS

Sandlund, M.; Lindgren, H.; Pohl, P.; Melander-Wikman, A.; Bergvall-Kåreborn, B.; Lundin Olsson, L. (2016). Towards a mobile exercise application to prevent falls: A participatory design process. *International Journal of Child Health and Human Development*, 9 (3).

Pohl, P.; Sandlund, M.; Ahlgren, C.; Bergvall-Kåreborn, B. et al. (2015). Fall Risk Awareness and Safety Precautions Taken by Older Community-Dwelling Women and Men. *P L o S One*, 10 (3).

Awad, A. (2015). Fast Fingerprint Orientation Field Estimation Incorporating General Purpose GPU. *Advances in Intelligent Systems and Computing*, in press.

Booth, T.; Andersson, K. (2015). Network Security of Internet services: Eliminate DDos Reflection Amplification Attacks. *Journal of Internet Services and Information Security*, 5 (3), 58–79.

Haddara, M. (2015). Cloud ERP Systems: Anatomy of Adoption Factors & Attitudes. *Information Resources Management Journal*, in press.

Haddara, M.; Elragal, A. (2015). The Readiness of ERP Systems for the Factory of the Future. *Procedia Computer Science*, 64, 721–728.

Nilsson, T.; Chronéer, D. (2015). A critical exploration of collected data in business research: Is data trustworthy? A comparison of a survey and interviews. *International Journal of Business and Management*, 10 (8).

Chronéer, D.; Backlund, F. (2015). A Holistic View on Learning in Project-Based Organizations. *Project Management Journal*, 46 (3).

Chronéer, D.; Johansson, J.; Malmström, M. (2015). Business Model Management Typologies: Cognitive Mapping of Business Model Landscapes. *International Journal of Business and Management*. 10 (3)67–80.

Backlund, F.; Chronéer, D.; Sundqvist, E. (2015). Maturity assessment: towards continuous improvements for project-based organisations? *International Journal of Managing Projects in Business*. 8 (2), 256–278.

Päivärinta, T.; Smolander, K. (2015). Theorizing about Software Development Practices. *Science of Computer Programming*. 101, 124–135.

Wendin, K.; Åström, A.; Ståhlbröst, A. (2015). Exploring differences between central located test and home use test in a living lab context. *International Journal of Consumer Studies*. 39 (3), 230–238.

Lindberg, M.; Ericson, Å.; Gelter, J.; Karlberg, H. (2015). Social change through place innovation. *Design Research Journal*, 1, 9–13.

Ericson, Å.; Johansson, C.; Nergård, H. (2015). Manufacturing knowledge: going from production of things to designing value in use. *Intelligent Decision Technologies*. 9 (1), 79–89.



## CONTACT DETAILS

PROF. DR. TERO PÄIVÄRINTA  
Information Systems,  
Department of Computer Science,  
Electrical and Space Engineering

Luleå University of Technology  
SE-971 87 Luleå, Sweden

P +46 72 532 05 30  
[tero.paivarinta@ltu.se](mailto:tero.paivarinta@ltu.se)

[www.ltu.se/research/subjects/  
information-systems](http://www.ltu.se/research/subjects/information-systems)

[www.ltu.se/research/areas-of-  
excellence/enabling-ICT?l=en](http://www.ltu.se/research/areas-of-excellence/enabling-ICT?l=en)

## KEY FACTS

### INSTITUTION

- Founded 1971
- 16,000 students and 1,700 staff members
- Subject of Information Systems: 25 IS researchers, 3 professors
- Enabling ICT: Several IS-related research areas and topics
- International, on-line master's program in Information Security; approximately 100 students
- Bachelor programs in Systems Sciences and Digital Service Innovation; approximately 250 students







MANCHESTER  
1824

The University of Manchester



## INFORMATION SYSTEMS RESEARCH AND TEACHING AT ALLIANCE MANCHESTER BUSINESS SCHOOL

The Information Systems research group focuses on digital strategy; decision and cognitive sciences; and service systems. The decision and cognitive systems group have recently launched a new initiative in big data and this will serve as an umbrella group and catalyst for the development of big data research in business and social sciences across the University of Manchester. The Big Data Forum is currently funded for two years and its primary aim is to bring together the multitude of existing activities related to Big Data theories, techniques and applications. Prof. Nikolay Mehandjiev, Dr. Ilias Pretrounias and Dr. Julia Handl jointly coordinate the forum.

Alliance Manchester Business School houses a number of research groups with relevant methodological expertise that ranges from data management to data analytics. In addition to this methodological expertise, many academics in the school work on research problems that involve the collection and / or analysis of large amounts of data, and this vertical expertise spans the range of areas of business and management, from finance and accounting over innovation and sustainability to marketing.

The Big Data Forum aims to build capacity around existing research themes and in particular, to encourage the formation of cross-disciplinary teams. The network seeks to ensure that relevant experience can be communicated more effectively, and that existing synergies in the school are fully exploited. The network also provides a starting point for individuals interested in moving into this research area, whether these are PhD students or academics.

The decision and cognitive sciences group also lead in the development of a related M.Sc. in business analytics, which traditional management theory topics with new quantitative and qualitative techniques in the modelling and analysis of large data sets. This year Dr. Michael Weichert gave a fascinating talk and presentation on the commercial applications of big data in a telecommunications business. The presentation highlighted the new opportunities that arise using big data strategies for new types of customer data analyses, in particular to understand consumer behaviour and allocate marketing resources more effectively to improve the acquisition and retention of customers. The theme of big data also features in the work of visiting academic consultant Dr. Duncan Shaw, who shared his knowledge and experiences of developing big data strategies with a focus on the commercial exploitation of customer data sets in a wide range of in-

dustries including pharmaceuticals and financial services. Both presentations gave important glimpses into the vast potential of large data sets, and highlight the need for suitably qualified researchers and practitioners who have an understanding of both the business context and the commercial aspects of modelling and also have detailed knowledge of technical data systems and statistical techniques. This is an area where University departments with interests in technology and business should be ideally placed to establish leading positions in this field in partnership with commercial organisations.

## RESEARCH COLLABORATION BETWEEN THE UNIVERSITIES OF MANCHESTER AND MÜNSTER

Professor Stefan Klein and Julia Jacobs from the University of Münster and Chris Holland from the University of Manchester are continuing their research collaboration with ComScore to develop new theoretical models of consumer behaviour that are empirically informed. One of the initial research topics is the analysis of the customer journey in the airline sector, where the Internet and mobile applications play a vital role in the consumer search process. The growth of price comparison engines and the option of direct search with airline websites make airline travel a rich and dynamic market. One of the topics

being investigated is the role and influence of price comparison engines on direct search with airline websites. The initial results were presented at the Information and Communication Technologies in Tourism 2015, held in Lugano, Switzerland in February. The research is supported by the Fonds National de la Recherche, Luxembourg (7842603).

## Paul Thompson, Researcher Profile

Paul Thompson has been a research associate in the National Centre for Text Mining (NaCTeM) since 2007, working primarily on extracting and structuring complex information from texts belonging to various subject areas. He recently participated in the Mining the History of Medicine project, with of University of Manchester's Centre for the History of Science, Technology and Medicine (CHSTM). Paul worked on demonstrating how applying text mining techniques to digitised historical medical text can enhance efficient search, culminating in the History of Medicine search engine, which provides semantically-enhanced search over two large archives of historical medical documents. The project has been mentioned in the Lancet, one of the world's oldest and most prestigious medical journals. Vide Medical periodicals: mining the past, G. Ferry, Georgina, The Lancet, 385 (9987), 2569–2570.

## A SAMPLE OF RECENT PUBLICATIONS FROM THE UNIVERSITY OF MANCHESTER ERCIS RESEARCH GROUP

*Allmendinger, R.; Handl, J.; Knowles, J. (2015). Multiobjective optimization: When objectives exhibit non-uniform latencies. European Journal of Operational Research, 243(2), 497–513.*

*Handl, J.; Knowles, J. (2015). "Nature-inspired Clustering Approaches." In Handbook of Cluster Analysis, Chapman & Hall/Crc.*

*Holland, C. P.; Jacobs, J. A.; Klein, S. (2015). "An Analysis of Consumer Search Patterns in the German Airline Market Using Panel Data." In Information and Communication Technologies in Tourism 2015, 87–100. Springer International Publishing.*

*Karimi, S.; Papamichail, K. N.; Holland, C. P. (2015). The effect of prior knowledge and decision-making style on the online purchase decision-making process: A typology of consumer shopping behaviour. Decision Support Systems, 77, 137–147.*

*Wajid, U.; Namoun, A.; Marín, C. A.; Mehandjiev, N. (2013). Designing and evaluating a system of document recognition to support interoperability among collaborative enterprises. Computers in Industry, 64(5), 598–608.*



## CONTACT DETAILS

PROF. CHRISTOPHER P. HOLLAND

Alliance Manchester Business School  
Booth Street West, Manchester  
M15 6PB, UK

P +44 161 275 6460  
[chris.holland@manchester.ac.uk](mailto:chris.holland@manchester.ac.uk)  
[www.manchester.ac.uk/research/  
chris.holland](http://www.manchester.ac.uk/research/chris.holland)

## KEY FACTS

### INSTITUTION

- 8 senior members of staff
- 14 researchers
- 12 PhD and DBA students
- Several visiting faculty and researchers

### RESEARCH TOPICS

- Online consumer behaviour
- Social media and web 2.0 in international supply chains
- Big data and clustering techniques
- Economic models of digital strategy
- Online panel data methodology
- Decision analytic tools
- Text mining applications in business and science
- Service systems and software development





University of Maribor

Faculty of Organizational Sciences

## ABOUT THE INSTITUTION

The Faculty of Organizational Sciences is a founding member of the University of Maribor. It has been involved in research and education about the organizational and informational sciences for more than 50 years. Today it provides Bologna programs of Information Systems, Human Resource and Educational Systems, Business and Work Systems. Research is organized in many laboratories and in the eCenter. All are involved in research projects, prototyping, consulting, education and training at national and international level. Their activities have been organized and are run following the LivingLab approach, with a strong involvement of business and government organizations, users, IT providers and universities. The resulting eLivingLab is the Slovenian founding member of European Network of Living Labs (ENoLL). The Faculty has a wide range of experiences from many EU, national and industry projects. It is also very active in Living Lab and cross-border regional development initiatives. The Faculty has established connections with numerous institutes, faculties and universities around the world and strives to enhance its internationally renowned reputation. Bilateral cooperation has occurred in several forms, including the exchange of higher education professors, participation in various research projects, and student exchange.

## RESEARCH TOPICS

Research area of the Faculty of Organizational Sciences is focused to investigation of complex dynamic management systems, covering various aspects from human resources, information systems, business processes and general management. The significant focus is in implementation of newest ICT and their impact on new business model development, and increasing effectiveness and efficiency of business and government organizations, ICT industry, universities and society as a whole.

Research topics at the Faculty of Organizational Sciences:

- Management of Information systems
- eCommerce, eBusiness
- ERP systems
- Inter-organizational systems
- eGovernment
- Mobile commerce
- eHealth & Well-being
- eBusiness models
- Cloud computing
- Internet of Things
- Enterprise 2.0
- Social media, Web 2.0, eCollaboration
- eLearning 2.0 & eEducation
- eInnovations, Open innovation, Living labs
- Business processes management
- Decision support systems
- Simulation systems and models

- Knowledge management
- Organizational learning
- Business intelligence
- Data mining
- Bid data, open data

## CURRENT RESEARCH PROJECTS

### EU projects:

- **ENVISION** – Empowering SME business model innovation, Horizon 2020
- **MASTIS** – Establishing Modern Master-level Studies in Information Systems, Erasmus+ KA2

### National Research programme:

- Decision support systems in the global e-business, Research programme, P5-0018
- Impact of management, organizational learning and knowledge management in modern organizations, Research programme, P5-0364-0586
- Development of students' computer literacy for support of authentic natural science problem solving, Research program: Slovenian Research Agency

### Bilateral projects:

- Manpower control strategy determination with selfadapted evolutionary and biologically inspired algorithms, Bilateral project SI-RU
- Development of green ports in supply chains based on modelling and simulation methods (Case studies of Slovenian and Montenegrin ports: Koper, Bar and Kotor), Bilateral project SI-MNE

## EVENTS

**28<sup>th</sup> Bled eConference**  
#eWellBeing  
June 7–10, 2015, Bled, Slovenia  
<http://BledConference.org>

**International Conference on Organizational Science Development**  
March 25–27, 2015, Portorož, Slovenia  
<http://fov.uni-mb.si/conference>

**Information Society IS 2015**  
**Education in Information Society**  
September 28–29, 2015,  
Ljubljana, Slovenia  
<http://vivid.fov.uni-mb.si/>

### SOR '15

**The 13<sup>th</sup> International Symposium on Operations Research in Slovenia**  
September 23–25, 2015, Bled, Slovenia  
<http://sor15.fov.uni-mb.si/>

## SELECTED PUBLICATIONS

**KORELIČ, Igor, MIRCHEVSKA, Violeta, RAJKOVIČ, Vladislav, KLJAJIČ BORŠTNAR, Mirjana, GAMS, Matjaž.** Multiple-criteria approach to optimisation of multidimensional data models. *Informatica*, ISSN 0868–4952, 2015, vol. 26, no. 2, pp. 283–312, doi: 10.15388/Informatica.2015.49. [COBISS.SI-ID 7458067]

**KOFJAČ, Davorin, BAVEC, Blaž, ŠKRABA, Andrej.** Web application for hierarchical organizational structure optimization – human resource management case study. *Organizacija*, ISSN 1318–5454, 2015, vol. 48, no. 3, pp. 177–187, graf. prikazi. <http://organizacija.fov.uni-mb.si/index.php/organizacija/article/view/636/1061>, doi: 10.1515/orga-2015-0012. [COBISS.SI-ID 4034248]

**MALETIČ, Matjaž, MALETIČ, Damjan, DAHLGAARD, Jens J., DAHLGAARD-PARK, Su Mi, GOMIŠČEK, Boštjan.** Effect of sustainability-oriented innovation practices on the overall organisational performance : an empirical examination. *Total quality management & business excellence*, ISSN 1478–3363. <http://www.tandfonline.com/doi/full/10.1080/14783363.2015.1064767#abstract>, doi: 10.1080/14783363.2015.1064767. [COBISS.SI-ID 7456275]

**MALETIČ, Matjaž, MALETIČ, Damjan, DAHLGAARD, Jens J., DAHLGAARD-PARK, Su Mi, GOMIŠČEK, Boštjan.** Do corporate sustainability practices enhance organizational economic performance?. *International journal of quality and service sciences*, ISSN 1756–669X, 2015, vol. 7, no. 2/3, pp. 184–200, tabele, doi: 10.1108/IJQSS-02-2015-0025. [COBISS.SI-ID 7441683]

**ROZMAN, Črtomir, KLJAJIČ, Miroljub, ŠKRABA, Andrej.** System dynamics model for conversion to organic farming. *Žurnal Sibirskogo federalnogo univerzitetu, Matematika i fizika.*, ISSN 1997–1397, 2015, vol. 8, no. 1, pp. 64–74. [COBISS.SI-ID 3876652]

**WERBER, Borut, RAJKOVIČ, Uroš, URH, Marko, ŽNIDARŠIČ, Anja.** Computer literacy and use of ICT as key factors of micro-enterprise success. *E+M*, ISSN 1212–3609, 2015, vol. 18, no. 2, pp. 165–182, tabele, graf. prikazi., doi: 10.15240/tul/001/2015-2-012. [COBISS.SI-ID 7456019]

## DISSERTATIONS/HABILITATIONS

### Dissertations in progress:

**Marjeta Marolt:** Social CRM adoption and its influence on customer relationship performance – SMEs perspective, Supervisor: Andreja Pucihar

**Marko Bohanec:** Decreasing sales forecast error by leveraging machine learning techniques for B2B opportunity-based forecasting, Supervisor: Mirjana Kljajič Borštnar, assistant professor

**Matjaž Kragelj:** Development of methodology for automatic classification of electronic publications in Universal Decimal Classification – UDK, Supervisor: Mirjana Kljajič Borštnar, assistant professor

**Anka Mohorič Kenda:** The continuous improvement of model of health care quality indicators with feedback information from e-complaints system, Supervisor: Robert Leskovar, Professor

**Milavec Kapun:** Model procesa samooskrbe pacienta v domačem okolju, Supervisor: Vladislav Rajkovič, Professor Emeritus

### Finished dissertations in 2015:

**Vid Ogris:** Self-adaptive evolutionary algorithm for production scheduling in a dynamic environment, Supervisor: Davorin Kofjač, assistant professor



## CONTACT DETAILS

**DR. ANDREJA PUCIHAR**  
Information Systems Department,  
Faculty of Organizational Sciences

University of Maribor  
Kidričeva cesta 55 a  
4000 Kranj, Slovenia

P +386 4 374 218  
<http://www.linkedin.com/in/andrejapucihar>  
[andreja.pucihar@fov.uni-mb.si](mailto:andreja.pucihar@fov.uni-mb.si)  
[www.fov.uni-mb.si](http://www.fov.uni-mb.si)

## KEY FACTS

**INSTITUTION:**  
- Employees: 64  
- Students: 2,000







NATIONAL RESEARCH  
UNIVERSITY

## ABOUT THE INSTITUTION

Consistently ranked as one of Russia's top universities, the Higher School of Economics (HSE) is a leader in Russian education and one of the preeminent economics and social sciences universities in eastern Europe and Eurasia. Having rapidly grown into a well-renowned research university over two decades, HSE sets itself apart with its international presence and cooperation.

Our faculty, researchers, and students represent over 50 countries, and are dedicated to maintaining the highest academic standards. Our newly-adopted structural reforms support HSE's drive to internationalize and the groundbreaking research of our faculty, researchers, and students.

Now a dynamic university with four campuses, HSE is a leader in combining Russian education traditions with the best international teaching and research prac-

tices. HSE offers outstanding educational programmes from secondary school to doctoral studies, with top departments and research centres in a number of international fields. The HSE has 4 campuses, 2,500 faculty members, 25,000 students, 35,000 alumni. Founded in 2002, the HSE's School of Business Informatics was created with the active participation of leading Russian and multinational companies and is a pioneer in the new educational discipline of Business Informatics, which combines information technology (IT), informatics and management concepts. The faculty aims to attract talented and motivated young people to form Russia's future entrepreneurial and administrative elite professionals in business informatics.

## RESEARCH TOPICS

- Business value of enterprise IS
- Industry 4.0
- PLM and production processes
- IoT and IoS
- Big Data Analytics
- Big Data BPM
- S-BPM
- IT outsourcing

- E-Business. Smart Commerce. Web 3.0
- Semantic technologies

## CURRENT RESEARCH PROJECTS

- BPM for Domodedovo Airport
- Customers flow management with the use of geo-location and big data

## EVENTS

Workshop on Smart commerce, Web 3.0 and Big Data within 17<sup>th</sup> IEEE Conference on Business Informatics 2015, Lisboa, Portugal, July 2015

Special session on Big Data Analytics and Smarter Commerce within Information Technologies and Quantitative Management 2015, Rio-De-Janeiro, Brazil, July 2015

Invited talk on Web 3.0 and Big Data at the S-BPM One Conference 2015, Kiel, Germany, April 2015

Workshop on Quality online content for empowerment within Internet Governance Forum (United Nations) 2015, Joao Pessoa, Brazil, November 2015



S-BPM ONE 2015

First webinar of Special Interest Group on (Big-) Data-driven business processes within Association for Information Systems, USA, December 2015

## SELECTED PUBLICATIONS

Markov N. V., Dmitriev A. V., Maltseva S. V. Double Layer Interval Graph Model: The Universal Tool for Data Driven Market Analysis and Forecasting // *Procedia Computer Science*. 2015. Vol. 55. P. 1165–1173.

Dmitriev V. A., Dmitriev A. V., Maltseva S. V. The Nonlinear Differential Dynamics of Interdependent Branches of Industry // *International Journal of Business and Management Study*. 2015. Vol. 2. No. 2. P. 113–117.

Mikhail Komarov, Avdeeva Z. Customer Experience Management for Smart Commerce Based on Cognitive Maps, in: *Procedia Computer Science Volume 55 3<sup>rd</sup> International Conference on Information Technology and Quantitative Management, ITQM 2015*. ELSEVIER, 2015. P. 970–979.

Sergey Efremov, Nikolay Pilipenko, Leonid Voskov, Mikhail Komarov. Cloud IoT Platforms: A Solid Foundation for the Future Web or a Temporary Workaround?, in: *Lecture Notes in Computer Science / S. Balandin, S. Andreev, Y. Koucheryavy. Vol. 9247: Internet of Things, Smart Spaces, and Next Generation Networks and Systems*. Springer International Publishing, 2015. P. 47–55.

Gromoff A. I., Kazantsev N., Bilinkis (Stavenko) J. Ad-Hoc Business Process Management in Enterprises as Expert Communities, in: *New Horizons in Web Based Learning*. Springer Berlin Heidelberg, 2014.

Mashkov I., Tarchinskaya E., Kazantsev N. Reflexivity in business: Review on the best practices of S-BPM approach application, in: *Advances in Intelligent Systems Vol. 53*. Southampton : WIT Press, 2014. P. 267–275.

## DISSERTATIONS/HABILITATIONS

M. Hivintsev "Aggregate with Multi-agent genetic algorithm simulation model of enterprise remote trading for solving multi-criteria optimization"



## CONTACT DETAILS

### DR. MIKHAIL M. KOMAROV

Associate professor, deputy head for international relations, School of business informatics

National Research University  
Higher School of Economics  
Kirpichnaya street, 33, of. 533  
Moscow 105187  
Russia

<http://bi.hse.ru/en/mkomarov@hse.ru>  
[mkomarov@hse.ru](mailto:mkomarov@hse.ru)  
[bischool@hse.ru](mailto:bischool@hse.ru)

## KEY FACTS

### INSTITUTION – SCHOOL OF BUSINESS INFORMATICS:

- 5 educational programs
- 4 double-degree programs
- 870 students (510 undergrad./260 grad.)
- 60 staff members
- 5 core departments
- 8 industrial departments





## ABOUT THE INSTITUTION

Founded in 1870, Stevens Institute of Technology, in Hoboken, New Jersey, is a premier private university focused on research and entrepreneurship in technology-related fields. Within the university's three schools and one college, more than 6,800 undergraduate and graduate students collaborate with more than 380 faculty members in an interdisciplinary, student-centric, entrepreneurial environment to advance the frontiers of science and leverage technology to confront global challenges. Stevens is home to three national research centers of excellence, as well as joint research programs focused on critical industries such as healthcare, energy, finance, defense, maritime security, STEM education and coastal sustainability. The university is consistently ranked among the nation's elite for return on investment for students, career services programs and mid-career salaries of alumni. Notable graduates include Frederick Winslow Taylor, the father of scientific management; Henri Gantt, whose Gantt chart is a staple in most project managers' toolkits; and Alfred Fielding, the inventor of Bubble Wrap. The School of Business has 45 full-time faculty who teach 350 undergraduate students, 750 master's students, 110 MBA students 50 executive master's students,

25 Ph.D. students and a large population of students enrolled in non-degree graduate and executive programs. Within the school, the Information Systems group is among the largest graduate programs in the U.S., with a mix of evening and weekend classes as well as online course offerings to students around the globe.

## RESEARCH TOPICS

Within the School of Business, two IS-related research groups operate in the areas of Business Process Innovation and Decision Technologies.

The **Center for Decision Technologies**, directed by Professor Jeffrey V. Nickerson, performs funded research on topics related to decision making, combining perspectives from information systems, management science, organization science, cognitive science, social network analysis and other computational sciences.

The Center focuses on bringing needed techniques to several areas. In the area of crowdsourcing and collective intelligence, it is now possible to quickly mobilize a crowd in minutes to address large-scale social problems. One example is ongoing

research relates to the open-source sharing of designs for use with 3D printers. Researchers also are interested in the role crowds can play in sustainability – finding local solutions to energy needs that fulfill communities' objectives.

In the area of social networks and Big Data, research at the Center focuses on the intersection of transportation and communication networks. In many recent large-scale natural disasters, social media infrastructure has proven more resilient than traditional news outlets. At the same time, rumors propagate, and inaccurate ones impede rescue and recovery, which has led to a research interest in designing social media processes that will be useful during emergencies. The Center has received funding in excess of \$4 million during the last 4 years from the National Science Foundation and other sources.

The **Center for Business Process Innovation** studies the interplay between business processes and the organization, and is run under the direction of Professor Michael zur Muehlen.

The Center's research on Business Process Analytics is examining how to advance the family of methods and tools that can be applied to event streams in order to support decision-making in organizations. Research also is being conducted in the area of enterprise architectures, which contain analytical or prescriptive models of organizations, in order to efficiently identify organizational and technical interfaces, streamline cross-functional operations, and assert compliance to rules and regulations. Researchers also are interested in understanding the dynamics of digitalized design processes and the impact of digital technology on business process innovation.

Current research at the Center focuses on how organizations evolve in their ability to govern and change operational work and decision-making processes. Some organizations begin by creating technical infrastructure and then working out organizational adaptations, while others try to work out organizational details before choosing appropriate technology. In either approach, the roles and responsibilities of a process management and support organization evolve over time, and little guidance exists as to how an organization can pursue operational efficiency in a repeatable and effective fashion.

## AWARDS

Aron Lindberg, Assistant Professor at the School of Business, together with Professors Nick Berente (the University of Georgia) and Kalle Lyytinen (Case Western University), are the recipients of the 2015 Best Paper Award by the Academy of Management's Organizational Communication and Information Systems Division.

## SELECTED PUBLICATIONS

*Ben-Zvi, T.; Lombardi, D.; Rohmeyer, P.* "Support Systems for Decision Makers: Impact on Performance." *The International Journal of Engineering and Innovative Technology*, 4(8): 131–140, 2015.

*Ben-Zvi, T.; Rohmeyer, P.; Lombardi, D.* "Strategic Positioning, Centrality and the Impact on Company Performance." *World Journal of Management*, 6(1): 183–192, 2015.

*Cremer, G.* "Can a Corporate Network and News Sentiment Improve Portfolio Optimization Using the Black-Litterman Model?" *Quantitative Finance*, forthcoming, 2015.

*Han, J.; Bose, I.; Hu, N.; Qi, B.; Tian, G.* "Does Director Interlock Impact Corporate R&D Investment?" *Decision Support Systems*, 71(1): 28–36, 2015.

*Holahan, P.; Lesselroth, B.; Adams, K.; Wang, K.; Church, W.* "Beyond Technology Acceptance to Effective Technology Use: A Parsimonious and Actionable Model," *Journal of the American Medical Informatics Association*, 22(3): 718–729, 2015.

*Lindberg, A.; Berente, N.; Lyytinen, K.* "Towards an Open Source Software Development Life Cycle." *Proceedings of the Academy of Management*, 2015.

*Lohmann, P.; zur Muehlen, M.* "Business Process Management Skills and Roles: An Investigation of the Demand and Supply Side of BPM Professionals." *Proceedings of the 13<sup>th</sup> International Conference on Business Process Management*, pp. 317–332, 2015.

## DISSERTATIONS/HABILITATIONS

*Burak Sevet Ayata:* Technology Applications for Global Cargo Real-Time Visibility: Pallet and Item-Level Tagging

*Ting-Yi Ho:* A Data-Centric Approach to Designing Control-Enabled Business Processes

*Kay Wang:* Essays on Creativity and Idea Generation

*Huaye Li:* Three Essays on Social Impact Online: Experiments in Perceived Veracity and Forwarding of Microblogging



## CONTACT DETAILS

**PROF. DR. MICHAEL ZUR MUEHLEN**  
Associate Dean of Graduate Studies, School of Business

Stevens Institute of Technology  
Castle Point on Hudson  
Hoboken, New Jersey 07030, USA

p +1 201 216 8293  
[www.stevens.edu/business](http://www.stevens.edu/business)  
[michael.zurmuehlen@stevens.edu](mailto:michael.zurmuehlen@stevens.edu)

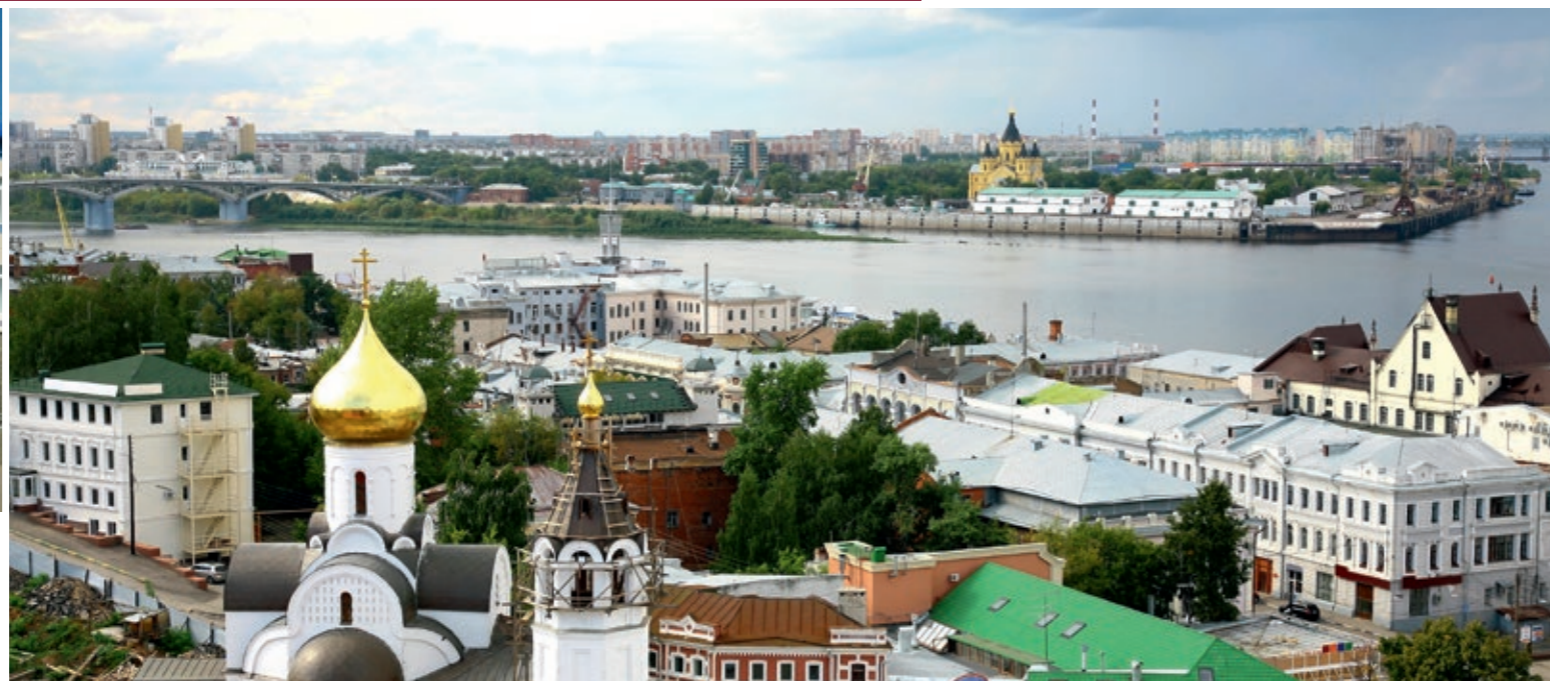
## KEY FACTS

- INSTITUTION**
- 45 full-time faculty
  - 350 undergraduate students
  - 860 master's and MBA students
  - 25 Ph.D. students

## RESEARCH TOPICS

- Semantic enterprise architecture
- Standardization development
- Information systems design
- Social network dynamics
- Business intelligence and analytics
- Process innovation





## ABOUT THE INSTITUTION

The Higher School of Economics in Nizhny Novgorod (HSE NN) was founded in 1996. The main educational activities of the Faculty of Mathematics, Informatics and Computer Science (MICS) of the HSE NN are related to modern enterprise organization, enterprise architecture, business mathematical and computer modeling. Two laboratories TAPRADESS (Theory and Practice of Decision Support Systems) and LATNA (Laboratory of Algorithms and Technologies for Networks Analysis) are the research units of the Faculty MICS. In 2014 the Department of Fundamental Mathematics was opened.

## RESEARCH TOPICS

The research of the Faculty MICS focuses on following directions:

- Cognitive science – the development of methods and techniques of receiving, processing, storage, use and management of professional knowledge
- Situational Modeling – multidimensional modeling of the behavior and decision making processes of individual and collective agents in complex distributed systems.

- Decision Making Analysis: basic approaches for solving important problems like the reengineering of companies using advanced technologies of e-business and a consistent set of formal process oriented models. This result allows us to effectively conduct a systematic analysis of economic and technological factors affecting the sustainable development of business and e-commerce.

- Original ways of formalizing the knowledge, which are based on ontological engineering, and are supplemented by practical methods of integration and verification of complex corporate service oriented systems.

- New mathematical models and multi-agent optimization algorithms in distributed service-oriented systems applicable to different domains (transport, planning, training activities); the result defines new approaches to the creation and use of intelligent decision support systems in the modern service-oriented economy.

- Axiomatic approach to non-compensatory aggregation (decision making rules) and axiomatic approach to general measure of power (power indices) in a voting body.

## CURRENT RESEARCH PROJECTS

**Knowledge technologies for improving multimodal logistics operations in seaports**

The project team performs an analysis of business-processes and information technologies in the framework of modern port logistics operations. The goal of the project is to develop high-level models of adaptive business processes and distributed software implementations using multi-agent technologies. The ontology based specifications and principles of holonic self-organization are explored at the theoretical level, and JESS multi-agent platform is used for software prototyping. The project is conducted in cooperation with INSA-Rouen (France).

**Development of the methodology for Value Assessment of SOA-based IS Projects**

This research is aimed at adopting existing IT project assessment methods for measuring the value of SOA-based IS projects. The research considers the fact that SOA-based IS deployment and evolution could be split in separate flows, one per service.

## AWARDS

In September 2014 LATNA Laboratory received a Russian Science Foundation grant for the project "Clustering and Search Techniques in Large Scale Networks".

"Research in the field of combined analysis of video and portable sensors data" grant for the project from Intel corporation.

## SELECTED PUBLICATIONS

Enterprise and Organizational Modeling and Simulation. 11<sup>th</sup> International Workshop, EO-MAS 2015, Held at CAiSE 2015, Stockholm, Sweden, June 8–9, 2015, Selected Papers / Editors: J. Barjis, R. Pergi, Babkin Eduard. Vol. 231. Springer International Publishing, 2015

Savchenko A. V., Savchenko L. V. Towards the creation of reliable voice control system based on a fuzzy approach // Pattern Recognition Letters. 2015. Vol. 65. P. 145–151

Aseeva N., Gromov E., Tyutin V. V. High-frequency solitons in a media with induced scattering on damping low-frequency waves and inhomogeneous dispersion and nonlinearity // Journal of Experimental and Theoretical Physics. 2015. Vol. 121. No. 5

Models, Algorithms, and Technologies for Network Analysis / From the 4<sup>th</sup> International Conference on Network Analysis / Editors: V. A. Kalyagin, P. Koldanov, P. M. Pardalos. NY : Springer International Publishing, 2015

## CONTACT DETAILS



**PROF., PH.D. EDUARD BABKIN**  
Head of TAPRADESS Laboratory

[eababkin@hse.ru](mailto:eababkin@hse.ru)



**PROF., PH.D. PAVEL MALYZHENKOV**  
Academic Responsible for Master Programme in Business Informatics

[pmalyzhenkov@hse.ru](mailto:pmalyzhenkov@hse.ru)



**PROF. VALERII KALYAGIN**  
Head of LATNA Laboratory

[vkalyagin@hse.ru](mailto:vkalyagin@hse.ru)

**DR. NATALIA ASEEEVA**  
Dean of the Faculty IMCS

[naseeva@hse.ru](mailto:naseeva@hse.ru)

## INSTITUTION

Higher School of Economics  
Nizhny Novgorod  
Bolshaya Pecherskaya street, 25/12  
Nizhny Novgorod, 603155,  
Russia

p +7 831 4169649

[www.hse.ru](http://www.hse.ru)





# CHARLES UNIVERSITY IN PRAGUE – FACULTY OF MATHEMATICS AND PHYSICS – DEPARTMENT OF SOFTWARE ENGINEERING



## ABOUT THE INSTITUTION

The natural sciences have been a part of the research teaching at the Charles University since its founding in 1348.

The Faculty of Mathematics and Physics was created by separating a part of the Faculty of Natural Sciences on 1<sup>st</sup> September 1952. Now, it is composed from three schools: School of Physics, School of Mathematics, and School of Computer Science.

The School of Computer Science at the Faculty of Mathematics and Physics includes eight prestigious teaching and scientific workplaces. The quality of their graduates is widely recognized. Among them are a number of top experts working as computer program developers and technological innovators. They are also successful as entrepreneurs. Members of the School of Computer Science achieve outstanding scientific results in discrete mathematics, especially in graph theory and its application in intelligent systems, optimization, programming methods, semantics and building large software systems, processing natural language and many others.

The Department of Software Engineering is focused on research and teaching in the areas of database systems, semantic web, similarity search, XML technologies, parallel computing, Big Data, and e-Science.



## RESEARCH TOPICS

There are three research groups in the department:

### Similarity RETrieval Research Group (SiRet)

<http://siret.ms.mff.cuni.cz/>

The Similarity Retrieval Research Group (SiRet) is interested in three areas – general methods of indexing similarity (metric and nonmetric spaces), biological applications of the similarity search, and indexing image databases for content-based retrieval.

### XML and Web Engineering Research Group (XRG)

<http://www.ksi.mff.cuni.cz/xrg/>

The XML and Web Technologies Research Group (XRG) focuses on XML and Web technologies and their exploitation, service-oriented architectures (design, implementation, management), evolution, change management and adaptability of applications, efficient processing of graph data (XML, RDF, linked data), ontologies, Web 2.0, and semantic web services.

### Parallel Architectures/Algorithms/Applications Research Group (PARG)

<http://www.ksi.mff.cuni.cz/parg/>

The Parallel Architectures/Algorithms/Applications Research Group focuses on multi-core CPUs and NUMA servers programming, many-core GPUs and GPGPU computing, utilization of emerging parallel architectures (Intel MIC, Parallela/Epiphany), distributed computing on tightly coupled clusters, parallel data processing, concurrency in database systems, and languages (and compilers) for parallel processing.

## CURRENT RESEARCH PROJECTS

The department members are involved in a number of research projects funded by the Czech Science Foundation and the Technology Agency of the Czech Republic. The projects are the following: Intelligent library – INTLIB, Highly Scalable Parallel and Distributed Methods of Data Processing in e-Science, Efficient subgraph discovery for petabyte-scale web analysis, Novel methods for computational prediction and visualization of secondary structures of ribosomal ribonucleic acids – an integrated solution, Efficient chemical space exploration using multi-objective optimization.

## PUBLICATIONS

*J. Moško, J. Lokoč, T. Grošup, P. Čech, T. Skopal, J. Lánský:* Evaluating Multilayer Multimedia Exploration, SISAP, Glasgow, Scotland, UK, Springer, pp.: 162–169, 2015, ISSN: 0302-9743.

*J. Klímeček, J. Malý, M. Nečaský, I. Holubová:* eXolutio: Methodology for Design and Evolution of XML Schemas using Conceptual Modeling. Informatica, pp. 1–22, 2015, ISSN: 0868-4952.

*T. Grošup, P. Čech, J. Lokoč, T. Skopal:* A Web Portal for Effective Multi-model Exploration. In: Proc. MMM, LNCS 8936, pp. 315–318, Springer, 2015, ISSN: 0302-9743.

*T. Krivák, D. Hoksza:* Improving protein-ligand binding site prediction accuracy by classification of inner pocket points using local features. Journal of Cheminformatics, 7(1), Chemistry Central, 2015, ISSN: 1758-2946.

*D. Bednárek, M. Kruliš, P. Malý, J. Yaghob, F. Zavoral, Pokorný J.:* Combining Distributed Computing and Massively Parallel Devices to Accelerate Stream Data Processing. In: Proc. of the The Seventh International Conference on Advances in Databases, Knowledge, and Data Applications, Roma, IARIA, ISBN: 978-1-61208-408-4, pp. 1–8, 2015, ISSN: 2308-4332.

*J. Pokorný, P. Škoda, I. Zelinka, D. Bednárek, F. Zavoral, M. Kruliš, P. Šaloun:* Big Data Movement: A Challenge in Data Processing. In: Big Data in Complex Systems, Springer International Publishing, pp. 29–69, 2015, ISBN: 978-3-319-11055-4.

*D. Bednárek, J. Yaghob, F. Zavoral:* METRO-NG: Computer-Aided Scheduling and Collision Detection, Computing and Informatics, Vol. 34, Num. 2, pp. 1–27, 2015, ISSN: 1335-9150.

## DISSERTATIONS

*Martin Svoboda,* Correction of Invalid Trees with Respect to Regular Tree Grammars, 2015

*Zbyněk Falt,* Towards Efficient Parallel Data Processing on Modern Hardware

## EVENTS

**NoSQL-Net '15:** 2<sup>nd</sup> International Workshop on NoSQL Databases, Emerging Database Technologies and Applications – in conjunction with DEXA '15.

**DATESO 2015:** 15<sup>th</sup> Annual International Workshop on Databases, Texts, Specifications, and Objects April 14–16, 2015.



## CONTACT DETAILS

**PROF. JAROSLAV POKORNÝ**  
Department of Software Engineering

Charles University in Prague  
Malostranské nám. 25  
118 00 Prague  
Czech Republic

P +420 221 914265  
[www.ksi.mff.cuni.cz](http://www.ksi.mff.cuni.cz)  
[pokorny@ksi.mff.cuni.cz](mailto:pokorny@ksi.mff.cuni.cz)

## KEY FACTS

### INSTITUTION

- University founded in 1348.
- Faculty founded in 1952.
- Department founded in 1993.
- 2 full professors
- 3 associate professors
- 4 assistant professors
- 2 researchers
- 18 PhD students

### RESEARCH TOPICS

- Database systems
- Semantic web
- Similarity search
- XML
- Parallel computing
- Big Data



 LUISS BUSINESS SCHOOL



#### ABOUT THE INSTITUTION

Founded in 1966 LUISS is a private Italian university specialising in the social sciences and strongly committed to conduct academic research and educate talented individuals. The affiliation with Confindustria offers unique research opportunities for LUISS researchers and business practitioners as well as provides LUISS students with solid career opportunities. Located in the hearth of Rome, the eternal city, LUISS holds partnering relationships for training as well as research purposes with universities around the globe. LUISS is composed of four Departments and four Schools covering the areas of Economics and Finance, Management, Law, and Political Science. In October 2015, the Business School and the Department of Business and Management received the prestigious EQUIS international accreditation for all programmes delivered from the BA to the PhD.

The faculty is actively engaged in both theoretical and applied research in a variety of areas of business and management including information system (IS). Since 1998, LUISS researchers have achieved international standing in IS education – including teaching and research – through its Research Centre on Information Systems (CeRSI). CeRSI represents Italy in the ERCIS network and has contributed to the birth and to the growth of the itAIS ([www.itais.org](http://www.itais.org)), the Italian Chapter of the AIS ([www.aisnet.org](http://www.aisnet.org)).

CeRSI plays an important role in the promotion and coordination of the Italian IS academic and scientific community. Teaching and research activities in the IS field at LUISS are also run in connection with the Organization and Innovation group, with the Project Organizing Competence Centre, and with the Digital Lab, whose members have published in international top journals including JIT, JSIS, I&M and CAIS.

In 2015 LUISS has hosted on a regular basis visiting scholars from more than 150 partners Universities. Among them, the following guests have interacted with the CeRSI-LUISS members: Ole Hanseth (U. Oslo), Ann Majchrzak (U. Southern California), Gerardo Patriotta (U. Nottingham), Øystein Sæbø (University Agder), Jan van den Ende (Erasmus U.), Robert Winter (U. St. Gallen). Still in 2015 members of the CeRSI-LUISS research center joined the following foreign Universities as visiting scholars: the University of Agder (NO), the University of Oslo (NO), University of St. Gallen (CH), Paris Dauphine (FR).

#### RESEARCH TOPICS

Research at CeRSI-LUISS is done in conjunction with project activities in which CeRSI-LUISS members participate in the iterative phases of designing and evaluating the effects of sociotechnical interventions. A multidisciplinary team of IS and organization scholars with backgrounds in

computer science, engineering, economics, management, cognitive and political sciences collaborate in both project and research activities by bringing together a multiplicity of methods for planning interventions and analysing phenomena from different perspectives. This approach allows addressing relevant problems and engaging in national and international cooperation with other universities and research institutions.

Research at CeRSI-LUISS focuses on three subject areas. The first is related to architecture and governance of digital products and platforms. The second is related to digital transformation in private and public sectors. The third refers to IT governance and Cybersecurity. Among the more recent application domains there are Telcos, e-Health and social services, e-business, and e-participation.

#### CURRENT RESEARCH PROJECTS

Two projects have been successfully submitted in 2015 to the Erasmus+ Programme in collaboration with ERCIS members. The MASTIS (Establishing Modern Master-level Studies in Information Systems), which involves 6 ERCIS members in the consortium, is led by the University of Lyon 2 and is aimed at designing and implementing IS Master programmes in the Ukraine and Montenegro. The ISPSLab (Information Systems Participatory Science Lab) pro-

ject, led by the University of Minho, which is now in the reserve list also involves 6 ERCIS members. Moreover a COST action, led by the University of Oslo and named “European Network for eHealth Infrastructures for Patient-centred Care”, is now under evaluation. Furthermore, a new project on infrastructural ambidexterity has been started in collaboration with a leading corporation providing products and services for telecommunication networks.

In addition to these new initiatives the CeRSI-LUISS team has been engaged in disseminating the results of projects successfully completed in the e-health (i.e. “Help and social interaction for elderly On a multimedia Platform with E-Social best practices”) and e-participation (i.e. Cooperative Commons) domains. Dissemination activities include the preparation of teaching cases and practitioners oriented studies. Joint research projects are running in collaboration with ERCIS members such as the University of St. Gallen and the University of Agder.

#### PUBLICATIONS

*Spagnoletti, P., Resca, A., Sæbø, Ø. (2015). Design for social media engagement: Insights from elderly care assistance. Journal of Strategic Information Systems, 24(2), 128–145. <http://dx.doi.org/10.1016/j.jsis.2015.04.002>*

*Spagnoletti P., Resca A., Lee G., (2015) A Design Theory for Digital Platforms Supporting Online Communities: a Multiple Case Study, Journal of Information Technology, <http://dx.doi.org/10.1057/jit.2014.37>*

*Sæbø Ø., Resca A., Spagnoletti P., (2015) Reframing healthcare through social media, Journal of Information Technology Teaching Case, 1–9, <http://dx.doi.org/10.1057/jittc.2015.8>*

*Spagnoletti P., Hanseth O., Principe A. (2015). Infrastructural ambidexterity. The adoption of agile methods in the telecom industry, 4<sup>th</sup> Innovation in Information Infrastructures (III) Workshop, 13<sup>th</sup>–15<sup>th</sup> October University of Warwick*

*Federici, T., Braccini, A. M., and Sæbø, Ø. 2015. “Gentlemen, all aboard!” ICT and party politics: Reflections from a Mass-eParticipation experience,” Government Information Quarterly (32:3), pp. 287–298.*

*Depaoli, P.(2015) “Organizing e-Services Co-Production in Multiple Contexts: Implications for Policymakers”, itAIS 2015 proceedings, 12<sup>th</sup> conference of the Italian chapter of AIS, Rome October 9–10, 2015*

*Paletti A., Za S., (2015) Designing a New Model of DMS for Developing a Resilient Community, Lecture Notes in Information Systems and Organization Vol. 11, Torre T, Braccini A. M, Spinelli R. Eds. Springer International Publishing*

*Za S., Scornavacca E., (2015) A Design Science approach for developing and evaluating a competence acquisition mobile app, 14<sup>th</sup> International Conference on Mobile Business (ICMB 2015), Pre-ICIS Ancillary Event, 12<sup>th</sup> of December 2015, Fort Worth, USA.*

*Za S., Marzo F, De Marco M., Cavallari M., (2015) Agent Based Simulation of Trust Dynamics in Dependence Networks, Lecture Notes in Business Information Processing Vol 201, Nóvoa H. and Dr goicea M. Eds., Springer International Publishing*

#### AWARDS

- In January 2015 two members of CeRSI-LUISS, Alessio Maria Braccini and Tommaso Federici, obtained the national qualification as Associate Professors of Business Organisation.

- In 2015 Robert Winter (U. St. Gallen) and Paolo Spagnoletti (CeRSI-LUISS), have been awarded with an International Chair by LUISS University for an exchange programme involving LUISS and IWI-St. Gallen.

#### EVENTS

**XII edition of the ItAIS conference**, Sapienza University, Roma October 9–10

**DRUID 2015**, LUISS University, Roma June 15–16



#### CONTACT DETAILS

**DR. PAOLO SPAGNOLETTI**  
CeRSI – Research Center for Information Systems

LUISS Guido Carli University  
viale Romania 32  
00197 Roma, Italy

P +39 06 85225795  
[www.luiss.edu](http://www.luiss.edu)  
[pspagnoletti@luiss.it](mailto:pspagnoletti@luiss.it)

#### KEY FACTS

##### INSTITUTION

- Amongst the most relevant research institutions in the IS research area in Italy
- Connected with the Organisation and Innovation group, the Project Organising Competence Center, the Digital Lab at LUISS
- 8 research fellows
- A number of external national and international co-workers

##### RESEARCH TOPICS

- Digital platforms
- Digital transformation
- IT governance





## ABOUT THE INSTITUTION

The Institute of Information Management at the University of St. Gallen (IWI-HSG), founded in 1989, is an autonomous research institution of the University of St. Gallen (HSG). The Institute pursues a mixed funding approach from both public and private sources. Privately funded research at IWI-HSG is usually organized in the form of research consortia (“competence centers”, CC). In addition to its research activities, IWI-HSG is engaged in executive education, offering degree and non-degree programs in Business Engineering, IT Business Management, Banking Operations and Smart Sourcing. The overall focus is on Business Innovation through engineered generic artifacts, such as methods or reference models, or through innovative prototypes.

IWI-HSG is comprised of five groups, each headed by a full professor (as of fall 2015): Andrea Back, Walter Brenner, Reinhard Jung, Jan Marco Leimeister, and Robert Winter. Six assistant professors, six project managers, two senior research fellows, approx. 40 employed research assistants (PhD students), approx. 25 student assistants and approx. 10 support staff contribute to IWI-HSG’s mission.

## SELECTED RESEARCH PROJECTS

The complete list of current projects and further information can be found at: <http://www.iwi.unisg.ch/?id=1202>

**Corporate Data Quality:** CC Corporate Data Quality (in cooperation with the Technical University of Dortmund) is focused on the development of methods, architectures, reference models, and prototypes required for efficient implementation of Corporate Data Quality Management (CDQM) in organizations. During consortium workshops and bilateral projects participating enterprises gain critical know-how on successful establishment and maintenance of highly effective CDQM systems. Further information: <http://cdq.iwi.unisg.ch>

**Crowdsourcing & IT Innovation:** Research goals of CC Crowdsourcing include development of models and instruments for the systematic design, introduction and usage of crowdsourcing approaches and IT-based innovations. Further information: <http://crowdsourcing.iwi.unisg.ch>

**Design Thinking:** The Design Thinking group is focused on embedding human-centric innovation tools into corporate structures. The research team continuously strives to improve the capability of corporate IT using a holistic approach and to reduce costs and risks in innovation projects. Recent research findings have proven that a combination of verified tools with new agile processes and methods in organizations initiate the transformation towards customer-oriented IT.

**Enterprise Transformation Management:** The main research focus of CC Corporate Intelligence is to develop “A Design Theory for Architectural Coordination of Enterprise Transformations”. A theoretically grounded and customized method for a coordinated implementation of enterprise transformation is developed. For this purpose, various architectural elements, such as frameworks, modeling languages or model analysis, are integrated in a consortium of industry partners. Further information: <http://ci.iwi.unisg.ch>

**Health Services Research:** The CC Health Network Engineering focuses on optimizing business processes in healthcare organizations, as well as on networkability within the public health sector. Current research topics include transformational health care, e-Health, process and quality management in health care, cooperation and service engineering, as well as business models in the public sector. Further information: <http://ehealth.iwi.unisg.ch>

**Independent Living:** CC Independent Living is engaged in research topics related to quality of life enhancement with a special focus on elderly citizens. Besides working on innovative service solutions (e.g., outdoor and safety assistants on mobile devices), service marketplaces and corresponding business models, which facilitate local service provider networks to serve consumers with personalized well-coordinated service bundles, are developed and tested. Further information: <http://il.iwi.unisg.ch>

**Project Leadership:** CC Key focuses on improving the leadership of large IT projects together with companies from different industries. Latest development was a project assessment tool that provides fast and objective evaluations as well as an automated analysis of multiple different problem areas. Further information: <https://key.iwi.unisg.ch>

**Sourcing in Financial Services:** CC Sourcing (in cooperation with the University of Leipzig) develops concepts, instruments and prototypes for managing financial networks. Research activities concentrate on customer- and service-oriented innovations in networked banks. Further information: <http://sourcing.iwi.unisg.ch>

## PUBLICATIONS

The following list is a very limited extract of the IWI-HSG publication list in 2015. A complete list of publications, as well as full texts of many papers, is available at: <http://www.iwi.unisg.ch/publikationen>

*Abraham, R.; Aier, S.; Winter, R.:* Crossing the line: overcoming knowledge boundaries in enterprise transformation, in: *Business & Information Systems Engineering*, 57, 1, 2015, pp. 3–13.

*Bischoff, S.; Aier, S.; Haki, K.; Winter, R.:* Understanding Continuous Use of Business Intelligence Systems: A Mixed Methods Investigation, in: *Journal of Information Technology Theory and Application*, 16, 2, 2015, pp. 5–38.

*Bitzer, P.; Söllner, M.; Leimeister, J. M.:* Design Principles for High-Performance Blended Learning Services Delivery – The Case of Software Trainings in Germany. In: *Business & Information Systems Engineering*, 2015, forthcoming.

*Hoffmann, A.; Schulz, T.; Zirfas, J.; Hoffmann, H.; Roßnagel, A.; Leimeister, J. M.:* Legal Compatibility as a Characteristic of Sociotechnical Systems: Goals and Standardized Requirements. In: *Business & Information Systems Engineering* 57, 2, 2015, pp. 103–113.

*Kuepper, T.; Wieneke, A.; Lehmkuhl, T.; Jung, R.:* Evaluating Social CRM Performance: An Organizational Perspective. In: Paper 214, 2015. – 19<sup>th</sup> Pacific Asia Conference on Information Systems. – Singapore, pp. 1–17.

*Mettler, T.; Pinto, R.:* Serious Games as a Means for Scientific Knowledge Transfer—A Case From Engineering Management Education, in: *IEEE Transactions on Engineering Management*, 62, 2, 2015, pp. 256–265.

*Ruf, C.; Back, A.; Wittmann, M.:* Is an App Better than an Email? Developing Trust in a Mobile Financial Advisory Service: Design and Evaluation of a Prototype. In: *Wirtschaftsinformatik Proceedings 2015: AIS Electronic Library (AISeL)*, 2015. – *Wirtschaftsinformatik (WI)* 2015. – Osnabrück, pp. 225–239.

*Söllner, M.:* Understanding Trust in Information Systems –The Impact of Trust in the System and in the Provider. 2015. – 75<sup>th</sup> Annual Meeting of the Academy of Management. – Vancouver, BC, Kanada.

*Wulf, J.; Winkler, T. J.; Brenner, W.:* Measuring IT Service Management Capability: Scale Development and Empirical Validation. In: *Proceedings of the 12<sup>th</sup> International Conference on Wirtschaftsinformatik*, 2015. – 12<sup>th</sup> International Conference on Wirtschaftsinformatik.

*Yassae, M., Mettler, T.:* The Current State of and Possible Future Avenues for IT Value Research: A Review of the past 10 Years, *Proceedings of the Twenty-Third European Conference on Information Systems (ECIS 2015)*, Münster, Germany.

## EVENTS

In June 2015 the 42<sup>nd</sup> edition of the St. Galler Anwenderforum took place, focusing on enterprise architecture management. Other one- or two-day practitioner events organized by IWI-HSG were the Business Engineering Forum and the Mobile Business Forum.



## CONTACT DETAILS

**PROF. DR. ROBERT WINTER**  
Institute of Information  
Management

University of St. Gallen  
Unterer Graben 21  
9000 St. Gallen, Switzerland

P +41 71 2242190  
[www.iwi.unisg.ch](http://www.iwi.unisg.ch)  
[robert.winter@unisg.ch](mailto:robert.winter@unisg.ch)

## KEY FACTS

### INSTITUTION

- Founded in 1989
- 5 chairs
- Approx. 60 Researchers
- Executive Education Degree Programs: Executive Master in Business Engineering, Diploma in IT Business Management

### RESEARCH TOPICS

- Corporate Data Quality
- Crowdsourcing & IT Innovation
- Design Thinking
- Enterprise Transformation Management
- Health Services Research
- Independent Living
- Project Leadership
- Sourcing in Financial Services





# UNIVERSITY OF TURKU – TURKU SCHOOL OF ECONOMICS – INSTITUTE OF INFORMATION SYSTEMS SCIENCE

› University of Turku – Turku School of Economics – Institute of Information Systems Science [www.utu.fi](http://www.utu.fi)



## ABOUT THE INSTITUTION

The roots for the Institute for Information Systems Science were established in year 1971. Nowadays the Institute is a part of the Department of Management and Entrepreneurship at the University of Turku. The mission of the Institute is to educate professionals who master both general management as well as Information Systems skills. In research, the Institute focuses on supporting companies in their Information Systems management. Issues at individual, industry, national and international level are not neglected. The Institute has been a pioneer in English-speaking education even at the whole university level.

## RESEARCH TOPICS

Information System Science completes the sphere of Information Sciences at the University of Turku adding to the more technically/natural science -oriented work at the Department of Information Technology. Research covers widely the topic spectrum of Information Systems Science, with a gravity point in information and network management in information economy. Topics such as management of information resources, health care information systems and network-based services (e-services) – including social media – belong to the core areas of research, as well as topics on work informatics, ICT ethics, usability issues, and management of ICT in small and medium-sized business.

## CURRENT RESEARCH PROJECTS

The institution runs a rich portfolio of projects in different areas. Current openings contain issues such as IT services for elderly people, Information System Continuity Management, management of data centers, big data usage in municipal democracy and decision making, management of waste flows, networks and business models and hospitality management.

## EVENTS

In 2015 the University of Turku continued hosting the Kilpisjärvi Information Systems Seminar. The 2015 seminar was held, as always, in Kilpisjärvi, this year 21–28 March 2015.

## PUBLICATIONS

*Li, H.; Liu, Y.; Xu, X.; Heikkilä, J.; van der Heijden, H. (2015). Modeling hedonic is continuance through the uses and gratifications theory: An empirical study in online games. Computers in Human Behavior, 48, 261–272.*

*Zhou, T.; Li, H.; Liu, Y. (2015). Understanding mobile IM continuance usage from the perspectives of network externality and switching costs. International Journal of Mobile Communications, 13(2), 188–203.*

*Mubarak, F. (2015). Towards a renewed understanding of the complex nerves of the digital divide. Journal of Social Inclusion, 6(1), 71–102.*

*Mäntymäki, M.; Salo, J. (2015). Why do teens spend real money in virtual worlds? A consumption values and developmental psychology perspective on virtual consumption. International Journal of Information Management, 35(1), 124–134.*

*Nokkala, T.; Dahlberg, T. (2015). A Framework for the Corporate Governance of Data—Theoretical Background and Empirical Evidence. Business, Management and Education(1), 25–45.*

*Yang, Y.; Liu, Y.; Li, H.; Yu, B. (2015). Understanding perceived risks in mobile payment acceptance. Industrial Management & Data Systems, 115(2), 253–269.*

*Wang, P. (2015). Exploring the Influence of Electronic Word-of-Mouth on Tourists' Visit Intention: A dual process approach. Journal of Systems and Information Technology, 17(4).*

*Gan, C.; Wang, W.; Standing, C.; Mäntymäki, M. (2015). Uses and gratifications of social media: A comparison of microblog and WeChat. Journal of Systems and Information Technology, 17(4).*

*Tuikka, A.-M.; Kimppa, K. K.; Suomi, R. (2015). Digital disability divide in information society. Journal of Information, Communication and Ethics in Society, 13(3–4), 283–298.*

*Heikkilä, M.; Bouwman, H.; Heikkilä, J.; Solaimani, S.; Janssen, W. (2015). Business model metrics: an open repository. Information Systems and e-Business Management, 1–30.*

*Dahlberg, T.; Kivijärvi, H.; Saarinen, T. (2015). Success of IT Deployment: The Role of IT Investment Consistency. International Journal of IT/Business Alignment and Governance (IJITBAG), 6(1), 16–32.*

## DISSERTATIONS

*Ohtonen, J. (2015). Business process management capabilities. Doctoral Thesis. Publications of Turku School of Economics 2015, 6.*

## INSTITUTION AT A GLANCE

The University of Turku is a multidisciplinary scientific university located on the Southwest coast of Finland, in the vibrant student city of Turku. With over 23,000 students and 3,500 employees, the University of Turku is one of the largest universities in Finland. The Institute for Information Systems has three full professors and a total staff of about 25 and has approximately 20 active doctoral level students. The yearly intake for students to the bachelor level, having information systems science as their major subject is around 15 of the annual intake of 250 of the whole Business School. In addition, yearly there are approximately 40 master level students in the two international master's programs of the Institute: Global Information Systems Management and International Master in Management of Information Technology. Information systems is a popular minor for students of many areas of economics, business administration as well as computer science.

The Institute is a member of Turku Center for Computer Science for studies within information, computer and mathematical computing sciences. TUCS is a joint unit between the University of Turku, the Turku-based Swedish-speaking Åbo Akademi University and Turku Polytechnics. All master's level courses within TUCS are taught in

English. The Institute for Advanced Management Systems Research (IAMSR) in Åbo Akademi University and Information Systems Science in Turku School of Economics has formed Turku Information Systems Research Alliance (TISRA). The objective is to increase the effectiveness and credibility of teaching and research of information systems science on the national level and develop further cooperation and trust between the research units.

The focus of the research activities within the institute lies within understanding the utilisation of information and communication technology in enterprises and other organisations. The research conducted within the institute covers most of the key areas of information systems. The research activities can be classified into four themes:

- Management of Information Systems and Business Information Systems
- Networks and Business Models
- Work Informatics
- Healthcare Information Systems

In terms of research methods used, the institute has a track-record and long traditions of conducting action research dating back to the 1980s. Today, the competence of the faculty members covers the whole methodological spectrum from qualitative to quantitative research.

Despite being in a business school, the Institute runs a rich research tradition on public sector and third sector organisations also. E-health is a good example of this, where the role of public service cannot be forgotten. Research is done from the viewpoint of different organisational stakeholders: organisation's top management, information systems management, as well as individuals such as customers or workers. Recent developments put emphasis on the management and organisational aspects of data security and privacy, as well as IT governance issues.



## CONTACT DETAILS

**PROF. REIMA SUOMI**  
Department of Management and Entrepreneurship

University of Turku  
Rehtorinpellonkatu 3  
20500 Turku, Finland  
P +358 2 333 51  
[www.utu.fi](http://www.utu.fi)  
[reima.suomi@utu.fi](mailto:reima.suomi@utu.fi)

## KEY FACTS

### INSTITUTION

- International environment
- Approximately 23 000 students
- Circa 3 500 staff members

### THE UNIVERSITY

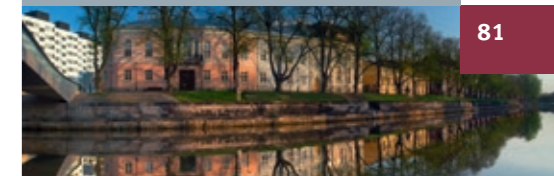
- Yearly master's level intake around 30
- 3 professors, 25 staff members, 20 active doctoral students

### IS MASTER'S PROGRAMMES

- Global IT Management (GITM)
- International Master's in Management of IT (IMMIT)

### RESEARCH TOPICS

- Management of IS and business IS
- Networks and business models
- Work informatics
- Well-being and healthcare IS





# ULSAN NATIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY (UNIST) – SCHOOL OF BUSINESS ADMINISTRATION

BUSINESS ADMINISTRATION  
THE NEW PARADIGM OF  
MANAGEMENT AND TECHNOLOGY

**UNIST**  
ULSAN NATIONAL INSTITUTE OF  
SCIENCE AND TECHNOLOGY

## ABOUT THE INSTITUTION

The School of Business Administration at UNIST is aiming to cultivate students who have the key talents needed for management positions and who will be able to lead the global economy era by combining science and technology principles with management skills. As such, our students will cultivate the basic knowledge needed to be outstanding managers in a variety of positions through the undergraduate curriculum, which includes the following majors: technology management, management information systems, financing, accounting, marketing and international management. The School of Business Administration has about thirty faculty members, and they make important research contributions and actively publish their research.

## BUSINESS ANALYTICS PROGRAMME

To meet the demands set by world trends and features of local industries, our school develops the graduate program "Business Analytics (BA)". Students in the Business Analytics program will be trained for careers in a variety of business fields. By

acquiring the latest analytical techniques as well as business knowledge in the program, students will be an analytic expert who is good at analysing and interpreting business phenomena. The program consists of business knowledge courses, analytical technique training, and analytic project. The program will help students to gain insight into business complexity in the big data era.

## RESEARCH TOPICS

In the School of Business Administration, we have five research groups such as Digital Business Strategy, Risk Management, Behavioral Decision Making, Energy Commodity Trading & Financial Engineering, and Financial Mathematics. Furthermore, Center for A2 (Advanced Analytics) has been launched in 2014. The center focuses on the development of innovative analysis methods and the cultivation of analytic professionals in Big data era. Our strategic focuses are analytics for manufacturing and healthcare. The center emphasises on active collaborations with industries and aims to contribute enhancement of industrial competitiveness in the country.

Some of the research topics are as follows:

- **Dr. Changyoung Lee** focuses mainly on: 1) future-oriented technology analysis, 2) systematic technology intelligence, 3) robust technology planning, 4) intellectual property management, and 5) service science.

- **Dr. Minseok Song** focuses on BPM and process mining. Special areas of research are process mining in the healthcare industry and manufacturing process analysis. Currently, he is involved in several research projects with industry partners and is trying to develop more practical process mining techniques considering industry characteristics.

## CURRENT RESEARCH PROJECTS

**Big data cloud service for manufacturing process analysis** (funded by National Information Society Agency, 2015)

This project is a collaboration among Hyundai Heavy Industries (HHI), Korea ICT Convergence Network, and UNIST. Through this project, UNIST will provide user-tailored IT services, including data analysis system to manage manufacturing processes. This big data cloud service for analysing manufacturing processes has been jointly developed by Cyberdigm Co.

and Prof. MinSeok Song at UNIST Business Process Intelligence (BPI) Lab. Cloud computing services are easy to use and more importantly, if done correctly, they provide increased security and disaster recovery. Once the service users or organisations upload their manufacturing process data in the Big Data Cloud Service, the program provides feedbacks including performance by workers and processes, operating rates and process bottlenecks to the uploaders. This means that an organisation can use more or fewer servers, storage, applications, or services via a common network from anywhere without additional programs and equipment. Through cooperation, both HHI and UNIST hope to help SMEs gain competitive advantage by minimizing risk and reducing operating costs.

The titles of the other ongoing projects are as follows:

**Process mining in case handling processes** (funded by National Science foundation of Korea, 2011–2016)

**Process mining in B2C Service industry** (funded by Ministry of Knowledge Economy, 2011–2016)

(EU Horizon 2020 Project) **Propelling Business Process Management by Research and Innovation Staff Exchange** (funded by National Science foundation of Korea, 2015–2018)

## AWARDS

*Jang, W.; Chung, S.; Lee, S.* the Grand Prize winner of the 1<sup>st</sup> annual "Big Ideas" competition, sponsored by the Forestry Promotion Institute (KOFPI)



*Chung, S.; Chae, S.; Lee, S.* the Grand Prize at the "Global Datathon 2015", sponsored by the Ministry of Science, ICT and Future Planning and the UN Global Pulse



## EVENTS

2015 UNIST Big Data Symposium, May 20, 2015

## SELECTED PUBLICATIONS

*Cho, M.; Song, M.; Yoo, S.* "A Systematic Methodology for Outpatient Process Analysis based on Process Mining." International Journal of Industrial Engineering: Theory, Applications and Practice, 22(4):480–493, 2015.

*Jung, Y.; Kim, S.* "Response to potential information technology risk: Users' valuation of electromagnetic field from mobile phones." Telematics and Informatics, 32(1): 57–66, 2015.

*Jung, Y.; Pawlowski, S.* "The meaning of virtual entrepreneurship in social virtual worlds", Telematics and Informatics, 32(1):193–203, 2015.

*Lee, C.; Song, Bomi; Park, Yongtae,* "An instrument for scenario-based technology roadmapping: How to assess the impacts of future changes on organisational plans", Technological Forecasting and Social Change, 90(Part A):285–301, 2015.

*Lee, C.; Kang, B.; Shin, J.* "Novelty-focused patent mapping for technology opportunity analysis." Technological Forecasting and Social Change, 90(Part B):355–365, 2015.



## CONTACT DETAILS

**DR. MINSEOK SONG**  
School of Business Administration

Ulsan National Institute of  
Science and Technology  
UNIST-gil 50, Ulsan 689-798,  
Republic of Korea

P+82 52 217 3116  
<http://management.unist.ac.kr>  
[msong@unist.ac.kr](mailto:msong@unist.ac.kr)

## KEY FACTS

### INSTITUTION

- Founded in 2009
- 5,000 students
- School of Business Administration with 30 faculty members

### RESEARCH TOPICS

- Digital Business Strategy: IT-enabled organisational innovation, IT governance and security, IT economics, economics in the digital age, business process mining/Data mining, e-commerce, e-education, social media, Big data analysis
- Behavioural decision making
- Risk management
- Energy commodity trading and financial engineering





# UNIVERSITY OF LIECHTENSTEIN – INSTITUTE OF INFORMATION SYSTEMS – HILTI CHAIR OF BUSINESS PROCESS MANAGEMENT

› University of Liechtenstein – Institute of Information Systems – Hilti Chair of Business Process Management [www.uni.li/is](http://www.uni.li/is)



## ABOUT THE INSTITUTION

The Institute of Information Systems at the University of Liechtenstein was founded in the early 1990s and has been continuously growing since then. Members of the institute have published in leading IS journals, including MIS Quarterly, Journal of the AIS, Journal of MIS, and Journal of Information Technology. The institute offers a Master's in Information Systems with majors in Business Process Management and Data Science, a PhD program in Information and Process Management, and a major in Information Management & IT within the Bachelor's program in Business Administration.

The institute is a co-founder of the **Hilti Fellowship Program** that provides highly motivated and committed Master's students with the opportunity to do an internship at the Hilti Corporation while, at the same time, studying in the Master's program in Information Systems at the University of Liechtenstein. Currently welcoming applications for the 18<sup>th</sup> call of the Hilti Fellowship.

Since September 2015, students have the opportunity to become a **Student Research Fellow** at the Institute of Information Systems. The fellowship is open to full-time degree students of the Master's in Information Systems, as well as Erasmus students. Students will be fully involved in the department's research activities while at the same time studying for their Master's degree.



The institute represents the Association for Information Systems (AIS) in Liechtenstein through the **Liechtenstein Chapter of the AIS (LCAIS)**. Iris Junglas (Florida State University, Tallahassee, USA), Marcello La Rosa and Jan Recker (both from the Queensland University of Technology, Brisbane, Australia), Günter Schmidt (Saarland University, Saarbrücken, Germany), Nicholas Berente (Terry College of Business, Athens, USA), and Christoph Schneider (City University of Hong Kong) have been awarded **Liechtenstein Research Fellows** and visit the institute on a regular basis.

## RESEARCH TOPICS AND PROJECTS

Our research focuses on the innovative and transformative power of digital technologies and their social, economic, and environmental impacts. While in the past, IS research has predominantly focused on the role of IT in increasing productivity, individuals, organisations, governments, and entire societies are now exploring how digital technologies can fundamentally transform social, economic, and ecological aspects of human life. On a day to day basis, we learn more and more about the virtually unlimited action possibilities that are created through digital technologies.

Our research on **process management** takes an innovation-driven and value-oriented perspective on process management. It identifies and evaluates the business potential of modern information and communication technology in process management, for example, big data analytics, social media, and cloud computing.

Through our research on **green IS and sustainable development** we investigate how information and communication technology can help reduce the human impact on the natural environment and increase social well-being. Understanding the action possibilities provided by existent and new digital technologies is imperative to designing and implementing more sustainable practices at individual, organisational, and societal levels.

Our research on **enterprise content management** designs and evaluates methods and models that can help companies to develop corporate content-management strategies. Today's companies create content at a higher rate than ever before. Not only is it increasingly difficult for them to efficiently store and retrieve documents at an enterprise-wide level; creating and reusing the content of documents can likewise be problematic.

Our key interests in the field of **big data analytics** include methods and models that can help make the unprecedented availability of large amounts of data useful for private and public organisations, and for society at large. At this, a special focus is put on the analysis of growing amounts of unstructured text data, from both the (social) web and company-internal data sources, using text-mining algorithms and sentiment analyses.

Our research on culture is mainly concerned with understanding the constituent elements of a cultural setting supportive of process-management objectives. This provides a foundation for companies to develop process-oriented strategies that help to develop their organisational culture. While research has identified culture as a barrier towards successful business process management in practice, only few studies have investigated the specific cultural elements that support the implementation of process management.

Through our research on **“digital nudging”** we investigate how people make decisions in digital environments, for example, in online-flight booking processes or on rating platforms. Using behavioral science as a theoretical lens, the impact of small design modifications to websites on users' behavior is analysed, a research area we refer to as “digital nudging.”

## PUBLICATIONS

### New Books

*vom Brocke, J. (2015). Referenzmodellierung. Gestaltung und Verteilung von*

*Konstruktionsprozessen. 2<sup>nd</sup> Edition. Berlin/Heidelberg: Logos.*

*vom Brocke, J., Stein, A., Hofmann, S. & Tumbas, S. (Eds.). (2015). Grand Societal Challenges in Information Systems Research and Education. Ideas from the ER-CIS Virtual Seminar Series : Springer.*

*vom Brocke, J. & Rosemann, M. (Ed.). (2015). Handbook on Business Process Management: Introduction, Methods and Information Systems (Volume 1 and 2), 2<sup>nd</sup> Edition. Berlin et al.: Springer.*

*vom Brocke, J. & Schmiedel, T. (Eds.). (2015). BPM – Driving Innovation in a Digital World. Heidelberg: Springer.*

### New Research Articles

*vom Brocke, J., Zelt, S., Schmiedel, T., On the Role of Context in Business Process Management. International Journal of Information Management, in press. (IJIM)*

*Becker, J., vom Brocke, J., Heddier, M., Seidel, S., In Search of Information Systems (Grand) Challenges. A Community of Inquirers Perspective, Business & Information Systems Engineering, 6(1), 39–43.*

*Tumbas, S., Berente, N., Seidel, S., vom Brocke, J., The ‘Digital Façade’ of Rapidly Growing Entrepreneurial Organizations. Paper to be presented at the 36<sup>th</sup> International Conference on Information Systems (ICIS 2015), Fort Worth, TX.*

*Tumbas S., Schmiedel, T., & vom Brocke, J. (2015). Characterizing Multiple Institutional Logics for Innovation with Digital Technologies. Paper presented at the 48<sup>th</sup> Annual Hawaii International Conference on System Sciences (HICSS), 05–08 Jan 2015, Kauai, Hawaii.*

*Kummer, T.F. & Schmiedel, T. (2015). Reviewing the role of culture in strategic information systems research: A call for prescriptive theorizing on culture management. Communications of the Association of Information Systems, forthcoming.*

*Abrell, T., Pihlajamaa, M., vom Brocke, J., The Role of Users and Customers in Digital Innovation: Insights from B2B Manufacturing Firms. Information & Management (I&M), in press.*

*vom Brocke, J., Simons, A., Riemer, K., Niehaves, B., Plattfaut, R., & Cleven, A.*

*(2015). Standing on the shoulders of giants: Challenges and recommendations of literature search in Information Systems research. Communications of the Association for Information Systems, 37(1), Article 9, 205–224.*

*Schmiedel, T., vom Brocke, J., & Recker, J. (2014). Development and Validation of an Instrument to Measure Organizational Cultures' Support of Business Process Management. Information & Management, 51(1), 43–56.*

*Debortoli, S., Müller, O., & vom Brocke, J. (2014). Comparing Business Intelligence and Big Data Skills – A Text Mining Study Using Job Advertisements. Business & Information Systems Engineering, 6(5), 289–300.*

*Schmiedel, T., vom Brocke, J., & Recker, J. (2015). Culture in Business Process Management: How Cultural Values Determine BPM Success. In J. vom Brocke & M. Rosemann (Eds.), Handbook on Business Process Management: Strategic Alignment, Governance, People and Culture (International Handbooks on Information Systems) (2 ed., Vol. 2, pp. 649–664). Berlin et al.: Springer.*

*vom Brocke, J., & Liang, T.-P. (2014). Guidelines for Neuroscience Studies in Information Systems Research. Journal of Management Information Systems (JMIS), 30(4), 211–234.*

## DISSERTATIONS/HABILITATIONS

*In October 2015, Stefan Debortoli from the Institute of Information Systems successfully defended his PhD thesis on “Big Data Analytics as a Strategy of Inquiry in Information Systems Research” and reached the highest mark (summa cum laude) for his research.*



## CONTACT DETAILS

**PROF. DR. JAN VOM BROCKE**  
Hilti Chair of Business Process Management

Dr. Oliver Müller  
Dr. Bernd Schenk  
Dr. Theresa Schmiedel  
Prof. Dr. Stefan Seidel  
Dr. Alexander Simons  
Dr. Markus Weinmann

University of Liechtenstein  
Fürst-Franz-Josef-Strasse 21  
9490 Vaduz  
Principality of Liechtenstein  
P +423 265 1300  
[www.uni.li/is](http://www.uni.li/is)  
[iwi@uni.li](mailto:iwi@uni.li)

## KEY FACTS

### INSTITUTION

- Founded in 1991.
- 25 researchers

### RESEARCH TOPICS

- Process management
- Green IS and sustainable development
- Enterprise content management
- Big data analytics
- Culture
- Digital nudging



# VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS – INSTITUTE FOR INFORMATION BUSINESS

› Vienna University of Economics and Business – Institute for Information Business <http://www.wu.ac.at/infobiz/>



## ABOUT THE INSTITUTION

Vienna University of Economics and Business (WU Vienna) is reportedly the biggest business school campus in Europe. The Department of Information Systems and Operations at WU Vienna was founded in the course of WU's organizational restructuring in 2005. Since then, it has consolidated the know-how and reputation of five highly renowned institutes and 16 professors with distinguished focuses in research and teaching, providing a broad representation of IS research topics. Our Bachelor's Program in Information Systems is recognized as Austria's leading degree programs in this field (according to Format Uni-Ranking, 2009).

The recently-established Master's Program in Information Systems (launched in winter semester 2013/14) ambitiously attempts to follow in these successful steps.

## RESEARCH TOPICS

The department of Information Systems & Operations consists of five institutes. The research conducted by all institutes ranges from business process management, semantic web, information and technology management, supply-chain management to security and social media.

## RESEARCH PROJECTS

The Department of Information Systems and Operations is currently involved in numerous research projects, some of which started recently, and some have finished successfully. To name a few:

In the EU-funded research project SERA-MIS (Sensor-Enabled Real-World Awareness for Management Information Systems) we investigate current applications of RFID technology in fashion retail. The research partners from Germany, Greece, Italy and Austria and two industry partners collaboratively investigate innovative use cases like product recommendation in RFID-enabled fitting rooms. Special attention is given to privacy issues that may arise with these new RFID-enabled applications. Research results of the project have been published in the International Journal of Production Economics, Information Systems, and ACM Transactions on Management Information Systems. Project members from WU are (in alphabetical order) Sushant Agarwal, Sabrina Kirrane, Jan Mendling, Andreas Rogge-Solti, Stefan Schönig and Sarah Spiekermann.

In October 2015 The SHAPE Project celebrated its first anniversary in a Workshop together with the advisory board members Prof. Thomas Eiter (TU Vienna) and Prof. Hajo Reijers (VU Amsterdam). In the SHAPE project, the Institute for Information Business from WU in collaboration with Siemens AG will develop ICT support for more rigorous and verifiable process management in recurring and adaptive engineering processes, by supporting modelling, monitoring and conformance checking in safety-critical engineering processes.

GET Service is a project aiming at the development of a service platform for Green European Transportation (GET), facilitating

real-time aggregated planning, synchro-modal (re) planning, reduction of empty miles and co-modal planning.

WU Vienna attended the general assemblies in Zurich, hosted by IBM, and in Munich, hosted by Transver. WU Vienna itself hosted the last GET developers meeting. It was held in preparation of the Final Review Meeting, taking place in Rotterdam, in front of the reviewers of the European Commission. The event lasted two days. Public presentations during the first day were held in front of researchers and experts from the smart logistics area, both from industry and academia.

In the context of the GET Service project, WU actively contributed in the making of predictive algorithms detecting diverting aeroplane routes, in the data analysis of massive transport data streams, and on smart multi-modal logistics planning algorithms.

## AWARDS

The Institute for Information Business is happy to announce three awards received this year.

The paper "Quality Assessment and Evolution of Open Data Portals" by Jürgen Umbrich, Sebastian Neumaier and Axel Polleres has won the Best Paper Award at OBD 2015 (1st International conference on Open and Big Data in Rome, Italy).

The paper "Ensuring Model Consistency in Declarative Process Discovery" by Claudio

Di Ciccio, Fabrizio Maria Maggi, Marco Montali and Jan Mendling has won the Best Paper Award at BPM 2015 (Business Process Management conference in Innsbruck, Austria).

Javier D. Fernandez, Patrick Schneider and Jürgen Umbrich won the best Poster and Demo award for "The DBpedia wayback machine" at the Semantics conference 2015 which was hosted by WU Vienna in September 2015.

## Its finally here: the 11<sup>th</sup> edition of the Wirtschaftsinformatik textbook

The 11<sup>th</sup> edition of the most successful IS textbooks in the German-speaking countries: Wirtschaftsinformatik by Hans Robert Hansen, Jan Mendling and Gustaf Neumann has been published. Up until now more than 500,000 copies have been sold. The newest edition is based on the previous editions, however, it has been completely revised by the authors and thus offers a more compact and clear contents on IS and IS-related topics. Prof. Dr. Edward Bernroider from the Institute for Information Management and Control reports about this occasion in the OCG Journal with an article titled "The Red Bible explodes".



## EVENTS

The 11<sup>th</sup> International Conference on Semantic Systems continues a long tradition of bringing together colleagues from around the world to present best practices, panels, papers and posters to discuss semantic systems in birds-of-a-feather sessions and informal settings. SEMANTICS 2015 was organized by the Institute for Information Business with Prof. Dr. Axel Polleres as conference chair and took place at WU Vienna in September 2015.

The Institute for Information Business also organized the Vienna SEMANTIC Web Meetup on Business Semantics & Enterprise Linked Data in January 2015. This Meetup gathers experts who are deeply involved in projects on the edge between Business/Enterprise Informatics and Linked Data.

## SELECTED PUBLICATIONS

Rogge-Solti, A.; Weske, Weske (2015) Prediction of business process durations using non-Markovian stochastic Petri nets. Information Systems 54

Figl, K.; Laue, R. (2015) Influence Factors for Local Comprehensibility of Process Models. International Journal of Human-Computer Studies (Elsevier). 82, pp.96–110

Figl, K.; Recker, J. (2014) Exploring Cognitive Style and Task-specific Preferences for Process Representations. Requirements Engineering

Leopold, H.; Pittke, F.; Mendling, J. (2015) Automatic service derivation from business process model repositories via semantic technology. Journal of Systems and Software 108: 134–147

Pittke, F.; Leopold, H.; Mendling, J. (2015) Automatic Detection and Resolution of Lexical Ambiguity in Process Models. IEEE Trans. Software Eng. 41(6): 526–544

Di Ciccio, C.; Maggi, F. M.; Mendling, J. (2015) Efficient discovery of Target-Branched Declare constraints. Inf. Syst.

Di Ciccio, C.; Mecella, M. (2015) On the Discovery of Declarative Control Flows for Artful Processes. ACM Trans. Management Inf. Syst. 5(4): 24:1–24:37

Cabanillas, C.; Resinas, M.; del-Río-Ortega, A.; Ruiz Cortés, A. (2015) Specification and automated design-time analysis of the business process human resource perspective. Inf. Syst. 52: 55–82



## CONTACT DETAILS

M.SC. MONIKA MALINOVA  
Institute for Information Business

Vienna University of  
Economics and Business  
Welthandelsplatz 1  
1020 Vienna, Austria  
P+43 1 31336 5206  
[http://www.wu.ac.at/infobiz/  
monika.malinova@wu.ac.at](http://www.wu.ac.at/infobiz/monika.malinova@wu.ac.at)

## KEY FACTS

### INSTITUTION

- Founded in 2005
- More than 70 researchers

### RESEARCH TOPICS

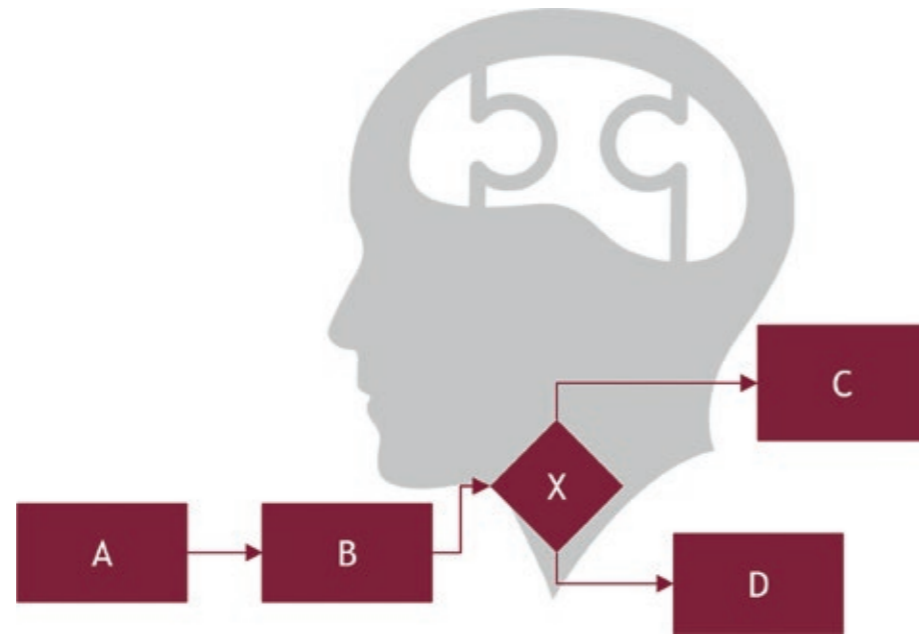
- Business process management
- Process mining
- Supply chain operations planning
- Social aspects of IS
- Business programming
- Knowledge management
- Semantic web technologies
- Operations research
- Decision support systems
- Computer integrated manufacturing
- Online algorithms and decision theory
- New product development
- Data modelling and eLearning
- Relation theory
- eGovernment and eVoting
- eMarketing and Software agents
- Secure business systems





## CONCEPTUAL MODELING

Nowadays, conceptual modeling supports a variety of business tasks aimed to improve the productivity of companies among different industries. Conceptual models capture various aspects of a company's structure and behavior, such as business processes, business data, and organization. By documenting these aspects through diagrammatic representations provided by conceptual models, business analysts can gain a quick overview of how the company works in detail. Hence, conceptual models serve not only to document but also to analyze specific aspects of corporate reality to support economic decision-making. For instance, the use of conceptual models supports Business Process Improvement, Benchmarking, Software Customizing, Workflow Management, and Compliance Management. Due to their considerable potential to support decision-making, many companies have created large collections of conceptual models. This makes it difficult for analysts to analyze conceptual models in order to support their business tasks. Hence, the Competence Center of Conceptual Modeling focuses on the development of novel methodologies, providing automatic support for the design and analysis of conceptual modeling in different business domains. In particular, we worked on the following topics:



**Model Query Languages:** With query languages, analysts can search for sections in conceptual models that match a specific structure with specific contents. Such model query languages serve to, for instance, identifying inefficiencies in business processes, searching for legal violations of information systems, or generating database tables automatically from a data model. Particular query languages that we developed at the Competence Center for Conceptual Modeling are the Generic Model Query Language (GMQL) and the Diagrammed Model Query Language (DMQL).

**Patterns for Query Languages:** Patterns for query languages define model sections of interest that represent, for instance, compliance violations, process weaknesses, or errors. In several empiric studies, we identified more than 100 query patterns that can be used in business process management projects, for instance, to identify business process compliance violations or inefficiencies.

**Process Mining:** Process Mining is used to learn a process model automatically from log files of business software. The advantage of creating process models this way is that they actually represent the process reality of the company and are not biased by human perception. This year, we developed a novel probabilistic approach of process mining that is based on grammatical

inference. This approach is less affected by the problem of overfitting that several recent approaches suffer from.

**Semantic Technologies in Business Process Management:** Semantic technologies in business process management include, amongst others, formal process ontologies, recommender systems, and computational linguistics services. To promote this topic, we organized a special interest group within the German Computer Science Association (GI) and a corresponding workshop at the ECIS 2015 conference in Münster in cooperation with the University of Osnabrück and the Karlsruhe Institute for Technology (KIT).

**Standardization:** In 2015, we started a funded research project on EPC standardization that we work on together with our colleagues from the University of Osnabrück. The project is funded by the German Federal Ministry of Economic Affairs and Energy (BMWi).



We are very happy that we could publish our research results in renowned, high-ranked outlets (such as CAIS and MISQ) and that we won the Best Paper Award of the Wirtschaftsinformatik 2015 conference.

### SELECTED PUBLICATIONS

*Breuker, D.; Matzner, M.; Delfmann, P.; Becker, J.:* Comprehensible Predictive Models for Business Processes. *Management Information Systems Quarterly (MISQ)* (2016). In press; accepted for publication 2015-10-19.

*Delfmann, P.; Breuker, D.; Matzner, M.; Becker, J.:* Supporting Information Systems Analysis Through Conceptual Model Query – The Diagrammed Model Query Language (DMQL). *Communications of the Association for Information Systems (CAIS)* 37 (2015) 1, pp. 473–509.

*Becker, J.; Delfmann, P.; Dietrich, H.-A.; Eggert, M.; Steinhorst, M.:* Model-based Business Process Compliance Checking in Financial Industries – Conceptualization, Implementation, and Evaluation. *Information Systems Frontiers* (2015). DOI: 10.1007/s10796-014-9529-y.

*Delfmann, P.; Steinhorst, M.; Dietrich, H.-A.; Becker, J.:* The Generic Model Query Language GMQL – Conceptual Specification, Implementation, and Runtime Evaluation. *Information Systems* 47 (2015) 1, pp. 129–177.

*Bergener, P.; Delfmann, P.; Weiss, B.; Winkelmann, A.:* Detecting Potential Weaknesses in Business Processes – An Exploration of Semantic Pattern Matching in Process Models. *Business Process Management Journal* 21 (2015) 1.

*Delfmann, P.; Dietrich, H.-A.; Steinhorst, M.; Becker, J.:* Comprehensive tool support for enterprise modelling and evaluation. *International Journal of Information System Modeling and Design* 5 (2015) 3.

### CONTACT DETAILS



**PD DR. PATRICK DELFMANN**  
Competence Center Conceptual Modeling

P +49 251 83-38083  
patrick.delfmann@ercis.uni-muenster.de



**STEFFEN HÖHENBERGER**

P +49 251 83-38078  
steffen.hoehenberger@ercis.uni-muenster.de



**DENNIS RIEHLE**

P +49 251 83-38087  
dennis.riehle@ercis.uni-muenster.de

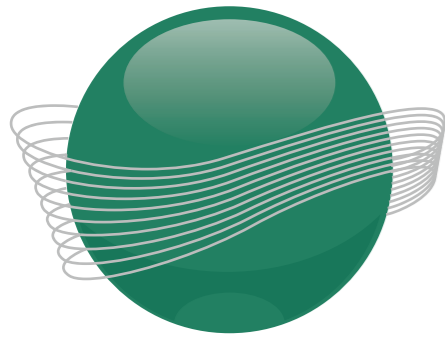
*Delfmann, P.; Höhenberger, S.:* Supporting Business Process Improvement through Business Process Weakness Pattern Collections. *Proceedings der 12. Internationalen Konferenz Wirtschaftsinformatik, Osnabrück 2015. Winner of the Best Paper Award.*

*Fellmann, M.; Delfmann, P.; Koschmider, A.; Laue, R.; Leopold, H.; Schoknecht, A.:* Semantic Technologies in Business Process Modeling and Analysis. Part 2: Domain Patterns and (Semantic) Process Model Elicitation. *EMISA Forum* 35 (2015) 2.

*Fellmann, M.; Delfmann, P.; Koschmider, A.; Laue, R.; Leopold, H.; Schoknecht, A.:* Semantic Technologies in Business Process Modeling and Analysis. Part 1: Matching, Modeling Support, Correctness and Compliance. *EMISA Forum* 35 (2015) 1, pp. 15–31.

University of Münster  
ERCIS – Competence Center  
Conceptual Modeling  
Leonardo-Campus 3  
48149 Münster  
Germany





## COMPETENCE CENTER CONNECTED ORGANIZATION

### › CONNECTED ORGANIZATION

The Competence Center Connected Organization (3CO) was founded in spring 2013, in order to examine the influence of upcoming IT-innovations and trends on organizations. Caused by the upcoming of new concepts and technologies for communication and collaboration, relations of companies, NGOs, and political actors to their stakeholders (citizens, customers, partners, interested parties, etc.) are heavily changing. This development leads to new challenges for organizations and to new research questions for the academic world.

The 3CO-network consists of partners from University of Duisburg-Essen, Technische Universität Berlin, Technische Universität Braunschweig and Jacobs-University Bremen. The network also cooperates with business partners as well as political players, and public entities.

In 2015 a student project in cooperation with the large German gas trading company WINGAS GmbH, was accomplished. The group of students was challenged with the task to extract customer information for the B2B market from publicly accessible social media. The students developed a concept to rate the acquisition potential of social network profiles. Further, they developed an interface to integrate social media data into an existing CRM system.

In November 2015 the head of the competence center, Stefan Stieglitz, gave a presentation at the connectiv! eSolutions Customer Relationship Management Information Day. In his talk he highlighted the massive impact of communication and collaboration technologies on enterprises and the challenges companies are facing.

In December 2015 the competence center conducted a Germany-wide study on master data management. Partners of the study are the innoscale AG as well as the University of Duisburg-Essen and adesso.

Not surprisingly, the competence center itself uses social networks as well. The 3CO hosts profiles on Facebook and XING. The Facebook group “Community – Competence Center Connected Organization” is used to share information about the latest projects and to keep in contact with partners and interested people. Moreover, the 3CO pursues a Blog where the 3CO staff regularly posts about trends and technologies and their impact on organizations. Topics are for instance “the value of employer branding for enterprises” or “pros and cons of mobile device management system in enterprises”.

In 2015 joined research articles in the field of mobile technologies, particular between the Jacobs University of Bremen and the University of Muenster were published in international journals.



In 2016 the 3CO will continue to work together with companies in order to strengthen the interconnectedness between research and professional practice.

We will continue with our focuses in the areas of social media analytics, social media governance and communication and collaboration topics, such as mobile enterprise. Several studies proofed the benefits of Social Media usage in companies, but also for external communications. By having a clear and structured Social Media Governance, a highly performed usage of Social Media can be ensured. We accompany and work strongly with the customer through and in each process step, by raising the requirements, constructing concepts, and developing prototypes, and measure the outcomes. By making sense of Social Media Data, our aim is to understand customer behavior, but also make recommendations for action during a crisis. One of our goals for conducting Social Media Analytics, is to have a higher resilience for Companies during and after crisis situations. Furthermore, we support customers for performing their business through several opportunities, such as designing and developing mobile applications or evaluating existing frameworks and systems.

#### PUBLICATIONS

*Stieglitz, S.; Lattemann, C.; Brockmann, T. (2015).* Mobile applications for knowledge workers and field workers. *Mobile Information Systems*, Article ID 372315, 1–8.

*Stieglitz, S. (2015).* Gamification – Vorgehen und Anwendung. *HMD Praxis der Wirtschaftsinformatik*, 52(6), 816–825.

*Brockmann, T., Stieglitz, S. & Cvetkovic, A. (2015).* Prevalent Business Models for the Apple App Store. *Wirtschaftsinformatik Proceedings 2015 (WI)*. Paper 81.

*Stieglitz, S., Bruns, A., & Krüger, N. (2015).* Enterprise-Related Crisis Communication on Twitter. *Wirtschaftsinformatik Proceedings 2015 (WI)*. Paper 62.

#### BLOG:

<http://www.connected-organization.de/>

#### FACEBOOK:

<https://www.facebook.com/connectedorganization>

#### XING:

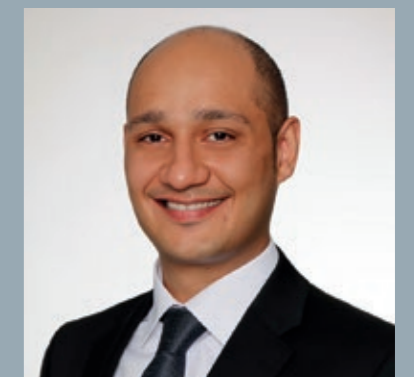
<https://www.xing.com/companies/competencecenterconnectedorganization>

### CONTACT DETAILS



**PROF. DR. STEFAN STIEGLITZ**  
Academic Head

P +49 203 379 2320  
stefan.stieglitz@  
connected-organization.de



**MILAD MIRBABAIE**  
Manager

P +49 203 379 2671  
milad.mirbabaie@  
connected-organization.de

University of Duisburg-Essen  
ERCIS – Competence Center  
Connected Organization  
Forsthausweg 2  
47057 Duisburg  
Germany





Visit of the Crisis Room at the Global Security and Crisis Management Unit of the EC Joint Research Centre in Ispra/Italy

## › CRISIS MANAGEMENT

The Competence Center for Crisis Management (C<sup>3</sup>M) integrates the research efforts of the ERCIS network in the domain of crisis management and humanitarian logistics. Our main objective is to identify relevant challenges in practitioner realities and to design appropriate socio-technical solutions. C<sup>3</sup>M integrates a collaborating network of different practitioner and research groups from the crisis management and humanitarian logistics domains. The C<sup>3</sup>M concentrates on six research topics on crisis management and humanitarian logistics, starting at visualization of processes up to coordination of humanitarian relief chains.



Research Fields of the C<sup>3</sup>M

## NEWS FROM PROJECTS AND OTHER ACTIVITIES



For the project Driving Innovation in Crisis Management for European Resilience (EC FP7, [www.driver-project.eu](http://www.driver-project.eu)), the year 2015 started with the big meeting week hosted by the EC Joint Research Centre in Ispra (Italy) where the working plans were detailed. Subsequently, very promising progress has been made in the preparation of a logistics simulation experiment together with the German Aerospace Centre and Federal Agency for Technical Relief.



Within the Marie Curie Initial Training Network NITIMesr (EC FP7, [www.nitim.eu](http://www.nitim.eu)), various events were hosted by ERCIS. Two PhD courses organized together can be pointed out: "Disaster Mapping 2.0" with Prof. Joao Porto de Albuquerque from the University of Sao Paulo (Brazil) and a Design Workshop with Prof. Ojelanki Ngwenyama from the Ryerson University (Canada).

In 2015, the C<sup>3</sup>M team was involved in several events. The following three conferences deserve special mention:



In May we again co-chaired the "Practitioner Cases and Practitioner-Centered Research" track at the International Conference on Information Systems for Crisis Response and Management (ISCRAM) in Kristiansand (Norway) together with Prof. Mark Haselkorn and Robin Mays from the University of Washington. In this track, we received amazing contributions exploring information systems research on crisis management by grounding it in the realities of practitioners work (<http://iscram2015.uia.no>).



Group Picture ISCRAM



Partly overlapping with ISCRAM, we co-chaired the track on "Supply Chain Management in Volatile and Uncertain Environments" at the European Conference on Information Systems (ECIS) in Münster (Germany). Here, special attention was paid to IS dealing with disruptions in supply chains (<http://ecis2015.eu>).



Interactive Session of the "Humanitarian Challenges & Opportunities" Track at IEEE GHTC



The cooperation with our colleagues from the Human Centered Design & Engineering Department at the University of Washington has been deepened through co-chairing the track "Humanitarian Challenges & Opportunities" at the IEEE Global Humanitarian Technology Conference in Seattle (USA). As experienced in our collaboration at ISCRAM the approach of involving researchers and practitioners in the review process leads to high quality results, which has been acknowledged by honoring the contribution on participatory assessment platform as best paper of the IEEE GHTC conference (<http://www.ieeeghtc.org>).

We can look back on an exciting year 2015. Some important events, like our participation at the General Assembly of the Humanitarian Logistics Association, remain unmentioned here but many of our highlights can be found on the C<sup>3</sup>M website. We are grateful for all the exchanges and collaborations with our partners and we are looking forward for its continuation as well as some promising new initiatives in the next year.

## SELECTED PUBLICATIONS

Link, D.; Horita, F.; Porto, d. A. J.; Hellingrath, B.; Ghasemivandhonyar, S. (2015). A Method for Extracting Task-related Information from Social Media based on Structured Domain Knowledge. Americas Conference on Information Systems.

Hellingrath, B.; Babun, T.; Smith, J.; Link, D. (2015) Disaster Management Capacity Building at Airports and Seaports. In: Klumpp, M. et al. (Eds) Humanitarian Logistics and Sustainability. Springer Lecture Notes in Logistics.

Widera, A.; Hellingrath, B.; Bubbich, C. (2015) Humanitarian Logistics Dashboards – A Design-related Requirements Analysis. IEEE Global Humanitarian Technology Conference.

Widera, A. (2015) Driving Innovation in Crisis Management for European Resilience (DRIVER). EU Project Symposium at International Conference on Information Systems for Crisis Response and Management.

Link, D.; Widera, A.; Hellingrath, B.; De Groeve, T.; Eidimtaite, G.; Kumar, L. M. (2015). GDACSmobile – An IT Tool Supporting Assessments for Humanitarian Logistics. The International Emergency Management Society Conference.

## CONTACT DETAILS



PROF. DR.-ING. BERND HELLINGRATH  
Academic Director

P +49 251 83-38000  
[bernd.hellingrath@wi.uni-muenster.de](mailto:bernd.hellingrath@wi.uni-muenster.de)



ADAM WIDERA, M. A.  
Managing Director

P +49 251 83-38011  
[adam.widera@wi.uni-muenster.de](mailto:adam.widera@wi.uni-muenster.de)

University of Münster  
ERCIS – Competence Center  
Crisis Management (C<sup>3</sup>M)  
Leonardo-Campus 3  
48149 Münster, Germany

[huml@ercis.de](mailto:huml@ercis.de)  
[crisismanagement.ercis.org](http://crisismanagement.ercis.org)



## NATIONALER IT-GIPFEL 2015

DIGITALE ZUKUNFT GESTALTEN – INNOVATIV\_SICHER\_LEISTUNGSSTARK



Michael Räckers, Sara Hofmann and Jörg Becker attending the National IT Summit 2015

### › E-GOVERNMENT

The E-Government Competence Center, which was founded in 2004, has a long tradition in process management both within governments as well as between governments and other organizations. Our research focuses on how individuals use e-government technology. The main tasks in 2015 included a project on Federal Information Management, a project on IT-competencies in the German Public Sector, and research on non-usage and rejection of E-Government services.

#### National IT Summit

Since 2015, Jörg Becker and Michael Räckers are members of the National IT Summit. Both are working in the Platform "Digital Administration and Public IT". Within the Platform they are especially involved in the Focus Group "Government as a Service". This Focus Group is aiming on designing and implementing fully integrated and digitized Processes within Public Administrations.



#### Research on Non-Usage and Rejection of E-Government services

In spite of the ever-expanding online offers created by public administrations, low adoption rates of E-Government services by citizens continue to be on the daily agenda. The main objective of our research in this field is to identify the (perceived) obstacles that presumably lead to the non-

#### Federal Information Management

Public administrations often face a heterogeneous information and information technology landscape. The FIM project aims to build up an information management that supports information exchange across all federal levels and between public administrations and citizens. Together with colleagues from Munich and Berlin, we developed a framework for integrating different kinds of information (i.e. service descriptions, process descriptions, and forms) and a procedural model to create and maintain the integrated information. After finishing the conceptual work in 2013, the project is now in the final evaluation phase. We created a set of reference forms, which we embedded in harmonised service descriptions and reference processes.

adoption or rejection of these services and to provide a research agenda for future investigations.

#### E-Government Competence

E-Government is not only something, the individual uses and has to adapt to, public administrations equally have to cope with new systems and technologies in order to keep serving their customers satisfactorily. The project E-Government competence aims at identifying the future personnel requirements in the public sector and to develop teaching methods that help employees to better adjust to the changed environment and customer needs. Therefore, in a first step, today's and future roles incorporated by employees in the public sector are gathered on the basis of IT-supported administration processes. This should help to identify those (presumably) new competencies especially required when working in an "E-Government context". Then, competencies that are needed now and in the near future are derived from this analysis and suitable teaching methods are developed. Together with colleagues from Munich, Berlin and Siegen, the project was initiated in September 2015 and will be completed by the End of April 2016. E-Government competence is currently in its second phase, where needed competencies are being derived from the identified roles in the form of competence matrixes.

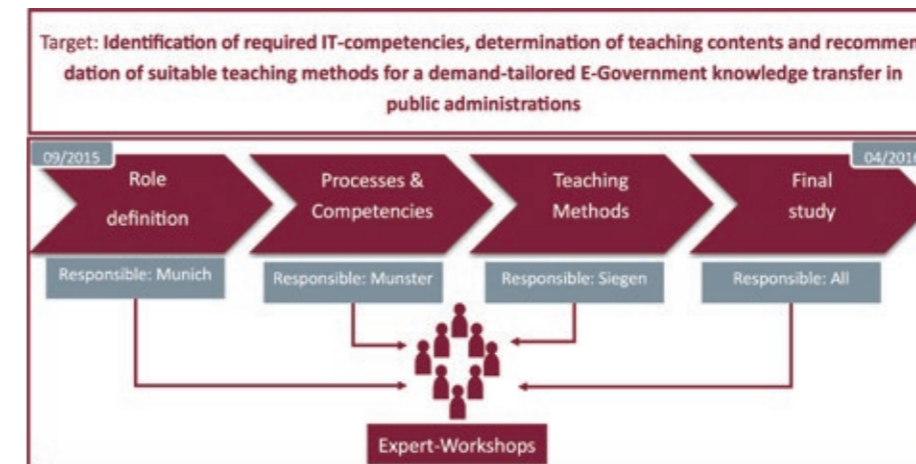
The validity of the project's overall results is assured in every phase by regular expert-workshops that provide practitioner knowledge and thus fulfill a twofold goal: Next to valuable practical insights of administrations, the early integration in the process will increase the acceptance of all stakeholders.

#### PUBLICATIONS

Chasin, F., & Scholta, H. (2015). Taking Peer-to-Peer Sharing and Collaborative Consumption onto the Next Level – New Opportunities and Challenges for E-Government. In Proceedings of the European Conference on Information Systems (ECIS 2015), Münster, Germany.

Scholta, H., Balta, D., Wolf, P., Becker, J., & Krcmar, H. (2015). Standardization of Service Descriptions, Process Models and Forms in Public Administrations: Results from a Survey in Germany. In Tambouris, E., Scholl, H. J., Janssen, M., Wimmer, M. A., Tarabanis, K., Gascó, M., Klievink, B., Lindgren, I., Milano, M., Panagiotopoulos,

P., Pardo, T. A., Parycek, P., & Sæbø, Ø. (Eds.), *Electronic Government and Electronic Participation: Joint Proceedings of Ongoing Research, PhD Papers, Posters and Workshops of IFIP EGOV and ePart 2015* (pp. 245–252). Innovation and the Public Sector: Vol. 22. Amsterdam: IOS Press



### CONTACT DETAILS



**DR. SARA HOFMANN**  
Competence Center E-Government

From January 1<sup>st</sup>, 2016 Juniorprofessor for Digital Media in the Public Sector at University of Bremen

P +49 251 83-38070  
[sara.hofmann@ercis.uni-muenster.de](mailto:sara.hofmann@ercis.uni-muenster.de)



**DR. MICHAEL RÄCKERS**  
Competence Center E-Government

P +49 251 83-38075  
[michael.raeckers@ercis.uni-muenster.de](mailto:michael.raeckers@ercis.uni-muenster.de)

University of Münster  
ERCIS – Competence Center  
E-Government  
Leonardo-Campus 3  
48149 Münster, Germany





## SERVICE RESEARCH at the European Research Center for Information Systems

### › SERVICE SCIENCE

The Service Science Competence Center is ERCIS' major organizational unit for conducting research and industry projects in the area of service management and service engineering. With a team of two post-doctoral researchers and 11 research assistants, the Service Science Competence Center is currently the largest third party-funded research group in the ERCIS network.

### SERVICE SCIENCE MANAGEMENT AND ENGINEERING

The emergence and proliferation of the Service Economy has changed the way in which the creation of value is perceived throughout various industry sectors and societies. Some current manifestations are integrating industrial machinery with customized service offerings (customer solutions, product-service systems), offering aircraft turbines (power by-the-hour) or software applications (as-a-service) without selling physical goods, or providing content on mobile platforms. Theories and artifacts related to service are reflected in the emerging academic discipline of Service Science, Management and Engineering (SSME). Research in SSME is focused on understanding and facilitating the creation of value in service systems, involving interactions of service providers and service customers.

### MISSION OF THE SERVICE SCIENCE COMPETENCE CENTER

The mission of the ERCIS Service Science Competence Center is twofold. On the one hand, we strive to understand the nature and impact of service orientation on com-

mercial businesses, on the public sector, and on society in general. On the other hand, we contribute to further shaping the course of the service economy by designing new business solutions and software artifacts. One focal point of our research is facilitating service-orientation in close cooperation with high-tech manufacturing companies. We have also been in frequent contact with banks, retail companies, and facility management service providers.

Our research is equally dedicated to research excellence and to providing results that companies can utilize to further shape their businesses in the service society. We achieve this goal based on a network of excellent researchers in the global ERCIS network.



### CURRENT RESEARCH PROJECTS

#### EOL-IS



An immature battery technology appears to be the crucial obstacle for a large diffusion of electric mobility in Germany. One core argument are the high initial costs of eCar batteries which cause electric vehicles to be about three times more expensive than vehicles with a compression ignition (CI) engine. The still small number of electric vehicles conversely impedes realizing economies of scale to a full extent. This deadlock prevents the comprehensive diffusion of electric mobility. Therefore, a reduction of the Total Cost of Ownership (TCO) of the battery is an essential precondition for the electric mobility's diffusion.

Currently it is assumed that an electric car battery still has about 80 % of its original capacity left when it reaches its End-of-(First-)Life (EOL). Thus, to reduce the TCO the battery can be reused in a different or less demanding scenario. For instance, a battery or its components could be used to propel smaller vehicles, to store green energy in stationary applications such as in smart homes, or to power small electronic

devices such as technical equipment used on construction sites.

The EOL-IS project's goal is to develop service innovations for the phase after the eCar batteries' EOL, based on the chemical and technical features of eCar batteries. Moreover, a decision support system is conceptualized and implemented to help a decision maker find the best Second-Life application for each single battery. Once an appropriate scenario has been identified, services can be configured and bundled with the battery as an integrated customer solution.

More information is available at: <http://www.eol-is.de>

#### CrowdStrom



As long as the existing battery technology does not allow for longer ranges of electric vehicles, a widespread charging infrastructure is necessary to make electric vehicles suitable for the daily use. The availability of public charging infrastructure has a direct influence on sales of electric vehicles and vice versa. Since public charging infrastructure and the number of electric vehicles are only slowly growing, the project CrowdStrom is trying to breach this cycle by making the existing private charging infrastructure accessible for the public.

The CrowdStroms project's goal is the development of an innovative service, encouraging private people to set up charging stations and granting access to third parties. This crowd-sourced concept faces the challenges to develop new, standardized processes covering the entire range of requirements for setting up and operating a charging infrastructure for electric vehicles. The implementation of a software-system managing the service processes and the flow of information between par-

ticipating parties will provide the technical foundation for the concept. Operating this system and the integration of all partial services set up an innovative business for supply and infrastructure providing companies, resulting in a public charging network empowered by existing private charging stations.

More information is available at: <http://www.crowdstrom.de>

#### Cooperation Experience



Today, successful innovations in business models increasingly take place in the form of product-service system (PSS) networks that allow combining the skills and performance contributions of different partners of the value chain into new and innovative customer solutions. Potential benefits related to the product-service system include better differentiation from competitors, increased customer satisfaction and retention, and enhanced resource utilization throughout the network.

In order to coordinate the activities of product and service providers within a product-service system network better, the project's main goal is to design a method that supports the driven demand. This method will be characterised by its capability to visualise the planning of the back-office integration in PSS networks and by its suitability to allow a most direct experience of the network as part of a software-based test environment. Application domains are the planning and operation of facilities and the mechanical engineering. A parallel adaptation and development of domain-specific reference models will show how actors can match their tangible and intangible offerings along the product life cycle in an innovative way, for cooperatively achieving the demanding economic, social, and environmental objectives. Parts of these reference models will be integrated into

the modelling environment as templates or best practices knowledge, allowing for an effective application of the newly designed methodology.

More information is available at: <http://www.cooperation-experience.de>

#### PUSH



"Hybrid Value Creation" refers to offering custom-fit solutions consisting of physical goods and value-added services, including consulting, maintenance, recycling service or even operating the entire solution "as a service". Manufacturers that transform into providers of customer solutions may expect several benefits – higher margins, improved differentiation from competitors and superior customer retention. In recent years, Münster grew into one of the most significant global locations for research on "hybrid value creation". WWU Münster and the Münster University of Applied Science developed models, methods and software tools of high scientific quality and immediate utility for the practice.

Against this backdrop, the goal of this project was to make the various research results achieved by the researchers in Münster applicable to the small and medium enterprises in the Münsterland region surrounding our city. The project therefore developed frameworks to structure previous results as well as communication and educational material in order to transfer knowledge to the practitioners. Furthermore, a roadshow and exercise round tables were launched to bring together researchers and practitioners in the region. The project was successfully completed in August 2015.

More information is available at: <http://www.push-muensterland.de/>



## RISE BPM



RISE\_BPM networks world-leading research institutions and corporate innovators to develop new horizons for Business Process Management (BPM). BPM is a boundary-spanning discipline focused on division and re-integration of day-to-day work in organisations and on analysis of process data for organisational decision-making. Recent break-through innovations in Social Computing, Smart Devices, Real-Time Computing, and Big Data Technology create a strong impetus for propelling BPM into a pervasive corporate topic that enables design of entirely new products and services.

All RISE\_BPM consortium members possess excellent expertise in distinct aspects of the BPM lifecycle, ranging from Strategy and Modelling to Implementation and Analysis of business processes. RISE\_BPM networks this complementary knowledge to create a unique environment for BPM research and innovation. The research activities are organised with reference to the design-science paradigm, including joint activities for analysing technological enablers and societal impact factors, as well as designing innovative IT artefacts for the BPM lifecycle.

Staff secondments and joint events promote a cumulative exchange of knowledge in a think-pair-square-share approach that networks large-scale research capabilities and innovation projects carried out by the involved organisations. Key objectives of

RISE\_BPM are (a) to propel BPM research into the era of Social Computing, Smart Devices, Real-Time Computing, and Big Data Technology; (b) to enable companies to develop new products and services for designing and analysing business processes; and (c) to supply the involved staff with a unique intellectual environment for accumulating boundary-spanning knowledge and skills that refer to the entire BPM lifecycle.

Participating institutions are the University of Muenster, University of Vienna, Universidad de Sevilla, Technische Universiteit Eindhoven, Queensland University of Technology, University of Liechtenstein, Ulsan National Institute of Science and Technology, Universidade Federal do Estado do Rio de Janeiro, PICTURE GmbH, and Cupenya B.V. The RISE\_BPM Project has been positively evaluated by the European Commission. It has started in May 2015 with a duration of four years. The project is kindly supported by the European Union (EU) under the Horizon 2020 funding schema. More information is available at: <http://www.rise-bpm.eu>.

### EVENTS

#### 88<sup>th</sup> AFSMI Chapter Meeting

The 88<sup>th</sup> meeting of the German Chapter of the Association for Services Management International (AFSMI) was hosted by ERCIS-Headquarters in Muenster on September 18<sup>th</sup>, 2015. Chaired by PD Dr. Daniel Beverungen and Dr. Martin Matzner from the Service Science Competence Center, the meeting offered talks, workshops and discussions on the topic of smart services. More Information: <http://www.afsmi.de>

#### Seminar in Cooperation with BMW

In the course of the research seminar „Cyber-Physical Systems“, a group of students were offered the chance to perform an analysis of production data from German car manufacturer BMW. Process data of a semi-automatic gluing process from the BMW assembly line was analyzed. Together with the help of the experts from BMW, students were able to create data visu-

alizations that helped to identify patterns about the data collected. Such patterns allowed a better understanding of the gluing robot behavior with the chance to identify underlying variables that are responsible for errors.

### Academic Activities

The Service Science Competence Center has again hosted and supported major academic initiatives related to service research as part of the Association for Information Systems (AIS). Amongst others, we hosted the ECIS Workshop of Service Science in Münster and supported service science conference tracks at ECIS, PACIS and Wirtschaftsinformatik as associate editors. Daniel Beverungen supported the AIS Special Interest Group Services as a Vice President for Communications in his second year. In order to further establish the research area of smart service systems, we invited submissions for a Special Issue on Smart Services that is to be published in Information Systems and eBusiness Management.

#### Workshop on IT and Services for Energy Transition and Electric Mobility (IDEE)

In cooperation with researchers from the KIT and the University of Oldenburg, Daniel Beverungen and Martin Matzner have organized and conducted a workshop on IT and Services for Green Energy and Electric Mobility (IDEE) at the conference of the German Gesellschaft für Informatik in Cottbus, Germany. More information: <http://service.ercis.org/academic-activities/idee-2015>

#### DFG Research Network on Service Engineering (FOKUS:SE)

Sebastian Bräuer, Daniel Beverungen, Friedrich Chasin and Martin Matzner have joined the Research Network on Service Engineering (FOKUS:SE) that is sponsored by the German Research Foundation (DFG). In cooperation with service researchers from selected German universities, they discuss and develop new ideas for engineering innovative services. More information: <http://fokusse.infai.org/>

### Foundational Members of the Scientific Commission for Service Management

Daniel Beverungen and Martin Matzner have joined the newly established Scientific Commission for Service Management (WK-DLM) as foundational members. The Commission focus the networking and coordination of Germany's service researchers as a subgroup of the German Academic Association for Business Research (VHB).

### Citation of Excellence award

ERCIS members Martin Matzner (Münster) and Oliver Müller (Liechtenstein) and their co-author Christian Janiesch (Würzburg) have received the prestigious “Emerald Citation of Excellence 2015” award for their paper “Beyond Process Monitoring: A Proof-of-Concept of Event-driven Business Activity Management”. The article has been published 2012 in the Business Process Management Journal (Vol. 18, Iss. 4, pp. 625–643). More information on the Citation of Excellence Awards: <http://www.emeraldgroupublishing.com/authors/literati/citations/awards.htm>.

### SELECTED PUBLICATIONS

*Beverungen, D., Klör, B., Bräuer, S., & Monhof, M. (2015).* Will They Die Another Day? A Decision Support Perspective on Reusing Electric Vehicle Batteries. In Proceedings of the Twenty-Third European Conference on Information Systems (ECIS 2015), Münster.

*Breuker, D., Matzner, M., Delfmann, P. & Becker, J. (in press).* Comprehensive Predictive Models for Business Processes. In MIS Quarterly.

*Chasin, F., & Scholta, H. (2015).* Taking Peer-to-Peer Sharing and Collaborative Consumption onto the Next Level — New Opportunities and Challenges for E-Government. In Proceedings of the European Conference on Information Systems (ECIS 2015), Münster, Germany.

*Chasin, F., Matzner, M., Löchte, M., Wiget, V., & Becker, J. (2015).* The Law: The Boon and Bane of IT-enabled Peer-to-Peer Sharing and Collaborative Consumption Servic-

es. In Proceedings of the 12th International Conference on Wirtschaftsinformatik (WI 2015), Osnabrück, 332–347.

*Klör, B., Beverungen, D., Bräuer, S., Plenter, F., & Monhof, M. (2015).* A Market for Trading Used Electric Vehicle Batteries — Theoretical Foundations and Information Systems. In Proceedings of the Twenty-Third European Conference on Information Systems (ECIS 2015), Münster.

*Klör, B., Bräuer, S., Beverungen, D., & Monhof, M. (2015).* A Domain-Specific Modeling Language for Electric Vehicle Batteries. In Proceedings of the 12. International Conference on Wirtschaftsinformatik 2015 (WI 2015), Osnabrück, 1038–1054.

*Matzner, M., Chasin, F., & Todenhöfer, L. (2015).* To Share or Not to Share: Towards Understanding the Antecedents of Participation in IT-Enabled Sharing Services. In Proceedings of the European Conference on Information Systems (ECIS 2015), Münster, Germany.

*Matzner, M., von Hoffen, M., Heide, T., Plenter, F., & Chasin, F. (2015).* A Method for Measuring User Preferences in Information Systems Design Choices. In Proceedings of the European Conference on Information Systems (ECIS 2015), Münster, Germany.

*Monhof, M., Beverungen, D., Klör, B., & Bräuer, S. (2015).* Extending Battery Management Systems for Making Informed Decisions on Battery Reuse. In Donnellan, B., Helfert, M., Kenneally, J., VanderMeer, D., Rothenberger, M., & Winter, R. (Eds.), *New Horizons in Design Science: Broadening the Research Agenda* (pp. 447–454). Lecture Notes in Computer Science: Vol. 9073. Springer International Publishing.

*von Hoffen, M., Matzner, M., & Chasin, F. (2015).* Designing an Ontology-based Web Directory for the Discovery of Sharing and Collaborative Consumption Platforms. In Proceedings of the 17<sup>th</sup> IEEE Conference on Business Informatics (CBI 2015), Lisbon, Portugal, 108–115.

## CONTACT US

Please contact us for more information on our projects or for starting exciting new initiatives in the area of service science.



PD DR. DANIEL BEVERUNGEN

University of Münster  
Leonardo-Campus 3  
48149 Münster, Germany

P +49 251 83-38092  
daniel.beverungen@ercis.  
uni-muenster.de

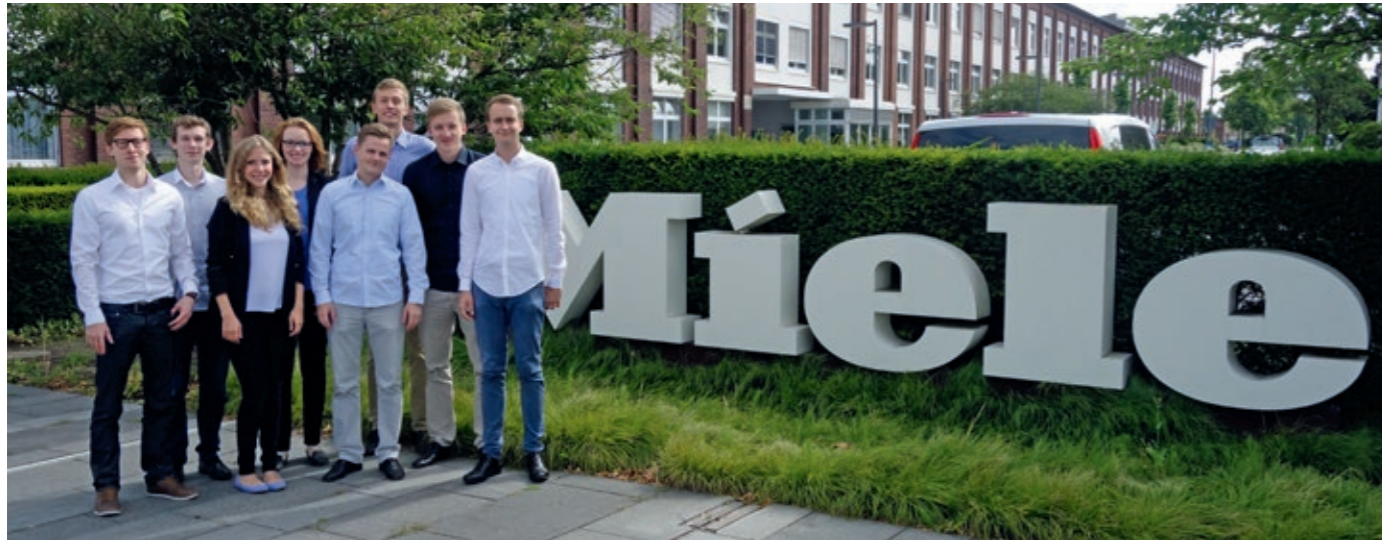


DR. MARTIN MATZNER

University of Münster  
Leonardo-Campus 3  
48149 Münster, Germany

P +49 251 83-38088  
martin.matzner@ercis.  
uni-muenster.de





Collaboration partner Miele

## SMARTER WORK

The Competence Center for Smarter Work provides research and transformation support in the area of Unified Communication & Collaboration (UCC) and Social Media. UCC as well as Social Media facilitate extended and richer modes of interaction among stakeholders. Customer relations as well as partner communities can be actively transformed by the introduction of UCC and Social Media. Furthermore, tools can be used to improve cooperation among employees, to strengthen social relations or to identify experts and specific information.

The integration of these technologies and related concepts into the workplace provides profound challenges and opportunities for organizational development and innovation. We engage in detailed multi method workplace studies in order to gain deep insights into existing work practices. Based on the information and communication patterns (genre) and the relationship network of different stakeholders, we suggest scenarios for new work practices and transformation paths. In our scenarios for smarter work we also reflect issues of corporate social responsibilities and employee wellbeing

### Digital Customer Interaction – A Journey to the Future

This summer a team of students developed and showcased a vision for the digital customer interaction. Collaboration partner for this project were ICT solution specialist Dimension Data, the premium appliance manufacturer Miele and the expert of fastening technology Hilti.



These companies were united in the question of how to interact with the customer tomorrow, and how to gainfully use technological innovations to enhance this interaction. The student team had the task to develop three different visions for a digital customer interaction and showcase these visions with real life scenarios and prototypical implementations. The challenge was split in two parts: How can a manufacturing company of consumer products interact with its customers in future and how can the sales agent gain the expertise for the individual customer interaction.

For Miele the team developed a mobile application integrating real time feeds from a physical device (e.g. dish washer) via NFC technology with customer service options. Based on an automated error analysis various interactions for self help and call back were provided. Key was passing

the customer history / journey information consistently across the touch points. The team further developed a multichannel scenario for connected retail to combine the process of the client web research and the instore product consultation by a sales representative. This included a dashboard where the client representative can track the client's previous interactions and state of knowledge.

For Hilti the team engineered a social media based knowledge database to support the account representatives. The focus was to build a social network containing only features relevant for Hilti to prevent an information overload and to keep the network intuitive.

At the end of the project the students presented their final results at the headquarters of our partners Miele in Gütersloh and Hilti in Schaan, Liechtenstein.



### Sustainable High Performance – the quest for balanced work practices

The proliferation of information and communication technology (ICT) has significantly transformed the way work is organized in many companies today. A highly differentiated and elaborated repertoire of collaboration tools affords employees and organizations with unprecedented leeway in deciding when, where, how, and with whom work is to be done. This implies also that employees are empowered to balance work and life. At the same time, studies acknowledge that we live in demanding and challenging times. Virtual modes of work as well as the increasing pace, fragmentation and intensification of work have been identified as characteristics of an “over-connected world”.

Under such circumstances, delivering high performance over long periods of time and staying healthy is an impressive achievement.

The Competence Centre of Smarter Work (CCSW) has set up an on-going research collaboration with IBM to study how high performers succeed to maintain their level of performance and to balance demands and periods of rest. Our research is part of a large scale initiative of IBM Europe's Software Cross Unit Enablement team and IBM Smarter Workforce (Kenexa) to support and coach high-performing employees.

Like in professional sports, we use biosensors to measure and record physiological parameters and to provide basic coaching to further sustainable high performance. The physiological data are linked to qualitative information on the participants' sense of coherence, which is based on interviews and workshops. Together this information provides input for individual feedback to the participants and an aggregated analysis across the sample of participants.



## CONTACT DETAILS



**MALTE KRAMER**  
P +49 251 83-38113  
malte.kramer@ercis.de



**SIEGFRIED SCHALLENMÜLLER**  
Head of Advisory Board  
M +49 251 83-38144  
Schallenmueller@ercis.de



**DR. SIMEON VIDOLOV**  
P +49 251 83-38114  
simeon.vidolov@ercis.de



**PROF. DR. STEFAN KLEIN**  
Academic Director

P +49 251 83-38110  
stefan.klein@ercis.de



**DR. STEFAN SCHELLHAMMER**  
P +449 251 83-38124  
stefan.schellhammer@ercis.de

University of Münster  
ERCIS – Competence Center  
Smarter Work  
Leonardo-Campus 11  
48149 Münster, Germany

smarterwork@ercis.de

[www.smarter-work.de](http://www.smarter-work.de)



## › RESEARCH AND INNOVATION STAFF EXCHANGE: THE FUTURE OF BUSINESS PROCESS MANAGEMENT

RISE\_BPM is the first favourably evaluated project proposal submitted by the University of Münster in cooperation with ERCIS partners within the Horizon 2020 EU funding programme. The RISE\_BPM project is aimed at networking world-leading research institutions and corporate innovators to develop new horizons for Business Process Management (BPM). The project consortium, besides the University of Münster as the coordinator, includes partners from Australia, South Korea, Brazil, Austria, Spain, the Netherlands, and Liechtenstein.

Key objectives of RISE\_BPM are (a) to propel BPM research into the era of Social Media, Smart Devices, Real-Time Computing, and Big Data Technology; (b) to enable companies to develop new products and services for designing and analysing business processes; and (c) to supply the involved staff with a unique intellectual environment for accumulating boundary-spanning knowledge and skills that refer to the entire BPM lifecycle. The joint research activities are organised with reference to the design-science paradigm, including analysis of technological enablers and societal impact factors, as well as design of innovative IT artefacts for the BPM lifecycle. Staff secondments and joint events promote a cumulative exchange of knowledge in a think-pair-square-share approach that networks large-scale research capabilities and innovation projects carried out by the involved organisations.

› **PROJECT ON DIDACTIC MATERIAL FOR SAP SYSTEMS AT THE HIGHER SCHOOL OF ECONOMICS – NIZHNY NOVGOROD**  
SAP AG and ERCIS (European Research Center for Information Systems), where HSE and Münster University participated, organised a joint 6-months research project. The aim of the project was the elaboration of didactic materials for ERP-system SAP Business One teaching in the universities.

› **JOINT TRACK ORGANIZATION BETWEEN MÜNSTER AND MINHO**  
Heike Trautmann organised the "Evolutionary Multiobjective Optimisation" Track at the Genetic and Evolutionary Computation Conference (GECCO, <http://www.sigevo.org/gecco-2015/index.html>) in Madrid in July together with Antonio Gaspar-Cunha from the University of Minho, Portugal.

## › WIPO COLLABORATION BETWEEN ERCIS PARTNERS MÜNSTER AND HAMILTON

Web in Your Pocket (WiPo) is a research project conducted by the DBIS group in close cooperation with an ERCIS partner, Department of Management Systems in Hamilton, New Zealand. WiPo is based on the observation that even though the Web offers a plethora of data and information, highly specialised or complex search queries – such as queries regarding rare illnesses or a comprehensive holiday-itinerary – cannot currently be answered by common search engines in a satisfying way. The WiPo approach differs from traditional search engines by exploiting comprehensive (pre-) processing of Web data, most importantly including curation, i.e., the partially manual supervision of data sources and data quality with regard to a given subject area. Furthermore, "in your pocket" refers to the fact that parts of the information gathered in this way are made available offline on a portable device, in order to allow users to access the information even when mobile internet connections are not available or prohibitively expensive.

## › BENELUX COURSE FOR PHD STUDENTS ORGANISED BY THE UNIVERSITY OF TWENTE

Utwente initiated and coordinated a Benelux course for PhD students in Information Systems. 11 universities in the region participated by sending their PhD students and hosting a seminar in their city. From the ERCIS network both Twente and Münster participated. PhD students gained the unique experiences of meeting 11 Information systems groups, learning about their research and getting to know 11 vibrant cities and each other! The course is planned to again take place in 2016.



## › JOINT PROJECTS BY CERSI-LUISS AND THE UNIVERSITY OF AGDER

The joint project on "Reframing health-care through social media" was initiated back in 2012 by CeRSI-LUISS and the University of Agder, and continued in 2015. Journal papers were published in Strategic Journal of Information Systems and Journal of Information Technology Teaching Cases, and project findings were discussed at the Global Sourcing Workshop in La Thuile. Activities included the exchange of faculty members from the two ERCIS institutions. Further work planned for 2016 includes faculty members exchange to work on a journal publication. A second research project including researchers from the same universities focuses on the Five Star Movement's online community and how to organise political communication online. In 2015 a journal paper from this project was published in Government Information Quarterly, while results were discussed at several workshops and conferences. Activities also include the exchange of faculty members between the institutions. Planned activities in 2016 include further work on journal papers and further exchange of faculty members.

### References for joint papers:

*Federici, T.; Braccini, A. M. and Sæbø, Ø. (2015). 'Gentlemen, all aboard!' ICT and party politics: Reflections from a Mass-Participation experience. Government Information Quarterly, 32(3), 287–298.*

*Spagnoletti, P.; Resca, A. and Sæbø, Ø. (2015). Design for social media engagement: Insights from elderly care assistance. The Journal of Strategic Information Systems, 24(2), 128–145.*

*Sæbø, Ø.; Resca, A. and Spagnoletti, P. (2015). Reframing health care through social media. Journal of Information Technology Teaching Cases, forthcoming.*





## › FROM MÜNSTER TO KRISTIANSAND

Following the completion of his Habilitation, Tim A. Majchrzak now works as Associate Professor (Førsteamanuensis) at the University of Agder (UiA) in Kristiansand, Norway.

Tim has studied Information Systems in Münster, followed by work as a research assistant at the group of Herbert Kuchen. Shortly after completing his doctorate, Tim gave a short talk at UiA during a leisure visit to Kristiansand. The contact was established by the ERCIS connection of Münster and Kristiansand. One year later, Tim was back for a two month stay as part of the ERASMUS staff exchange.

Following a two year service as Deputy Professor at the University of Cologne, Tim was hired for a permanent position at UiA. Besides teaching similar courses as in 2012 (the technological side of IS), he also has taken responsibility for a work package of a Horizon 2020 EU project in that UiA takes a leading role.

## › RESEARCHER EXCHANGE BETWEEN CERSI-LUISS AND IWI-HSG

For fostering the international knowledge exchange, IWI-HSG was happy to host Paolo Spagnoletti from the ERCIS network in 2015. Prof. Spagnoletti (LUISS Guido Carli University) visited St. Gallen in March 2015, giving two research talks on design theory for digital platforms and the use of simulation. In return, Robert Winter from IWI-HSG was hosted by LUISS as guest professor in April 2015, giving three seminars on IT service, continuous business improvement and effective project management.

On this year's ERCIS annual meeting in Minho (Portugal), IWI-HSG had the opportunity to present its new research endeavor on the "Success of Large Projects" by Peter Rohner. According to the discussion of this presentation, we plan to establish an ERCIS research group on this topic in 2016.

## › SEVERAL JOINT ERCIS PROJECTS

### GO FULL SPEED

- Following the workshop held in Roma in 2014 during the ERCIS annual meeting, a consortium made by 6 ERCIS members and led by the University of Lyon 2 has successfully submitted a project proposal to the Erasmus+ addressing capacity building in Ukraine and Montenegro. The MASTIS "Establishing Modern Master-level Studies in Information Systems" project is aimed at designing and implementing IS Master programmes in these countries. The MASTIS project will contribute to the debate on IS education and IT professionalisation and to the definition of the e-leadership academic curricula.

- The joint project on "Reframing healthcare through social media" started in 2012 by CeRSI-LUISS and the University of Agder will continue in 2016 and further exchanges of faculty members from the two ERCIS institutions are planned in 2016. A successful team of researchers presented preliminary results of their works at the Action Design Research workshop (Lulea) in 2013 and at the Global Sourcing Workshop (La Thuile) in 2015. The main achievements so far have been a publication of a paper in the Journal of Strategic Information Systems and a teaching case published in the Journal of Information Technology Teaching Cases.

- The joint project on "Simulation studies in IS research" started in 2013 by CeRSI-LUISS and IWI-HSG will continue in 2016 with an enlarged team and further exchanges of faculty members from the two ERCIS institutions are planned in 2016. The preliminary results of this project have been presented at ICIS 2013 in Milan and the team is working on a journal publication

- The joint project on the study of online communities for collective actions started in 2013 with the University of Agder (Norway) and the University of Tuscia (Viterbo) will continue in 2016 with further exchanges of faculty members from the ERCIS institutions already planned. The first results of the project were successfully published in the Government Information Quarterly Journal, the Informatica & Documentazione journal, and presented and discussed at the ITAIS conference and the annual workshop of Italian scholars of business organisation (WOA).





### › EDUGLOPEDIA.ORG

EDUglopedia.org is an initiative to increase the visibility of IS education programs around the world, to facilitate knowledge sharing among IS educators, and to foster the recognition of our field to drive education for the digital world.

The EDUglopedia.org project was initiated by Jan vom Brocke, who is the representative of ERCIS in Liechtenstein, when he got elected Vice President for Education of the AIS in 2014. Within the first months after launching the platform in summer 2015 over 1,800 IS courses and over 350 IS programs from over 60 countries have been registered. Already today EDUglopedia.org is the most comprehensive account of information systems institutions, programmes and courses worldwide and the growth rate is exciting.

The software development is led by Stefan Fleischer from the ERCIS headquarters in Münster and the project has full support by leading organisations, including the AIS, SAP and Springer. EDUglopedia.org is a community effort, which is built by the IS community, and which intends to serve the IS community.

Essential elements include:

- Sharing of educational resources,
- Registration of institutions, programs, and courses,
- Presenting profiles of IS educators,
- Networking among educators and lecturers,
- Reporting statistics on views,
- Downloads and activities,
- Rating of educational resources,
- Browsing the educational web and finding pieces of interest, and
- Communicating educational activities.

Get your group on the IS Education Map at: [EDUglopedia.org](http://EDUglopedia.org)

### › BPM WINTER SCHOOL

In 2015 the Hilti Chair of Business Process Management (BPM) at the Institute of Information Systems of the University of Liechtenstein organized the BPM Winter School in Vaduz, Liechtenstein for the fourth year in a row. 22 students and 4 practitioners (from Software AG or Signavio) participated in the event. The classes were taught by BPM experts from both academia and practice. Participants had an opportunity to immediately apply the concepts and methods learned by working on case studies and exercises. In addition, the participants visited global companies like Swarovski and Hilti, which are based in Liechtenstein and could gain insights into their business processes.



BPM Winter School

### › COLLABORATIVE BUSINESS

The course "Collaborative Business" focusses on expanding EDUglopedia.org ([www.eduglopedia.org](http://www.eduglopedia.org)) within the IS teaching landscape. The platform's purpose is to increase transparency of and collaboration in IS education. Drawing on literature from human-computer interaction, behavioral economics, and user experience, we have started to identify design principles of such a platform as to incentivise sharing behavior. In particular, the first step students work on is to disseminate the platform within the IS field. Within the further course of the project, students need to approach institutions that are not registered so far through an appropriate strategy, also by the help of video marketing. Moreover, students need to think about further stakeholders (e.g., students, companies, other sources) that could contribute to the platform and get them on board, as well as expanding the scope of the platform that goes beyond the boundaries of IS education.

### › JOINT ERCIS SEMINAR

UMinho has been involved in ERCIS Virtual Seminar under the supervision of Rui Dinis Sousa. In the 3<sup>rd</sup> ERCIS Virtual Seminar, in 2013, under the theme "Innovative Solutions for B2C Interaction", a seminar for the first time opened to institutions that were not ERCIS partners yet, UMinho involved five students, four from the Master in Information Systems program and one from the Integrated Master's in Engineering and Management of Information Systems. Among the 15 teams participating in the seminar, 60 students from 7 universities representing 18 nationalities, five teams were selected, one of them having a UMinho student that went to Liechtenstein for a two and half days workshop, to improve and present the solution to Hilti, the organisation that was supporting an IT Innovation Competition framing the theme for the seminar.

UMinho enrolled again five students for the 4<sup>th</sup> ERCIS, in 2014, four from the Master in Information Systems programme and one from the Integrated Master's in Engineering and Management of Information Systems, to address the question "How can IS contribute to overcoming global challenges (Millennium Project)?" UMinho would have participated this year but the ERCIS Seminar was put on hold.

<http://virtual-seminar.ercis.org/>





### › FUNDAMENTALS OF BPM AS A MOOC

The way education is facilitated has undergone rapid changes in the last two decades. New forms of teaching and learning have emerged that make use of the Internet as a platform. Different formats have been developed, including computer-based training, eLearning, or distant education. In essence, these formats highlight that new media have always sparked new ideas on how to disseminate information and knowledge. One of the most recent formats is the MOOC – an abbreviation for Massive Open Online Course. The idea of a MOOC is that people can openly register and participate in a focused learning experience via the Internet. In this way, web technology transcends the boundaries of classroom teaching and lifts it towards a potentially unlimited number of participants. Teaching in MOOCs is typically organised in small video sequences with complementary reading material, quizzes and problem solving tasks. MOOC students can interact with co-students, teaching assistants and professors in interactive user forums.

Various BPM-related topics have been the subject of MOOCs in the last couple of years, including process modelling and process mining. A comprehensive coverage of the BPM lifecycle that had been missing, is now available as a MOOC in cooperation with Queensland University of Technology in Brisbane Australia, including Marlon Dumas (Uni Tartu and QUT) and Marcello La Rosa (QUT), with Jan Mendling (WU Vienna) and Hajo A. Reijers (VU Amsterdam) as guests. You are still welcome to register for the first delivery of the MOOC starting on 12 October. Registration is open: <https://moocs.qut.edu.au/learn/fundamentals-of-bpm-october-2015>.

### › MSYS559 E-BUSINESS TECHNOLOGIES COURSE IN WAIKATO

Prof. Vossen taught MSYS559 E-Business Technologies during the B Semester of 2015 at ERCIS partner Department of Management Systems, the University of Waikato Management School, New Zealand. The course was an online course, delivered weekly to students throughout the country via videos, online tests, as well as other student-oriented activities. Its content was as follows: The Internet and Web technologies are driving fundamental changes in the way that businesses interact today, and e-business is booming as organisations strive to improve efficiency, enter new markets, or gain competitive advantage through improved business processes, resource management, just-in-time provisioning and business relationships. This paper explores the various concepts and technologies behind such developments, introducing fundamental technologies and approaches upon which systems and services are being built today.



### › JOINT IT SECURITY SEMINAR – THE UNIVERSITY OF MÜNSTER AND THE UNIVERSITY OF TWENTE

In the context of the ERCIS network, the University of Münster and the University of Twente conducted a joint project seminar about "Cybercrime and Cybersecurity" organized by Stefan Laube, PhD candidate at IT security research group. With 52 involved persons in total, 42 from Twente (38 students and 4 supervisors) and 10 from Münster (7 students and 3 supervisors) this project seminar was unlike a typical project seminar and a great possibility for the students to not only work on a specific problem but also in an international context. The kickoff of the student research projects took place on the 25.09.2015 at the ERCIS headquarter and ended with a joint dinner and enough time for networking and socialising.

After this kickoff, the next steps for the students are to jointly work on a real cybersecurity research problem. The results were present on 02 November 2015 at a mini-conference in Twente.





› **THE 8<sup>TH</sup> SIGSAND/PLAIS EUROSYPHOSEMIUM'2015, GDANSK&SOPOT, POLAND.**

The 8<sup>th</sup> SIGSAND/PLAIS EuroSymposium on Systems Analysis and Design was held in Gdansk on September 25<sup>th</sup>, 2015. The event was organized by Special Interest Group on Systems Analysis and Design (SIGSAND) of Association for Information Systems (AIS), the Polish Chapter of AIS (PLAIS) and Department of Business Informatics of the University of Gdansk. The EuroSymposium Proceedings were published in Springer series Lecture Notes on Business Information Processing (LNBIP 232) with level of acceptance – 40 %. The scholars from 7 countries were participating in Symposium – from Czech Republic, Denmark, Finland, Germany, UK, the Ukraine and Poland. The keynote speech ‘The Digital Transformation – a challenge for business, government and society as well as for IS Research’ was given by Prof. Helmut Krcmar. His keynote presentation is constantly available on the EuroSymposium website. The 8<sup>th</sup> EuroSymposium had the hybrid form of presentations including also videoconferencing. The ERCIS logo was exposed on electronic and paper documents of EuroSymposium 2015. The next EuroSymposium will be held September 23<sup>rd</sup>, 2016 in Gdansk. For further information please visit <http://euro-symposium.eu/>



› **DRUID 2015**  
Rome, June 15–16, 2015  
<http://www.druid.dk>

› **28<sup>TH</sup> BLED E-CONFERENCE**

**#EWELLBEING**  
June 7–10, 2015, Bled Slovenia  
<http://BledConference.org>

The Bled eConference is world's longest-running international eCommerce Conference, organized annually by the Faculty of Organizational Sciences, the University of Maribor in the beautiful Alpine village of Bled. Every June, the Bled eConference attracts speakers and delegates from business, government, universities and information technology and e-service providers. With its fully refereed Research Track, Graduate students consortium, Students Bazaar, Panels, Workshops, EU projects' presentation and Journal Partnerships, it is a major venue for researchers working in all aspects of "e".

› **SOR '15**  
**THE 13<sup>TH</sup> INTERNATIONAL SYMPOSIUM ON OPERATIONS RESEARCH IN SLOVENIA**  
September 23–25, 2015, Bled, Slovenia  
<http://sor15.fov.uni-mb.si/>

SOR' is the premiere scientific event in the area of operations research, one of the traditional series of the biannual international conferences organized by the Slovenian Society Informatika, Section of Operations Research. It represents a continuity of symposia, which have attracted a growing number of international audience since the first symposium. SOR provides an international forum for scientific exchange at the frontiers of operations research (OR) in mathematics, statistics, economics, engineering, education, environment, computer science etc.

› **XII EDITION OF THE ITAIS CONFERENCE**  
University of Genova, 22–23 November,  
<http://www.itaais.org/conference/2015/>

› **INFORMATION SOCIETY IS 2015**  
**EDUCATION IN INFORMATION SOCIETY**  
September 28–29, 2015, Ljubljana, Slovenia  
<http://vivid.fov.uni-mb.si/>

We tend to be amazed by the world of technology. But there is also the fear that we might mystify it. This has been a common occurrence throughout human history. It was only when technology was assigned its proper place that its contribution became really significant – in economic sense as well. For example, it took the steam engine a hundred years to become a contributor to the gross domestic product. And even though the economic aspects are important, we should at this point stress the importance of ICT's proper place and role – that of helping the human kind to achieve better interpersonal relations so that we can once again become more humane to each other. At this year's VIVID conference, which is organized within the Information society multiconference, we will learn about some of the e-learning and teaching projects and discuss how to proceed, especially when it comes to how and what to teach.

› **INTERNATIONAL CONFERENCE ON ORGANIZATIONAL SCIENCE DEVELOPMENT**  
March 25–27, 2015, Portorož, Slovenia  
<http://fov.uni-mb.si/conference>  
The Faculty of Organizational Sciences arranges an annual international conference on the development of organizational sciences, held in March in Portorož, Slovenia. On various plenary sessions and research paper panels, numerous domestic and foreign participants from business, education, finance, public administration, tourism, healthcare and other sectors present their work in the field of organizational sciences.



Actors, Jury, and Participants of ERCIS Launch Pad 2014

› **ERCIS LAUNCH PAD 2014**

ERCIS Launch Pad – the annual IT business ideas competition of ERCIS – will be held for the 8<sup>th</sup> time on 9<sup>th</sup> December 2015. Keeping up the tradition of past Launch Pads, it serves as a platform for founders and potential founders from all over Germany to present their ideas to a top-class jury of former founders, funders, and academics. This year's event builds on a very successful Launch Pad in 2014 which recorded the highest number of submissions in Launch Pad's history. From all submissions six finalists were chosen to pitch their ideas to the jury. Eventually, contagt GmbH won the award for best overall concept (sponsored by GAD eG), the innovation award (sponsored by noventum consulting) as well as Paypal Germany's extra prize with their innovative indoor navigation system for smart phones. Fraud-Fighters presented a concept to detect cheating in factoring processes, winning the award for best commercial potential (sponsored by NRW Bank). A global directory of Web and mobile applications as well as data analysis projects fostering public welfare presented by the team Data for Good was

awarded the ERCIS prize for most valuable academic idea.

As in the previous years, participants of the 8<sup>th</sup> Launch Pad can win cash and attractive prizes worth more than 10.000 Euro. In contrast to previous competitions, this year's Launch Pad features special submission tracks besides a general track, namely eHealth, eLearning, and Smart City. Furthermore, the ERCIS Launch Pad 2015 final will feature a keynote by Sebastian Kotzwander, local entrepreneur and previous award winner, and a talk by last year's winner contagt. Moreover, it will conclude with a special networking event.

<http://www.ercis-launchpad.de/>





## › ERCIS DISRUPTS MÜNSTER

...was the motto of the first regional workshop on the implication of the digital disruption for companies and public sector organizations in and around Münster. Disruptive innovation matters to entrepreneurs and start-ups as potential disruptors as well as for incumbent organizations as potential disruptees. It was a day of dialog moderated by an improvisation professional, Oliver Pauli.

His first guest was Florian Opitz, producer of the documentary "Speed – In Search of the Lost Time" and winner of the prestigious Grimme award, who sensitized the audience about patterns of technology driven acceleration across all facets of social life, from the individual level to the entire fabric of societies. Digital disruption challenges our understanding of technology and calls for new ways of translating benefits of technology into a good life.

Nico Peters, one of the founders of the Fin-Tec company Compeon, a two-side market platform linking SMEs in search of funding and potential lenders, highlighted collaboration as key to Compeon's success as disruptor. He was challenged by Andreas Banger, board member of Volksbank Gronau-Ahaus, one of the financial industry incumbents.



Volker Dirksen, Head of Corporate IT at Axel Springer AS, illustrated the drastic measures undertaken by one of the leading publishing houses in Germany in order to nurture a culture of innovation and explore viable business models for the media industry.

This input fostered lively discussion in various fishbowl sessions: where are we heading, how can we organize ourselves to ensure a reasonable work-life balance, who will be driving the transformation and how can Münster become a smart city and incubator for digital innovation?

ERCIS plans to organize a follow-up workshop in 2016.

<http://www.ercis-disrupts-muenster.de>



## › 23<sup>rd</sup> ECIS, MÜNSTER, GERMANY

In May 2015, the ERCIS Headquarters proudly hosted the 23<sup>rd</sup> European Conference on Information Systems (ECIS). The conference was a true network endeavour: With Jörg Becker, Jan vom Brocke, and Marco De Marco, all the Conference Chairs are members of the ERCIS network. But also on all other levels, ERCIS was well represented: The Program Committee consisted, among others, of Jos van Hillegersberg (University of Twente), Tatiana Bouzdine-Chameeva (KEDGE Business School), Andreja Pucihar (University of Maribor), Michael Rosemann and Jan Recker (Queensland University of Technology), and Reima Suomi (University of Turku). It was coordinated by Robert Winter from the University of St. Gallen. Each of the Information Systems Professors of the University of Münster was involved in hosting a track, and many of the PhD candidates of the IS Department in Münster served as volunteers. One of the papers authored by a team from Münster and Liechtenstein ("A Gender Perspective on Business Process Management Competences Offered on Professional Online Social Networks") was runner-up for the Claudio Ciborra Award.

With 918, the 23<sup>rd</sup> ECIS had an all-time high number of submissions. Of this 918 submissions, 209 Complete Research Papers and 65 Research-in-Progress Papers were accepted for presentation and publication. The 740 participants experienced a two and a half day program, which was accompanied by a Doctoral Consortium and a full Workshop Day prior to the conference. 92.4% of the participants were either "Satisfied" or "Completely Satisfied" with the overall conference.



The organizers set some more future standards: The first ECIS Soccer Tournament took place, together with a beautiful Early Morning Run around the city centre and lake "Aasee". To make friends easily, we offered the first organized Pub Crawl the evening before the conference started, which was attended by roughly 50 participants. To attract more people to the Poster Session, we had, for the first time, free cocktails for the attendees. A concept that worked well. We had the IS Women Reception with the most registrations ever – including the International Conference on Information Systems (ICIS): 140. We had the first ERCIS@ECIS@ERCIS meeting, with a participant number of 45. We had child care during the whole conference. We got BMW as a sponsor and made the current president of the Association for Information Systems' president fly in a BMW i8. We had a personal barista and a great conference dinner at the Westphalian State Museum of Art and Cultural History. We had a great media agency developing the claim "The Conference IS..." for us.

Summarising, the Conference was extraordinary and a proof for the success of the network. Thanks to everybody who supported us!







Prof. Dr. Gottfried Vossen, Prof. Dr. Heike Trautmann, Karsten Kraume, Prof. Dr. Jörg Becker

**OUR COMPANY**

arvato is one of the world's leading international service providers. For over 50 years, we have helped organizations to succeed, whether that is about engaging customers, streamlining operations or expanding into new markets.

We deliver services ranging from customer relationship management and digital marketing to financial services, supply chain management and IT services.

Wholly owned by Bertelsmann, arvato employs over 70,000 people in more than 40 countries. The sheer scale and diversity of our services helped us to achieve revenues of €4.6bn in 2014.

**OUR APPROACH**

We put our clients' customers first. At arvato our ambitions go far beyond making our clients' customers happy. We aim to turn them into ambassadors. People whose actions and recommendations boost our clients' balance sheet, reputation or growth; helping organizations to be successful however they measure it.

We are built for good business. We believe in creating sleek business processes built on smart technology that are efficient, save our clients' money and – most importantly – exceed their customers' expectations. We take the administrative and logistical pressure off organisations so they can get on with what they do best.

We collaborate with leading institutions in business and academia to operate, manage and transform CRM. Our partnership with ERCIS is proven and growing.

**OUR AREAS OF INTEREST**

- Customer experience management
- Omni-channel customer relationship management
- Big data and advanced CRM analytics

**OUR PEOPLE**

Our approach to our people is shaped by our culture of partnership, entrepreneurship and creativity.

We train our employees to the highest degree and trust them to do a good job. It is only by giving people the support they need to develop and the responsibility they need to prove themselves that we can genuinely transform our clients' businesses.

arvato offers a wealth of career opportunities to bring out your best. Are you engaged, ambitious and effective? Are you smart and dedicated? If the answer is yes, the chances are that arvato is the right place for you, so get to know us at:

[www.career.arvato.com](http://www.career.arvato.com)

**FOR MORE INFORMATION, CONTACT:**

Karsten Kraume  
Member of the Board –  
Strategy / Portfolio Management / IT

arvato CRM Solutions  
An der Autobahn 500  
33333 Gütersloh, Germany

karsten.kraume@bertelsmann.de  
P +49 5241 80-1460

[www.arvato.com](http://www.arvato.com)



**INTRODUCING OURSELVES**

A unique combination of professional and technological knowledge  
avantum consult is a specialist for Corporate Performance Management and Business Intelligence. We offer our customers a range of services, from business consulting (e.g. the development of business concepts for planning, legal consolidation and reporting, process improvement and transformation) to technical implementation.

This combination of business and technological competence gives avantum consult the edge over other consulting firms.

**Long-standing client relationships based on trust**

We form long-standing relationships to clients from the upper mid-sized market and to large corporations that are based on trust. With more than 900 national and international consulting projects and more than 80 salaried employees, avantum consult is one of the leading service providers in this market.

**Targeted exchange and know-how transfer**

With each of our projects, we help boost corporate success in a targeted manner. We rely on a comprehensive and time-tested project and change management approach for a variety of projects. We allow our clients to securely achieve their objectives with creative, innovative solutions, independent consultants and an integrated value chain. Project complexity is significantly reduced through close and cooperative collaboration, which simultaneously allows intensive exchange. When a project ends, you are guaranteed to be in the position of operating your systems independently, in line with your specific requirements.



**A wide range of products and customised solutions**

- Performance Management and Business Analytics (BA) Strategies
- Process Analysis and Optimisation
- BA Health-check
- Customised Control Concepts and Performance Indicator Systems (e.g. with our own planning framework)
- Integrated Corporate Planning and Forecasting
- Predictive Analytics
- Management Reporting and Reporting Audits
- Mobile Management Dashboards
- Management Consolidation, Legal Consolidation and Disclosure Management
- Big Data

**IT implementation with the software solutions of leading manufacturers**

- IBM Cognos (TM1, CDM, Controller)
- SAP BW, SAP BO, SAP HANA Live
- SAP BW-IP, SAP BPC
- SAP ECCS, SAP BCS
- Tagetik
- Bissantz DeltaMaster

**TOPICS OF INTEREST**

- Performance Diagnostics
- Performance Improvement
- Transformation Management
- Project Management
- Process Optimisation
- Control Concepts
- Planning
- Forecasting
- Simulation
- Predictive Analytics
- Management Reporting
- Management Dashboards
- Mobile Reporting
- Big Data
- Financial Reporting
- Consolidation
- Risk Management & Compliance
- Cloud Solutions
- Data Mining

**JOB OPPORTUNITIES**

We are always looking for competent and motivated employees for our locations in Düsseldorf, Filderstadt, Munich, Hamburg and Zurich. Our hierarchy model allows for the following levels and positions:

- Assistant Consultant
- Consultant
- Senior Consultant
- Manager (Sales/Solution Expert)
- Senior Manager (Sales/Solution Expert)

Current vacancies can be found at:  
<http://www.avantum.de/karriere/stellenangebote.html>





#### TOPICS OF INTEREST

- Development of new approaches to tackling retail-specific questions and problem areas bearing in mind the cloud approach
- Integration of iPod, iPhone and iPad in operating procedures
- E-Paper integration options (e.g. Electronic Shelf Labeling)
- Mobile Solutions for different areas
- Business software such as ERP for use in the trade and retail sector

#### JOB OPPORTUNITIES

- For students: Diploma/bachelor theses in the fields of IT, software development and marketing
- For graduates: Consultants, software developers, project managers and sales representatives

#### ABOUT THE COMPANY

With its headquarters in Sursee in the canton of Lucerne, Bison Holding AG currently employs some 300 members of staff, including 50 in Germany. The Bison umbrella brand incorporates various companies from the IT sector with different focuses. Bison Holding AG specialises in the development and implementation of business software for medium-sized companies, drawing on over 30 years of market experience to make a reliable, secure contribution to its customers' success. Each customer receives comprehensive and long-term support, with a focus on mutual trust and the protection of customers' IT investments.

Bison Deutschland GmbH develops and implements ERP software solutions for medium-sized companies. Bison Process Retail – the merchandise management system with integrated warehouse and branch management designed specifically for wholesale and retail – is developed at the company's site in Kaiserslautern in Germany. The structure of the installed systems ranges from large providers of a full range of foodstuffs like REWE eG (Germany) to start-ups hosted on a cloud server. Bison's portfolio of solutions was once again voted top of Trovarit's ERP satisfaction survey for large companies.

Bison Schweiz AG develops and implements ERP software solutions for medium-sized companies. Bison Process – the ERP system offering optimal support for business processes within the plant cultivation, wine and recycling core industries – is developed at the Sursee site in Central Switzerland. The structure of the installed systems ranges from large agricultural and trade conglomerates like the fenaco Group (Switzerland) to specialist industry representatives. The fact that customers are highly satisfied with this system is frequently confirmed by the results of surveys.

Based in the home of commerce in the Hanseatic City of Hamburg, Bison Marketstream GmbH's customers include some well-known retail chains. The Bison Process Trading solution has been designed specifically for companies trading in commodities and importing hardware, manufactured goods and textiles. International trade places high demands on the management of contracts, batch management, goods logistics, currency management, product traceability and risk management.

europa3000 AG, which has its headquarters in Oberentfelden in Switzerland's Aargau region, develops business technologies for SMEs. Working in close collaboration with a network of partners across Switzerland, the company organises the business processes of more than 10,000 Swiss companies as part of the Swiss Bison Group.

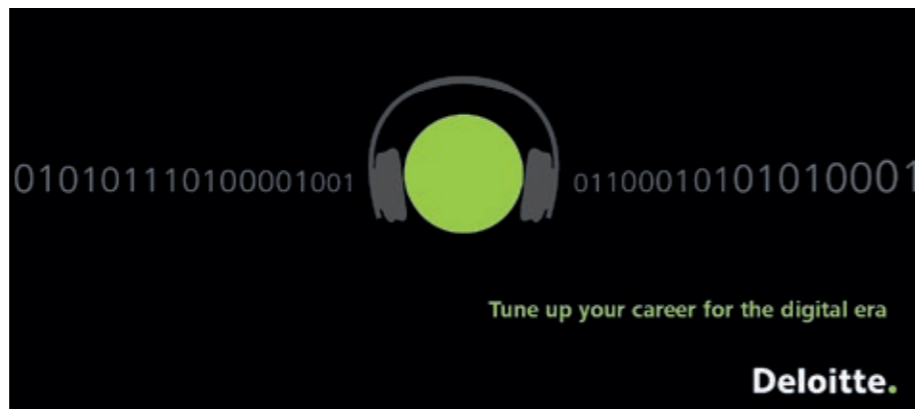
Bison guarantees release compatibility without restrictions when developing tailored solutions on the basis of its industry packages, giving customers the opportunity to react flexibly and quickly, yet safely, to changes within their market.

The company's product portfolio is complemented by solutions such as ESL and Mobile Solutions. The ePaper comprehensive solutions (ESL) allow headquarters and individual branches to respond quickly to changing market or price situations. The wireless base station simplifies internal processes and creates a direct link between the shelf and POS. ESL is used for product identification and price labelling and, in combination with specially developed apps, also provides further useful services for the customer in terms of traceability of the product, product features, contents (allergens), and so on. Thanks to the mobile solutions, standard smartphone devices can be turned into powerful mobile hand-held devices. The scanning solutions include a barcode scanner, a magnetic card reader and an optional Bluetooth component to connect a mobile printer. The new RFID option vastly expands the range of uses. Thanks to standard or individually programmed applications, the devices offer a multitude of application possibilities, e.g. stocktaking, order creation, receipt of goods and pricing.

The ideal extension for Bison Process is QlikView. QlikView is the optimal Business Intelligence (BI) tool for a quick, simple and clear management control system. This perfectly coordinated solutions package can be integrated into existing system environments and ensures the financial department has access to all of the important data.

[www.bison-group.com](http://www.bison-group.com)





**ABOUT THE COMPANY**

Deloitte is the brand under which over 225,000 professionals in independent firms throughout the world collaborate to provide a broad spectrum of service. These range from audit to tax and legal advice, consulting, and corporate finance. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and high-quality services to our clients. Combing specialized knowledge and in-depth industry expertise within multi-disciplinary teams, we deliver the insights needed to address complex business challenges. Our clients include renowned companies from around the world. 79% of the Fortune Global 500 companies are clients of Deloitte. In 2014, Deloitte grew for the fifth consecutive year and achieved a revenue of \$ 35,2 billion.

Deloitte is one of the world's leading, continuously fast growing global strategy consulting companies. In Germany Deloitte also offers a wide range of consulting services, including Technology, Human Capital, Strategy and Operations related services across all industries. The Technology practice supports the CIO in addressing complex business and IT challenges. The service portfolio encompasses IT Strategy, IT Architecture, IT Governance, IT Sourcing, IT Effectiveness, IT M&A, Information Management, Enterprise Application as well as SAP-related and Digital-related services. Out of sixteen offices in Germany, we are working with clients from various industries in multidisciplinary national and international teams to satisfy our custom-

ers' needs. Forrester Research Inc. labeled Deloitte a leader and "the gold standard" in IT organization redesigning.

**TOPICS OF INTEREST**

Deloitte is leading in innovation to help companies to be successful. That requires a clear understanding of what impacts markets – and thus our customers – as well as what will impact them in the future. Seminal studies, monitoring, and trend prognoses are our tools to help our clients and solidify our position as pioneers. As a result, we continuously extend our service offering to account for trends.

With Deloitte Digital a dedicated brand has been established focusing on supporting our clients with the creation of new digital businesses, products and solutions. Deloitte's global digital network consists of 21 studios in 20 countries around the globe and is growing rapidly. To be able to best support clients mastering upcoming digital challenges we developed the garage which acts as a nucleus to breed innovation and create disruptive business models. With big data being relevant like never before, the Deloitte Analytics Institute offers a research, innovation and prototype focused Analytics Think Tank - combining academic, vendor, business and service approaches with market needs. As proof of heading in the right direction AdvertisingAge recently named Deloitte Digital #2 of the world's largest digital agency networks globally and Kennedy named Deloitte "Global Leader in Digital Strategy Consulting" in 2013.

We are seeking to interact with you as ER-CIS member institutions in order to explore the opportunities for developing efficient and innovative first class IT solutions to fulfill business strategies. We are looking forward to getting in touch with you, being your partner in providing real-life industry insights, and getting your inspiration as a dedicated scientific institution.

**JOB OPPORTUNITIES**

As an integral part of Deloitte's ambitious growth strategy, we are always looking for graduates, young professionals and professionals having the desire to start their career at Deloitte. We offer workshops to provide insights into what it's like to work as a consultant. We would like to welcome you as a participant in our upcoming ERCIS seminars, working with us on innovative solutions for current and upcoming issues of CIOs. Are you interested? Then follow us on Facebook, pay attention to news on the ERCIS website and visit [deloitte.com/careers](http://deloitte.com/careers) for open positions.

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**ABOUT THE COMPANY**

Detecon International is one of the world's leading management consulting companies, one which combines classic management consulting with outstanding technological expertise. This approach of thinking in terms of these two areas simultaneously will determine the future performance of every company.

Our business is consulting, our strengths are digital technologies and networks. For more than 30 years, we have been supporting companies and telecommunications providers around the globe, helping them to improve the sustainability of their competitiveness and performance capabilities along the entire value chain with the aid of innovative technologies. Moreover, we offer our clients solutions in all fields of classic corporate consulting: strategy, organization, processes, and HR management.

**Integrated Management and Technology Know-how**

The impact of ICT on our clients' business models is being felt more and more intensely. In today's world, competitiveness can no longer be assured unless intelligent information and communications technologies are utilized in the right way, at the right place and time. With this in mind, the Detecon portfolio has been designed to include a broad spectrum of management consulting services closely oriented to ICT.

We drive digital transformation and show our clients how they can optimize their business by using ICT-supported business models and technologies. But digital technologies are more than just a means to an end; they are frequently and in many different ways essential elements of products, organizations, and processes. Our service portfolio addresses a number of different industries, focusing on market segments in which we have proved our expertise in integrated management and technology consulting through our performance in manifold projects. Our clients include financial service providers and their service companies, globally operating telecommunications and high-tech firms, and key players from the sectors logistics, automotive, and manufacturing.



**Creative and Independent – Working as You Like It**

Are you looking for the ideal entry into the world of consulting? Do you want the best possible support, but with the freedom to work independently and with your own responsibilities? Then you have come to the right place! Our employees from over 40 nations work for clients in 164 countries. Constant variety is the spice of our challenging work, collegiality and tolerance are our style. Flat hierarchies await you here with us. Jump in when you have a good idea or have knowledge to contribute. Your opportunities for upward mobility at Detecon are transparent. When you perform well, your development with us will be rapid indeed. You can count on our support on your path to becoming a genuine Detecon consultant. Find all our vacancies on our website:

[www.detecon.com](http://www.detecon.com)





**COLLABORATION WITH ECWT**

The European Centre for Women and Technology provides a European level meeting place for 130+ leading public-private actors, academia and NGOs collaborating for measurably and significantly increasing the number of girls and women in technology in general and ICT in specific. ECWT serves as a European single point of contact for information, collection and analysis of data, research and the development of appropriate methodological tools to attract more girls to Science, Technology, Engineering and Mathematics (STEM), for nurturing and retaining women in the knowledge economy through industry and entrepreneurial careers, for promoting the female talent to provide added value to ICT solutions, for supporting more female ICT business start-ups and consolidating the largest network for closing the Digital Gender Gap in Europe.

The ECWT strategy is implemented through National Point of Contacts established in 21 countries (2013) hosted by key national public actors (CTI, Switzerland, Swedish Agency for Economic and Regional Growth, Malta Information Technology Agency), corporate companies (SAP and SAP Research), universities (Aalto University, Finland; CISRE Formazione Avanzata / Università Ca' Foscari Venezia, Italy; KIT – Germany, NTNU, Norway, Reykjavik Technical University), SMEs (Global Contact, France, PROMIS@Service Luxembourg, Zen Digital, Belgium; ), national ICT, telecom and trade associations (DI ITEK, Denmark, Intellect, UK; InfoBalt, Lithuania; PIIT, Poland) and NGOs (ATI, Spain; Bulgarian Centre for Women and Technology, Bulgaria; EWMD Portugal; Femei in Tehnologie, Romania; HEPIS, Greece; NaTe, Hungary, VHTO, The Netherlands).

Having been founded just before the global financial and economic crisis, sustaining our network was indeed a challenge. Since 2013, we had major breakthroughs for ECWT: involvement in the European Parliamentary Hearing on Women in ICT and in two European level and several national pledges for the Grand Coalition for Digital Jobs:



- WePROMIS® – to support women's business start ups and SMEs in taking up cloud based interactive services, multilingual content, e-Learning, compliance tools managed by PROMIS@Service and build communities of e-Mentors (STEM scientists and corporate business leaders) and Mentees (schools, universities) managed by ECWT
- the awareness raising initiative European Digital Girls / Digital Woman Award that was handed out for the first time at ICT 2013 in Vilnius;
- a national action plan Gender Diversity in Digital Jobs presented 10 December in France;

ECWT is a member of the COST genderSTE Network and research partner in the FP7 SiS project: SEISMiC – Societal Engagement in Science, Mutual learning in Cities – A Mobilisation and Mutual Learning Action Plan: mainstreaming Science in Society actions in research.

We are proud to have ERCIS among our Members and believe that with the extended governance structure adopted from 2014 ECWT Alliances and ERCIS Competence Centres should be able to identify joint research priorities for working together within HORIZON2020.

Personally I am also confident that ECWT's Gender Action Plan that has resulted in an increase of female researchers at Simula Research Laboratory from 19% in 2009 to 26% end of 2012 should be of interest to ERCIS Members. I therefore look forward to closer interactivity between our networks!

**Eva Fabry**  
 Director of the European Centre for Women and Technology – ECWT  
 Secretariat  
 Grønland 58, N-3057 Drammen  
 Tel./GSM: +47 924 77 960  
[eva.fabry@womenandtechnology.eu](mailto:eva.fabry@womenandtechnology.eu)

[www.womenandtechnology.eu](http://www.womenandtechnology.eu)





### ABOUT THE COMPANY

Organisations that must share confidential data internally and externally rely on the on-premise enterprise file sync and share platform from ownCloud. Only ownCloud gives IT the visibility and control required to manage sensitive data, preserve business processes and integrate with existing compliant infrastructures while offering users the modern collaboration experience they demand. This is made possible through open, modular architecture, extreme extensibility and unique federated cloud sharing capabilities from ownCloud.

The business model of ownCloud Inc. is very similar to other successful Open Source companies, offering a community version – ownCloud Server – and an enterprise version – Enterprise Edition – with services and support around ownCloud for the enterprise. The company is dedicated to working entirely in the open, accelerating development in the areas of its customers' needs while enabling a completely open development process where everybody can contribute. For information about our community version ownCloud Server visit [www.owncloud.org](http://www.owncloud.org). For further information about the Enterprise Edition for organisations please visit:

[www.owncloud.com](http://www.owncloud.com)

### TOPICS OF INTEREST

In the research and education market, ownCloud has initiated Interconnected Private Clouds for Universities and Researchers worldwide. Leading research organisations in the Americas, Europe and Asia/Pacific are joined to create the world's largest public private cloud mesh.

OpenCloudMesh, a joint international initiative under the umbrella of the GÉANT Association, is built on ownCloud's open Federated Cloud sharing application programming interface (API) taking Universal File Access beyond the borders of individual Clouds and into a globally interconnected mesh of research clouds – without sacrificing any of the advantages in privacy, control and security an on-premises cloud provides. OpenCloudMesh provides a common file access layer across an organisation and across globally interconnected organizations, whether the data resides on internal servers, on object storage, in applications like SharePoint or Jive, other ownClouds, or even external cloud systems such as Dropbox and Google (syncing them to desktops or mobile apps, making them available offline). For further information and how your organisation can join OpenCloudMesh:

<http://oc.owncloud.com/opencloudmesh.html>

For Research and education customers we have negotiated a framework agreement with the GÉANT Association. The GÉANT Association, representative of the European National Research and Education Networks, and ownCloud Inc., have agreed on a favoured-pricing scheme for GÉANT members and their attached constituents. For further information please visit:

[http://www.geant.org/Services/Storage\\_and\\_clouds/Pages/ownCloud.aspx](http://www.geant.org/Services/Storage_and_clouds/Pages/ownCloud.aspx)

### CONTACT OWNCLLOUD

**European Headquarters**  
 ownCloud GmbH  
 Schloßbäckerstr. 26a  
 90443 Nürnberg  
 Germany

### Visitor's Address

ownCloud GmbH  
 Leipziger Platz 21  
 90491 Nürnberg  
 Germany

[sales@owncloud.com](mailto:sales@owncloud.com)  
 phone +49 911 14888690

[www.owncloud.com](http://www.owncloud.com)





## ABOUT THE COMPANY

The PICTURE GmbH intends to promote organisations in their modernisation efforts. We combine a methodical approach, technical support and considerable process expertise with a sustainable qualification approach. This integrated approach helps to achieve success in process management. The PICTURE GmbH is a spin-off of the University of Münster, founded in 2007 by Lars Algermissen and Thorsten Falk. Thereby the PICTURE GmbH stays connected with the university and still benefits from a transfer of knowledge. The core business segment of the PICTURE GmbH is process consulting, process analysis and organisational design. The PICTURE GmbH is a consulting firm as well as a software company with consultants and developers specialised on process consulting. The company is well known for the PICTURE method and the PICTURE platform, which in combination allow describing, analysing and optimising business processes within organizations.

## THE PICTURE METHOD – EASY. EFFECTIVE. EFFICIENT.

On the basis of 24 building blocks the Picture method provides the opportunity of process controlling by gathering and illustrating process data in a plain and transparent manner.

This method of process modelling lays the foundation for an extensive business assessment, as it offers a target-oriented and efficient way to analyse the coherencies of a company's organisational structure and business procedures.



The following illustration furnishes a brief overview about the Picture method:

### Self-Explanatory

Simplified process modelling due to easy-to-use an intuitive components.

### Standardized Process Description

Increased comparability and analysability due to a formal and contentual standardisation of the description level.

### Instruction and Integration of Employees

Due to its simplicity it enables employees to adopt this model quickly and fosters staff acceptance.

### Flexibility in Process Description

The PICTURE method can be personalised according to the individual requirements of organisations.

### Efficient Process Modelling and Activity Analysis

The 24 building blocks enable to filter essential information for further analysis.

### THE PICTURE PLATFORM

The Picture method is embedded in the web-based Picture platform. This platform serves to support process management within organisations as well as inter-site projects. The PICTURE platform is tailored to the special needs of organisations and aims to provide a vivid, precise and gen-

erally intelligible methodology to illustrate these needs through customised processes.

Visit our website [www.picture-gmbh.de](http://www.picture-gmbh.de)

## JOB OPPORTUNITIES

Job Opportunities at the PICTURE GmbH:

- (Junior) Sales Consultant (f / m)
- (Junior) Consultant
- (Senior) Consultant
- Software Developer
- Student Assistant (f / m)

## TOPICS OF INTEREST

- Process management and optimisation
- Quality Management and Risk Management
- Organizational review
- Knowledge Management
- Task and Product Review
- Software implementation
- Process Benchmarking
- Change Management
- Process-oriented Budgeted Consolidation
- Implementation of Document Management Systems
- Reorganisation Studies
- Interface Analyses,
- Implementation of Software



## ABOUT THE COMPANY

The firm Räckers is a medium-sized family company based in Germany, in the heart of the Münsterland region. The company's structures and processes are transparent and are aligned with modern requirements of businesses. The product portfolio is composed of standardised modules, as well as system solutions and special custom-made solutions. Customer satisfaction is the major goal of Räckers and it is achieved by providing competent consultation, individual solutions and tailor-made systems.

The Räckers team consists of competent specialists and experts. Since the company's foundation, its personnel has grown from 1 to approximately 200 employees. Structured distribution of areas of responsibility and close cooperation with renowned companies on national and international levels ensure the best outcomes.

Since the inception of Räckers, its product range has been constantly extended. The company started with adhering rubber profiles in 1981. Now the service portfolio spans from raw materials processing to fully assembled end-products. In particular, Räckers offers its customers CNC aluminium processing, CNC sheet metal processing, coating with chemical pre-treatment, assembly works, as well as industrial bonding and foam-moulding technologies. For many years Räckers has employed Just in Sequence production, which increases responsiveness of the whole team.



Our company is particularly interested in implementation of theoretical “university knowledge” in practice. We are very delighted by the project seminar done by the BSc students from the University of Münster who helped us to prepare for quality management certification. The students analysed the current situation and proposed various possible solutions, which can be soon put into practice. E.g. in the future we plan to simplify the Just in Sequence field in order to further increase the responsiveness.

Please visit our website for further information: [www.raeckers.de](http://www.raeckers.de)

## FIGURES – DATA – FACTS

- 2 Executive directors
- 1 Authorised officer
- approx. 200 Employees
- approx. EUR 24 million 2012 Turnover
- 100 000 m<sup>2</sup> Plant area
- 20 000 m<sup>2</sup> Production area





20 YEARS OF CONSULTING AND SYSTEM INTEGRATION FOR DATA WAREHOUSE, BUSINESS INTELLIGENCE, BIG DATA, CORPORATE PERFORMANCE MANAGEMENT AND ANALYTICAL CUSTOMER RELATIONSHIP MANAGEMENT



**ABOUT THE COMPANY**

saracus is one of the leading independent consulting companies for data warehouse, business intelligence, corporate performance management and customer relationship management in Germany, Austria and Switzerland, with more than 50 data warehouse consultants. Over the last 20 years, saracus has amassed a wealth of experience in the areas of data warehouse and business intelligence in over 250 projects. Our impressive customer list and customer testimonials are the best proof of how successful projects result in satisfied customers.

**saracus competence and portfolio of services**

It is the stated vision of saracus to increase the analytical competence of companies and non-profit organisations in order to specifically strengthen the competitive position of these customers. The instruments for reaching this goal are pithily summarised with the terms data warehouse (DWH), business intelligence (BI), big data, corporate performance management (CPM) and analytical customer relationship management (aCRM). The services provided by saracus cover all aspects of these topics.

**DWtec® und DWinsurance**

Data warehouse projects are very complex regarding to requirements of skills, processes, technology and general conditions within the client's corporation. Accordingly the process model has to accommodate this complexity. DWtec® is the process model of saracus for data warehousing projects; it is based on long term experiences and gets updated permanently. Since 2012

DWtec® has been extended by comprehensive sectoral data models – first of all, for the sector insurance: DWinsurance. Further data models (e.g. for retail, telecommunication, manufacturing) will follow.

**DWH academy**

The DWH academy allows saracus to make its practically orientated expertise available to customers in numerous seminars on a wide range of DWH topics. These include training courses on topics such as DWH strategy, dimensional data modelling, ETL processes, corporate performance management and analytical CRM. These seminars are also offered in-house. For information on the latest offers and to subscribe to the newsletter, visit [www.dwh-academy.com](http://www.dwh-academy.com).

**Partnerships**

saracus has maintained intensive partnerships with all major software companies in the data warehouse and business intelligence sector for many years. In addition, many of the consultants who work at saracus are also certified on the products of the software partners. To ensure that these partnerships do not cause saracus to lose its neutrality, we never operate as a reseller.

**Why saracus consulting?**

The following factors demonstrate why saracus is the consulting and integration partner for you:

- Fully focused on DWH, BI, Big Data, CPM and CRM for 20 years
- In-depth experience with important technologies
- A combination of business and IT know-how
- A large number of trained and experienced consultants for on-time completion of major projects
- Full service – from analysis and concept development to system integration and operation
- A procedural methodology specific to DWH
- Total commitment to the success of the project

**JOB OPPORTUNITIES**

- For students: Diploma/Bachelor theses, internships
- For graduates: (Junior) Consultants

Please visit our website for further information: [www.saracus.com](http://www.saracus.com)



**ABOUT THE COMPANY**

The management consultancy zeb was founded in 1992 in Münster by university professors Prof. Dr. Bernd Rolfes and Prof. Dr. Dres. h. c. Henner Schierenbeck to respond to the growing need for consulting services in the banking industry. Their main objective was and still is to combine strategic excellence and practical implementation. zeb quickly evolved into a reputable management consultancy for the financial services sector. Today, more than 900 employees support our clients along the entire value chain of financial services from 15 offices in 11 European countries. With entrepreneurial spirit and strategic thinking zeb offers new perspectives and future-proof solutions for financial services institutions. From thought to action – this is the philosophy and the service commitment of zeb.

**TOPICS OF INTEREST**

At zeb we see ourselves as partners for change. With our clients, we develop innovative strategies and implement them for sustainable impact. People at zeb combine comprehensive industry know-how and experience with a neutral and independent point of view. Our main areas are:

- Finance & Risk
- Information Technology
- Strategy & Sales
- Organization & Transformation
- Human Resources Management

We have the know-how and experience to analyse and assess the upcoming challenges and to implement projects in a calculable manner. Our clients include Global and European banks and insurance companies, regional and federal state banks, retail and universal banks as well as specialised financial institutions, such as asset managers and captives.

A sample of current projects and topics you can find at:

<https://www.zeb.eu/about-us/zebreport>

**JOB OPPORTUNITIES**

Years of experience and profound industry knowledge create an exciting working environment. For the fourth time zeb was awarded as one of "Germany's best Employers 2015" by the Great Place to Work® institution.

Our vacancies in Management and IT-Consulting include:

- Consultants IT Strategy for Banks
- IT Consultants Business Intelligence
- IT Consultants /Senior Consultants Capital Markets
- Consultants SAP-Finance Transformation Banking

Other career opportunities are posted at:

<https://www.zeb.eu/career>





## CHRIST

Jeweler and watch maker since 1863.

The Christ jewelry stores lead the market in Germany in the mid to upper price range of the jewelry and watches segment.

For more information, visit:  
[www.christ.de](http://www.christ.de)



## HILTI CORPORATION

Hilti offers products, systems and services that have leading-edge technology and provide professional customers in the construction and energy sectors with innovative solutions that feature outstanding added value. Active in more than 120 countries, Hilti not only operates production facilities and R&D centers, but is also involved in various international technology partnerships.

Hilti stands for exceptional innovations, the highest quality and direct customer relationships. Some two-thirds of Hilti's 22,000 worldwide employees work directly on behalf of customers in Hilti sales organizations and technical service units. They generate more than 200,000 daily interactions with customers, creating the basis for the ongoing development of new products and services.

The Group's strategy is aimed at sustainable value creation through market leadership and differentiation. The overarching goal is to create enthusiastic customers on a daily basis and to build a better long-term future.

As a result Hilti connects its financial success with a comprehensive responsibility towards society and the environment. A mutual sense of openness, honesty and tolerance applies to team members, partners and suppliers alike.



*The main administration building at Hilti corporate headquarters in Schaan, Liechtenstein.*

Guided by the conviction that entrepreneurial growth also generates personal growth, Hilti pursues an employee- and performance-oriented corporate culture. The values of integrity, courage, teamwork and commitment form a solid foundation and are equally supported by all worldwide employees.

Hilti Group headquarters are located in Schaan, Principality of Liechtenstein, where the company was founded in 1941 by brothers Eugen and Martin Hilti. All company shares are held by the Martin Hilti Family Trust, a fact that ensures long-term continuity and the ongoing development of the company.

For more information, visit:  
[www.hilti.com](http://www.hilti.com)



## IQ-OPTIMIZE

Optimization, Innovation and high technology

The IQ-optimize Software AG is a provider of modern, innovative software technology and offers its customers reliable and customer-oriented IT services. Since 2001 IQ-optimize develops customized applications and advanced software products. The IQ-optimize Software AG is a subsidiary of Drillisch AG.

Drillisch AG is a listed public limited company and offers telecommunications services. The portfolio of the IQ-optimize Software AG is broad. The priorities are customer-oriented and serve all needs of costumers.

For more information, visit:  
[www.iq-optimize.de](http://www.iq-optimize.de)



## SAP

Helping the World Run Better

As the market leader in enterprise application software, SAP is at the center of today's business and technology revolution. Our innovations enable more than 296,000 customers worldwide to work together more efficiently and use business insight more effectively.

SAP helps organizations of all sizes and industries overcome the complexities that plague our businesses, our jobs, and our lives. With Run Simple as our operating principle, SAP's nearly 75,600 employees focus on a singular purpose that inspires us every day: To help the world run better and improve people's lives.

For more information, visit:  
[www.sap.com](http://www.sap.com)



# OUTLOOK FOR 2016

## JANUARY 2016

- European Data Privacy Day, January 26, 2016, Vaduz, Principality of Liechtenstein, [www.uni.li/iwi](http://www.uni.li/iwi)

## FEBRUARY 2016

- BPM Winter School, February 21–26, 2016, Vaduz, Principality of Liechtenstein, [www.bpm-education.org](http://www.bpm-education.org)
- PhD-Skiseinar, February 15–20, 2016, Flumserberg, Switzerland, [www.uni.li/iwi](http://www.uni.li/iwi)
- 13<sup>th</sup> Scandinavian Workshop in E-Government (SWEG 2016), February 2–3, 2016, Kristiansand, Norway, <https://eforvaltning.wordpress.com/sweg-2016/>

## MARCH 2016

- Student Track at MKWI 2016, March 9–11, 2016, Illmenau, Germany, [www.mkwi2016.de](http://www.mkwi2016.de)
- International Conference on Organizational Science Development, March 16–18, 2016, Portorož, Slovenia, <http://fov.uni-mb.si/conference>

## APRIL 2016

- Study trip from Liechtenstein to Vienna, April 2016, Vienna, Austria, [www.uni.li/iwi](http://www.uni.li/iwi)

## JUNE 2016

- 29<sup>th</sup> Bled eConference – Digital Economy, June 19–22, 2016, Bled, Slovenia, <http://BledConference.org>

## JULY 2016

- 9<sup>th</sup> International Symposium on High-Level Parallel Programming (HLPP), July 2016, Münster, Germany

## AUGUST 2016

- 3. Hackathon at the University of Liechtenstein, August 2016, Vaduz, Principality of Liechtenstein, [www.hackathon.li](http://www.hackathon.li)
- 7<sup>th</sup> Annual ERCIS workshop, August 21–23, 2016, Kristiansand, Norway
- ERCIS doctoral consortium, August 23–26, 2016, Kristiansand, Norway

## SEPTEMBER 2016

- WIS 2016 – Well-being in the Information Society 2016 – Building Sustainable Health Ecosystems, September 16–18, 2016, Tampere, Finland

## OCTOBER 2016

- Information Society IS 2016 – Education in Information Society, October, 2016, Ljubljana, Slovenia, <http://vivid.fov.uni-mb.si/>
- XIII edition of the ItAIS conference, October 2016, University of Verona, Italy

# ERCIS TEAM

> ERCIS Team [www.ercis.org](http://www.ercis.org)



For everything that concerns the ERCIS network simply write an email to [team@ercis.org](mailto:team@ercis.org). You will for sure get an answer from one of our team members. The team consists of Dr. Armin Stein, who is the managing director of the ERCIS network, and Dr. Katrin Bergener, who supports Armin in all different areas. Besides answering emails, the team helps organising events, maintains the website, organises the network communications, and supports project applications. If you are interested in the network, get in touch with them!

Dr. Sara Hofmann, who has been part of the ERCIS team for many years, left Münster at the end of 2015 to start a new position as junior professor in Bremen. Thank you Sara for your work and dedication to the network. All the best for your academic career and we hope that we stay in touch!



# THE IS RESEARCH NETWORK



## IMPRINT

PUBLISHER EUROPEAN RESEARCH CENTER FOR INFORMATION SYSTEMS (ERCIS)

EDITING DR. KATRIN BERGENER, DR. ARMIN STEIN

LAYOUT LIVING CONCEPT WERBEAGENTUR GMBH MÜNSTER 2015

ACADEMIC DIRECTOR PROF. DR. DR. H.C. DR. H.C. JÖRG BECKER, PROFESSOR H.C. (NRU-HSE, MOSCOW)

MANAGING DIRECTOR DR. ARMIN STEIN

LEONARDO-CAMPUS 3 48149 MÜNSTER, GERMANY INFO@ERCIS.ORG

P +49 251 83-38100 F +49 251 83-38109