THE ERCIS NETWORK

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 Munster and is funded by the German State of North Rhine-Westphalia and the University of Munster.

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’ associated major strengths are the personal contacts between researchers, which make it a vibrant network. The Network brings together and supports individual research activities of ERCIS members. The Advisory Board supports the Network through regular meetings and exchange of information between research institutions, personal contacts between researchers, and their associated major strengths.

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.

PREFACE

DEAR FELLOW ERCIS PARTNERS AND INTERESTED READERS OF THIS REPORT,

Last year, my editorial was mainly about celebrations: the 15th anniversary of the network, new partner institutions, and joint projects. This year, well, everything was completely different. The pandemic hit us hard and changed our private life as well as our professional life almost from one day to another. We stayed at home for months and could not meet families and friends. However, as opposed to many others, we as “knowledge workers” were (and still are) in a comfortable position being able to stay at home and work from home. Nobody knows how long this situation will last or when we will be back to our “normal, before Covid-19, lives”, so we better get used to the “new normal”.

Speaking of which, the “new normal” was also the topic of one of the virtual ERCIS round tables, which we set up this year to discuss with our advisory board members how Covid-19 influenced our work routines and how companies can react to that. As we could not meet personally this year, we switched to this virtual format, and the colleagues from the competence center “Smarter Work” gave valuable input to stimulate fruitful discussions. This format of the virtual round tables proved to be a very good possibility to stay in touch and we will continue to invite to those meetings on different topics next year as well.

Normally, I would at this point have thanked our hosts in Wroclaw for hosting this year’s annual workshop. As so many other events, where we would have met this year, the annual workshop could not take place as planned. I hope that we will all meet again in Wroclaw next year! However, instead of cancelling the annual workshop, we held a compacted half-day virtual annual workshop. With 104 participants, it was the best-visited annual workshop so far! It was great seeing so many of my dear colleagues and friends from around the world at least on the screen for a couple of hours! We discussed current topics and projects within the competence centers, had new partners from the University of Koblenz (welcome “back” Patrick Dellmann) and the CBS (welcome “again” Till Winkler and Torkil Clemmensen) introducing themselves, and also presented our strategic considerations for the network’s future. In all, a very productive virtual meeting.

Normally, we would have chosen two pictures from beautiful Wroclaw for the cover of the Annual Report this year. As this will (hopefully) be the case next year, we decided to, again, welcome our newest members from Spain by choosing pictures from Seville and Madrid for the cover.

Nobody knows what the future holds in store for us. This saying was never so true as today. However, we as a network in the area of Information Systems have all the knowledge and tools to still be able to work together virtually. Even if we cannot meet physically, we can still collaborate. Or, as Henry Ford puts it nicely: “Coming together is a beginning, staying together is progress, and working together is success.” Let’s keep on being successful as, as I always say, ERCIS – it’s what we make of it!

All the best and stay healthy,

Jörg
# TABLE OF CONTENTS

| ERCIS NETWORK | 2 |
| FRENCE | 3 |
| 12th ANNUAL ERCIS WORKSHOP (VIRTUAL) | 6 |
| SHORT NEWS | 8 |

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

| Chair for Information Systems and Information Management | 14 |
| Institute of Medical Informatics | 16 |
| Data Science: Machine Learning and Data Engineering | 18 |
| Chair for Information Systems and Logistics | 20 |
| Institute for Information, Telecommunication and Media Law (ITM) | 22 |
| Chair for IS and Interorganizational Systems | 24 |
| Chair of Practical Computer Science | 26 |
| Data Science: Statistics and Optimization | 28 |
| Chair of Computer Science – DBIS Group | 30 |

**INTERNATIONAL PARTNER INSTITUTIONS**

| FINLAND – TURKU | 50 |
| University of Turku |

| FRANCE – PARIS | 57 |
| Kedge Business School |

| IRELAND – GALWAY | 54 |
| National University of Ireland, Galway |

| PORTUGAL – GUIMARÃES | 68 |
| University of Minho |

| RUSSIA – MOSCOW | 70 |
| National Research University – Higher School of Economics |

| RUSSIA – NIZHNY NOVGOROD | 72 |
| National Research University – Higher School of Economics |

| SLOVENIA – MARIBOR | 74 |
| University of Maribor |

| SOUTH KOREA – POHANG | 76 |
| Pohang University of Science and Technology |

| SPAIN – SEVILLA | 78 |
| Universidad de Sevilla |

| SPAIN – MADRID | 80 |
| IE Business School |

| SWITZERLAND – ST. GALLEN | 82 |
| University of St. Gallen |

| THE NETHERLANDS – ENSCHEDE | 84 |
| University of Twente |

| THE NETHERLANDS – LEIDEN | 86 |
| Leiden University |

| UKRAINE – KHARKIV | 88 |
| Simon Kuznets Kharkiv National University of Economics |

| UNITED KINGDOM – LOUGHBOROUGH | 90 |
| Loughborough University |

| USA – HOBOBÉR/NEW JERSEY | 92 |
| Stevens Institute of Technology |

**PERSONAL MEMBERS**

| Daniel Beverungen | 96 |
| Alessio María Bracconi | 96 |
| Patrick Delfmann | 97 |
| Marco De Marco | 97 |
| Sara Hofmann | 98 |
| Christian Mecke | 98 |
| Oliver Müller | 99 |
| Jens Poppelbuß | 99 |
| Stefan Steiglitz | 100 |
| Stefano Zu | 100 |

**ADVISORY BOARD**

| Arvato Supply Chain Solutions | 102 |
| Bizon | 104 |
| CLAAS | 105 |
| cronos | 106 |
| DMI Archivierung | 107 |
| Hilti | 108 |
| Informationsfabrik | 109 |
| IQ-optimize Software AG | 110 |
| PICTURE GmbH | 111 |
| Provinzial Group | 112 |
| SAP | 113 |
| Schwarz IT | 114 |
| viadee Unternehmensberatung AG | 115 |
| Westfalen Group | 116 |
| Westphalia DataLab | 117 |
| zeb | 118 |

**COMPETENCE CENTERS**

| Conceptual Modeling | 122 |
| Crisis Management (C3M) | 123 |
| Digital Transformation in SMEs | 124 |
| E-Government | 125 |
| Service Science | 130 |
| Smarter Work | 132 |
| Social Media Analytics (C²SMA) | 134 |

**PROJECTS**

| ERCIS NETWORK | 138 |

**TEACHING@ERCIS**

| 142 |

**EVENTS IN THE ERCIS NETWORK**

| 146 |

**OUTLOOK FOR 2021**

| 150 |

**ERCIS TEAM**

| 151 |

**IMPRINT**

| 157 |
11TH ANNUAL ERCIS WORKSHOP
(VIRTUAL)

11th Annual ERCIS Workshop (Virtual)

2020 marked the year with the all-time high of attendance numbers for any ERCIS Annual Workshop! Following locations such as Vaduz (Liechtenstein), Bordeaux (France), Kaunas (Lithuania), Turku (Finland), Rome (Italy), Guimarães (Portugal), Kristiansand (Norway), Leiden (Netherlands), Luleå (Sweden), and Loughborough (United Kingdom), this year’s workshop took place using Zoom.

Participants of the ERCIS Annual Workshop (Virtual)

RESULTS OF THE 2019 ANNUAL WORKSHOP

Crispin Coombs reported about the status of the last year’s annual workshop outcome, the paper “What Is It About Humanity That We Can’t Give Away To Intelligent Machines? A European Perspective”. The paper is in the shape of being submitted this year, and Crispin’s overall reflection motivated the participants to engage in such joint endeavors – even though the coordination process can be cumbersome.

COMPETENCE CENTERS

The next section was dedicated to presenting the Competence Center’s activities, starting with Isabel Ramos, speaking for the Competence Center “Digital Transformation in Small and Medium Companies”. Three project proposals have been submitted to the European Commission, of which two have been approved, one is in the process of being re-submitted. Daniel Beverungen represented the Competence Center “Service Science”, providing an overview of the project the members are currently working on, and project proposals under revision. He furthermore presented a list of publications and workshops that have been conducted by the competence center, closing with an invitation to the newly built Software Innovation Campus Paderborn, which provides perfect space for working together. Sasa Hofmann talked about the various activities initiated and conducted by the Competence Center “E-Government”, which includes several exchanges of staff members among the participating institutions, publications, and a report on the status of the international PIONEER master. Christian Grimme presented the work of the Competence Center “Social Media Analytics”, which, among several publications, included the organization of several tracks at conferences, workshops, and the conference MISDOOM. Also, three project proposals have been submitted and are currently under review.

Bernd Hellingrath provided insights into the Competence Center “Smarter Work”, which organized two Round Tables during the first wave of the pandemic, discussing the new work environment and approaches to understand the “new normal”.

Currently, the Competence Center works in several studies with Hilti and other companies to understand the “new normal”. Further information about the Competence Centers and their respective activities can be found in the related section in this report and on their dedicated website.

INSTITUTIONAL CHANGES

The next section covered institutional changes: Patrick Delfmann, skiing ace and researcher on conceptual modelling and process mining, was welcomed to the network as a new personal member. Since his offer as a professor at the University of Koblenz-Landau, Patrick cooperated closely with the headquarters, and is also connected to the process science community of the network especially in Austria and Liechtenstein.

After moving to the University of Paderborn, Matthias Trier handed over the contact at the Copenhagen Business School to Til Winkler, who, together with Torik Clemensen, introduced the various research teams at the Department of Digitalization.

We are very much looking forward to working together.

Sara Hofmann talked about the various activities initiated and conducted by the Competence Center “E-Government”, which includes several exchanges of staff members among the participating institutions, publications, and a report on the status of the international PIONEER master. Christian Grimme presented the work of the Competence Center “Social Media Analytics”, which, among several publications, included the organization of several tracks at conferences, workshops, and the conference MISDOOM. Also, three project proposals have been submitted and are currently under review.

Bernd Hellingrath provided insights into the Competence Center “Smarter Work”, which organized two Round Tables during the first wave of the pandemic, discussing the new work environment and approaches to understand the “new normal”. Further information about the Competence Centers and their respective activities can be found in the related section in this report and on their dedicated website.
Possibility of Research Visits to Twente

In 2020, positions are created for visiting researchers in the area of Business Information Systems – University of Twente – short visits (2–12 weeks): ERCIS members are especially invited to spend a research visit in Twente. We are happy to offer furnished accommodation on our wonderful campus. Research visits are open for junior and senior IS faculty.

The IEBIS department started a collaboration with the Dutch Police to study causes and potential solutions to the rising challenges of cybercrime. The project includes 2 PhD positions to address multi-disciplinary aspects of events like DDoS-attacks, phishing and ransomeware.

Information systems is expanding and we have welcomed several new faculty in Information systems research at our university: Renata Guizzardi Silva Souza, Dennis Prak, Patricia Rogetzer, Gayane Sedrakyan and Louiss Knight.

Two Information Systems Sciences Conferences at the University of Turku

The conference Well-being in the Information Society (WIS) entered its eighth edition with the special topic “Fruits of Respect”, the conference Technology Ethics – TechEthics entered its fourth edition. Due to the Coronavirus Pandemic, both conferences were held in a virtual form. For the same reason, the traditional Kilpisjärvi Information Systems Seminar (KISS), held without breaks since 1990, had to be totally cancelled.

Study on the Role of Web-Conferencing Systems during the Pandemic Crisis

Web-conferencing systems (such as Zoom and Microsoft Teams) have seen a dramatic uptake during the ongoing COVID-19 crisis and been employed for a variety of new use cases. Against the background of drastic and widespread changes in people’s digital practices, a team of researchers at the Hiti Chair of Business Process Management, including Prof. Dr. Jan vom Brincke, Dr. Janine Hacker, Dr. Johannes Schneider, Joshua Peter Handali and Markus Otto, at the University of Liechtenstein have conducted a study to explore the use of web-conferencing systems during the crisis. Applying text mining techniques to a dataset of 3 million tweets, the research team found that web-conferencing systems emerged as a social technology facilitating access to (everyday) contacts and activities that were out of reach during the lockdown period. As such, technology evolved as a fallback option that supported societies in carrying on over an extended period of time and contributed to their resilience. With their study, which has recently been published in the European Journal of Information Systems, the authors contribute to the discourse on the role of information systems during the pandemic crisis.

University of Liechtenstein and Digital-Liechtenstein.li Publish Study on Cybersecurity

Cybersecurity is indispensable for the success of digital transformation, both for large companies and SMEs. This fact is supported by the new study on the state of cybersecurity in Liechtenstein initiated by Prof. Dr. Pavel Laskov, holder of the Hilti Chair for Data and Application Security at the Institute of Information Systems at the University of Liechtenstein, and the initiative digital-liechtenstein.li. The study was carried out by a team of students and includes a representative online survey of over 100 companies and various administrative offices in Liechtenstein. The results of the study were shared in a webinar on cybersecurity and presented to Liechtenstein’s Princely Family at Vaduz Castle in June 2020.

New Specialization in Business Informatics at the University of Gdażsk

Since October 2016, a new innovative specialization in Business Informatics has been released for the Bachelor studies. The specialization module was made in cooperation with business partners that were involved during the programme development. During the last semester, the studies have been carried out in the dual mode – two days a week of studies at University, and three days a week as an internship at Pomerania IT firms cooperating with the specialization within a Panel of Business Partners.

The Department of Business Informatics successfully finalized the grant regarding the cooperation between industry and academia in the form of the student traineeships in IT firms, mostly international IT corporations.

Due to the pandemic, most of the classes were and are being conducted remotely using MS Teams as conference software, and the Educational Portal of the University of Gdażsk, Mostwin.
hana-postech techfin collaboration center

A memorandum of understanding was signed with Hana Financial Group, the third-largest financial group in South Korea, to establish POSTECH TechFin Research Center. This agreement, covering from research and development to start-up support, is expected to invest approximately 500 million won annually for at least three years. The research center is attended by 18 professors and plans to carry out research projects in the TechFin area with Hana Financial Group. These joint projects will contribute significantly to the development of the financial industry in South Korea.

researchers and students of the nui galway awarded

Dr. Lorraine Morgan won the prestigious NUI Galway President’s Award for Early Career Research. Also, Lero PhD student Mairead O’Connor and Prof. Kieran Coney were among eight researchers from five leading Irish universities awarded Lero Director’s Prizes. Mairead won an award for her work on diversity and inclusion and Kieran won the Rory O’Connor award for outstanding service to Lero. This is the second year of the annual awards presented by Lero, the Science Foundation Ireland Research Centre for Software, to honour members working across its 11 academic partner institutes nationwide.

nature article: ki finds almost two billion trees in the desert

Fabian Gieseke works with an international team on tree capturing in Sahara and Sahel

A team of researchers, including Fabian Gieseke from the Department for Information Systems at the WWU Münster, was able to identify more than 1.8 billion trees and bushes in the Western Sahara and Sahel region. The partly very dry area covers about 1.3 million square kilometers. For their analysis, which appeared in Nature on October 14, 2020, the international team evaluated more than 11,000 satellite images.

The large number of individual trees surprised the scientists. Although the plants cover a relatively small area overall - starting at around 0.1 percent in desert areas and up to 13.3 percent in more humid regions. For a long time, however, researchers had assumed that the dry areas would largely manage without trees and bushes.

The deep-learning technique used has analyzed the characteristic shape and color of trees and has thus been able to detect those with crowns of at least three square meters. With the help of this method, scientists around the world could now record and monitor trees outside of forests and further research the role that plants play, for example, in climate change or in the fight against poverty.


münster: Since October 1, 2020, Prof. Vossen is again the Dean of the Münster School of Business and Economics.
The ERCIS headquarters is located in Münster, Germany. All full professors of the department of information systems at the University of Münster serve in the board of the network and are active in the fields of information systems, computer science, data science, supply chain management, medical informatics, and law. Additionally, the management team at the headquarters works with the board to organise regular meetings, joint teaching endeavours, and research proposals with the network partners.
Smart Cities is the field of research that uses the advances in information and communication technologies to increase the operational efficiency, information sharing, and quality of services of the four constituent areas of a city: retail, government, mobility, and energy. A focal topic is the development of integrated and configurable reference models for retail, government, mobility, and energy that advance the scientific knowledge and yield practical value for the creation of smart cities. Further important topics are the theory of the citizens' digital sovereignty and its consideration and integration within these reference models.

**SELECTED CURRENT RESEARCH PROJECTS**

**Virtual Institute Smart Energy (VISE) – Development of Digital Business Models Based on the Energy Demand Behavior of Households:** Energy providers and energy service providers only have little information regarding the determinants of their customers' energy demand behavior, especially regarding private households. A detailed analysis of expectations and requirements of private energy demand is an important prerequisite for a successful adoption of new technology and basis for the development of new business models. The project's goal is the analysis of private households' intention to invest, use, and consequently the development of new business models addressing private households.

For more information, please visit: [https://www.smart-energy.net/](https://www.smart-energy.net/)

**Seven Paradoxes of Business Process Engineering.**

**E-Government deals with the aspects of administrative processes and services with governmental and inter-governmental organizations and the citizens and business users using information and Communication Technology (ICT). E-Government links the field of 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.**

**Continuous** increasing and changing amounts of data in modern organizations demand new information handling strategies. Effective knowledge management requires a flexible selection of essential information, for example, for decision processes under uncertainty or in dynamic economic markets. In this regard, information systems can reduce decision maker's cognitive load, emotional strain, and stress. However, for those positive effects to occur, persons need to use the information systems trustfully in order to forget “confidentially.” The goal of the present research project is to model and empirically examine the psychological processes underlying trustful use of information systems, enabling intentional forgetting.

For more information, please visit: [https://www.getrost-vergessen.de](https://www.getrost-vergessen.de)

**Virtual Institute Smart Energy (VISE) – Development of Digital Business Models Based on the Energy Demand Behavior of Households:** Energy providers and energy service providers only have little information regarding the determinants of their customers' energy demand behavior, especially regarding private households. A detailed analysis of expectations and requirements of private energy demand is an important prerequisite for a successful adoption of new technology and basis for the development of new business models. The project's goal is the analysis of private households' intention to invest, use, and consequently the development of new business models addressing private households.

For more information, please visit: [https://www.smart-energy.net/](https://www.smart-energy.net/)

**Seven Paradoxes of Business Process Engineering.**

**E-Government deals with the aspects of administrative processes and services with governmental and inter-governmental organizations and the citizens and business users using information and Communication Technology (ICT). E-Government links the field of 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.**

**Continuous** increasing and changing amounts of data in modern organizations demand new information handling strategies. Effective knowledge management requires a flexible selection of essential information, for example, for decision processes under uncertainty or in dynamic economic markets. In this regard, information systems can reduce decision maker's cognitive load, emotional strain, and stress. However, for those positive effects to occur, persons need to use the information systems trustfully in order to forget “confidentially.” The goal of the present research project is to model and empirically examine the psychological processes underlying trustful use of information systems, enabling intentional forgetting.

For more information, please visit: [https://www.getrost-vergessen.de](https://www.getrost-vergessen.de)
The Institute of Medical Informatics (IMI) focuses on informatics for personalized 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. 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.

**CURRENT RESEARCH PROJECTS**

**Digital Health**
The world’s largest public portal of medical data models (https://medical-data-models.org) is managed by IMI. It is a registered official European Research Infrastructure. To date, it contains 24,000 data models and 600,000+ data items with semantic annotations. These data models are available in 18 download formats, in particular CDISC ODM, HL7 FHIR and openEHR ADL. MDM has 5,500+ users worldwide. The GUI is available in 8 languages. The IMI project mobile patient questionnaires (http://mapat.uni-muenster.de) integrate EHR and patient reported outcomes. Currently this software tool is applied successfully in the DFG clinical research unit “Translational Pruritus Research” (CRU 2690).

**Biomedical Informatics**
IMI participates in the DFG clinical research group “Male Germ Cells” (CRU 326). Specifically, IMI developed the Male Fertility Gene Atlas. Within MDS-RIGHT, a European project coordinated by Nijmegen University, IMI analysed mutations in Myelodysplastic Syndrome (MDS). MDS-RIGHT assessed approximately 1000 patient cases with Next-Generation Sequencing (NGS) technology. IMI performed bioinformatics for project partners from the Netherlands, France, Sweden, and Spain. About one third of MDS patients develop leukemia – the objective of the project is to improve diagnostics and therapy using biomarkers from NGS.

**Immunological Informatics**
IMI is part of the HiGHmed-Consortium (www.highmed.org), which is funded by the Federal Ministry of Education and Research in the context of the German Medical Informatics Initiative. Münster is actively involved in the use case infection control. A software system that is developed to analyse various data sources from hospitals, with the aim to detect potentially dangerous germs as early as possible. This use case is of special interest in the current pandemic.

**CONTACT DETAILS**

**PROF. DR. MARTIN DUGAS**
Institute of Medical Informatics
University of Münster
Albert-Schweitzer-Campus 1 A31
48149 Münster
Germany
p +49 251 83-55261
dugas@uni-muenster.de
http://imi.uni-muenster.de


The data volumes have increased dramatically over the last years. The remote sensing field witnesses an explosion in the amount of available data. Such data allow the identification of fine details in the landscape and the recent breakthroughs in artificial intelligence (AI) facilitate application areas such as agricultural monitoring, infrastructure management, mapping forest development, and many others. Applying AI models on a global scale can become extremely time-consuming with analyses potentially taking weeks, months, or even years. This is a computational bottleneck that needs to be overcome. In some cases, powerful computer servers are used, both the training as well as the testing phase can easily take weeks.

We work on reducing the practical runtime needed to process such compute- and memory-intensive tasks. For instance, we resort to high-performance computing and distributed computing to accelerate the overall analysis of the data. Another example is the development of conceptually new techniques, which only consume a fraction of the compute and memory resources but still yield high-quality models similar to those obtained via their original counterpart (e.g., “tiny” models that can be used on mobile phones or microcontrollers). This group is also involved in the development of models that are tailored to novel applications from a variety of domains. Research is conducted in collaboration with the University of Copenhagen and is supported by the Villelum Foundation and the Data+ program of the University of Copenhagen.

DeepCrop

Recent technological developments in deep learning and drone-borne LiDAR scanners have paved the way for constraining the uncertainty inherent to quantify and project ecosystems’ carbon stocks. With a rising demand for biomass, DeepCrop aims to precisely measure the so-called above ground biomass and to estimate carbon sinks in croplands and forests. The ambition is to bridge expertise of experimental scientists and computer scientists to develop novel tools for the automated processing of LiDAR data utilizing deep learning and drones. The project is conducted in collaboration with the University of Copenhagen and is supported by the Villelum Foundation and the Data+ program of the University of Copenhagen.


Digitalisation is ubiquitous, and thus university of münster –
Today’s supply chains have to cope
sues and resolving them by applying and
exemplified by the growing number of in-
Chain Management
areas of SCM, logistics, and operations
oriented research contributions in the
research topics
newly developing modeling and planning
ing current logistics and manufacturing is-
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 par-
ticular, the chair develops application-
oriented research contributions in the areas of SCM, logistics, and operations management with regard to the support by IS. A special focus lies on understanding current logistics and manufacturing issues and resolving them by applying and newly developing modeling and planning methods. In this context, research is fost-
ered by a culture of internationalisation, exemplified by the growing number of international research partners and projects conducted. The group’s research focuses on three main areas in the field of supply chain management and information systems:

• Digitalisation is ubiquitous, and thus supply chains are thoroughly disrupted by its emerging phenomena, such as Indus-trie 4.0 and Big Data. Within the first research area of Supply Chain Digitalisation, the chair addresses the challenges that come with it, identify, and exploit opportunities that arise. To achieve this, the chair conducts research on emerging trends such as Digital Maturity Evaluation, Production Planning under Industrie 4.0, and Predictive Maintenance. In addition, we investigate how supply chain digitalisation can be facilitated through the means of Computational Intelligence and Supply Chain Analytics.

• Nowadays, cross-functional integration within a company and along the supply chain is essential for business success. As an intra- and inter-organisational strategic resource, the research in the area of Supply Chain Integration can improve firm performance and result in sustainable competitive advantages. The group investigates and evaluates state-of-the-art solutions and develops concepts to facilitate efficient industrial applications. This includes research in Sales and Operations Planning (S&OP), Supply Chain Coordination and Collaboration, and Supply Chain Performance Management, among others.

• The third research area addresses the field of Supply Chain Security and Crisis Management. In particular, it focuses on specific challenges for decision support systems for practitioners in uncertain and dynamic environments exposed to disruptive events. Our activities are dedicated to understanding the use of information systems for rigorous and relevant evaluation and solution design. We aim to provide reference models and procedures to assess current and potential future scenarios by means of modeling, visualisation, analysis, and simulation of versatile networks.

RESEARCH PROJECTS
• The EU-funded project DRIVER (DRiving Innovation in crisis management for European Resilience) has been finalised in June 2020. The main aim was to develop and establish a pan-European test-bed for a practitioner-driven assessment of socio-technical innovations in crisis management. Started in May 2014, a series of trials with first responders across Europe have been executed, making use of the key DRIVER+ artifacts: the trial guidance methodology, the test-bed technical infrastructure, and the portfolio of solutions.

• Within the BMBF funded project Biskit (Blut-Informationssystem für Krisenin-
tervention und –management), IS-based support for planning and execution of blood supply chains is developed in cooperation with the partner-country South-Africa. The group is creating simulation models to analyse the behavior of the blood supply chain in times of crisis and builds Enterprise Architecture models to conceptualise software solutions for these tasks.

• The EU-funded project STAMINA aims to develop an intelligent decision support platform for pandemic prediction and management. The project creates solutions for the preparedness and response phases of the emergency management cycle in terms of evidence-based decision support for practitioners involved in crisis management.

• In the BMBF-funded EpPredict project, we build tools to investigate the dynamics of infectious disease outbreaks in human and animal populations. CoPredict is a Covid-19-specific extension where we use similar non-pharmaceutical intervention strategies with minimal societal impact to support the ongoing pandemic containment efforts.

• Theoretical and practical implementation guidance for S&OP is a project between the chair and the Pontifical Catholic University (PUC) in Rio de Janeiro, funded by DAAD and CAPES. The goal of the project is to develop concepts to guide successful implementations and transformations of S&OP processes.

• Three successful Predictive Maintenance (PdM) projects have been conducted within the last two years. Together with students, the chair collaborated with different renowned manufacturers of automotive parts, commercial vehicles, and agricultural machinery. The projects resulted in some compelling PdM solutions developed using machine learning technologies.

EVENTS
In January, Prof. Filipe Scavarda from PUC visited our group. During his stay, Prof. Scavarda gave a course about Supply Chain Logistics Management to undergraduate students and actively engaged in the S&OP research conducted by the chair.

In January and February, Prof. Márcio Antonio Thomé from PUC conducted a research stay at our chair. During this time, Prof. Thomé collaborated with the groups’ researchers in the areas of S&OP and supply chain digitalisation.

The DRIVER+ Advanced Crisis Management Conference was a very successful event that brought together over 250 Crisis Management specialists, academics, and technology developers from throughout Europe and beyond. During this event, the final DRIVER+ Trial Guidance Methodology handbook and website were released. The event was the culmination of several years of work to help improve crisis management throughout Europe.

In the 5th Annual Conference of the Decision Sciences Institute, the chair was co-chairing the track “Simulation-related Research in Context of Humanitarian Logistics”. This session, embedded in a fully digital conference format, aimed at providing a structured overview of the different approaches and discussing selected simulation-based concepts to better understand and improve humanitarian logistics practices.

PUBLICATIONS

DISSEMINATIONS
Collaboration and Coordination in Spare Parts Supply Chains. Design of a Maturity Model for Spare Parts Supply Chains in the Mechanical Engineering Industry (Philipp Sautmann, 2020)

CONTACT DETAILS
PROF. DR.-ING. BERND HELLINGRATH Chair for Information Systems and Supply Chain Management University of Münster Leonardo-Campus 3 48149 Münster Germany
P +49 251 83-38 000 hellingrath@wi.uni-muenster.de http://www.wi.uni-muenster.de/depart-
ment/groups/logistik


Nicolas, F. N. P., Thomé, A. M. T., & Hell-

The ITM is the leading Institute for Information, Telecommunication, and Media Law (ITM) – Civil Law Department.

**GOAL**: The GOAL (“Governance of and by Algorithms”) Project is an interdisciplinary project funded by the Federal Ministry of Education and Research. The project partners are the University of Münster, University of Kaiserslautern, Karlsruhe Institute of Technology (KIT), Ruhr-University Bochum (RUB), and University of Hamburg. The GOAL Project deals inter alia with the issues of algorithmic behaviour control and artificial intelligence. The aim of the project is to identify governmental, technical, and regulatory requirements, and options for the design of comprehensive governance structures.

**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 tying to connect science and economics. The Research Center is supported by an association of companies, lawyers, and patent attorneys.

**Art Law Clinic**: A project in cooperation with the Academy of Fine Arts Münster. Its basic idea is: “Law students for art students”. Art students can seek the help of law students in senior classes to solve their basic legal problems, which occur during their academic studies. The service is entirely free and coordinated by employees coming from the ITM and the Academy of Fine Arts Münster. Additionally, a legal guideline has been provided, giving students an entry point and further information on the topic of art law. By combining the inherently different but closely connected topics of law and art, the project will increase the interdisciplinary and mutual understanding between law students and art students and their respective subjects.

**Blockchain Hub**: The Blockchain Hub is a multidisciplinary project funded by the Ministry of Economic Affairs, Innovation, Digitalisation and Energy of the State of North Rhine-Westphalia. Its objective is to identify and analyse use cases for Blockchain and Distributed Ledger Technologies. The ITM supports the research in the area of law.

**Legal Information Office DH.NRW**: The Legal Information Office DH.NRW (Rechtsinformationsstelle DH.NRW) is a contact point for all those involved and interested in e-learning and digital teaching. In May 2020 it was established under the organizational umbrella of the Digital University of North Rhine-Westphalia and is located at the Institute for Information, Telecommunication, and Media Law (ITM). Since then, the Office provides teachers and students legal guidance concerning e-learning and digital teaching. The main focus lies on data protection law, copyright law, and examination law.

**Network DFN (Deutsches Forschungsnetz)**: The Digital Research Network (DFN) provides a communication network for universities and research facilities in Germany that not only connects them with one another but also with the community of research and education networks worldwide. Increasingly, the DFN members are facing legal questions regarding liability, telecommunications, and data protection. The ITM assists in solving those difficult issues and offers general legal advice to the members.

**DFN-Membership**: DFN membership is entirely free and coordinated by teachers of the ITM and universities related. Currently, the DFN-Members are facing legal questions regarding liability, telecommunications and data protection.

**Blockchain Reallabor**: The Blockchain Reallabor is a research project funded by the Ministry of Economics and Data Protection. The ITM assists in solving those difficult issues and offers general legal advice to the members. The Blockchain Reallabor is a multidisciplinary project funded by the Ministry of Economic Affairs, Innovation, Digitalisation and Energy of the State of North Rhine-Westphalia. Its objective is to identify and analyse use cases for Blockchain and Distributed Ledger Technologies. The ITM supports the research in the area of law.
1. The Communication & Collaboration
practices. We advocate
development.

2. The Research Group on Strategic Information
Management (RGI SIM), led by apl.
Prof. A. Teubner, does research on the management challenges that executives with information technology responsibility face in the digital age. The following challenges are in the focus of the group’s current research:

- Digital Transformation and Techno-
change: How to align changes of the IT-
based infrastructure with organisational change? How to plan, control, and coordinate large, complex, and risky IT endeavours comprising a larger set of interrelated IT projects?

- IT/IS Investment Evaluation and Control: What kind of IT investments should digital organisations make? How to decide on IT-investment alternatives? What is the business value of IT investments? How to control the IT/IS investment portfolio for value delivery?

- IT Outsourcing and Organisations: Which IT tasks can and should be outsourced and what are appropriate sourcing modes (offshoring vs. nearshoring, single vs. multi-vendor sourcing)? Alternatively, how to best organise the in-house IT/IS function in digital organisations?

3. The Interorganisational Systems group studies the development and transformation of interorganisational information infrastructures and related theoretical and methodological questions. Specifically, we study:

- How governance models, such as multi-sided platforms, ecosystems, commons-based peer production, and blockchain governance, emerge in digital environments.

- How industry structures, specifically structures of intermediation, are transformed alongside the proliferation of ICT.

We study these issues specifically in the context of the health care sector, travel & tourism, and the academic publishing industry.

CURRENT RESEARCH PROJECTS

IT/IS Strategy in the Digital Age

(Prof. Dr. J. Stockhinger, apl. Prof. Dr. A. Teubner)

Digital infrastructures fundamentally change the structures of economic value creation, so that today’s organisations face a complex and volatile environment that is fundamentally different from the economic situation of the 1970s and 1980s, when mainstream strategy theory was developed.

The project examines the viability and limitations of traditional strategy theories under these conditions. For this purpose, we investigate, how companies are currently dealing with strategy making in digital environments. We also examine whether and how strategy theories and frameworks are or could be applied. The aim is to recognize the possibilities and limits of applying existing theories and to find starting points for the development of new theories.

From artifact to infrastructure – The prescription as intellectual and material-vantage point to the design of social infrastructure

(Prof. Dr. S. Schellhammer, Prof. Dr. M. Auci, RWTH)

IS scholars from RWTH Aachen and WWU Münster work with pharmaceutical historians from the Philipps University of Marburg and the German Pharmacy Museum in Heidelberg to investigate the formation and development of a cornerstone of today’s healthcare system – the drug prescription. It will create one of the largest digital collections of prescriptions from the early modern period to modern times in German-speaking countries. The project is funded by The Federal Ministry of Education and Research.

Blockchain as Organisational Technology

(Prof. S. Klein, R. Thopa; in collaboration with UCD and University Zurich)

Blockchain technology provides a distributed ledger and is based on a logic of peer to peer authentication. It gained prominence with the rise of cryptocurrencies but provides a much broader field of possible applications. While it has been originally closely linked to a libertarian agenda regarding organisations, its developments have illustrated that this ideological framing is being reversed in practice. The purpose of this project is to discuss blockchain as an organisational technology, its peculiar mode of governance, which we name ‘Hasseitik’, needs to be mediated between the fluidity typical of Free and Open Source Software development and the immutability that organisations adopt blockchain for.

Development of Digital Platforms in Health Care

(Prof. Dr. S. Klein, Prof. Dr. D. Förster, Dr. C. Auschra)

The embedding of information systems (IS) infrastructure into everyday social activities and specifically healthcare is creating value conflicts for society. We are looking at a number of diverse infrastructure cases (multi-sided healthcare platforms, single dose dispensing, prescriptions) in order to study the distinctive role of infrastructures in healthcare and their transformation over long periods of time.

Surveillance Capitalism in Academic Publishing

(Prof. Dr. S. Klein, Prof. Dr. M. Secerajewa, Dr. D. Ponte, Dr. S. Vidulav)

The goal of this project is to examine the changing role and increasing influence of the large academic publishers on university-based research. We take stock of the profound transformations that happened particularly during the past ten years, epitomised by the new identity of Elsevier as an “information analytics company” targeting a global academic market in pursuit of a neo-liberal logic, and take a look into possible implications for research during the next ten years.

SELECTED PUBLICATIONS


The research on Parallel Programming fo-
cuses on high-level frameworks based on
algorithmic skeletons. It aims to minimise
the expertise required to create parallel
programs by abstracting, e.g. from mem-
ory allocations or the number of parallel
processes started. Programs written in the
framework are converted to MPI, OpenMP,
or CUDA programs. For this purpose, we
maintain two distinct approaches: the
domain-specific language Musket and an
extension to the C/C++ standard li-
brary Muesli. In the last year, Musket was
used to implement a program solving the
travelling salesman and the bin packing
problem with a meta-heuristic on GPUs.
Furthermore, it was used to implement a
program for processing telescope data. For
future research, the next goal is to support
heterogeneous environments with multi-
ple CPUs and GPUs, resulting in programs
exploiting the full hardware available.

The research on automatically generat-
ing glass-box test cases via the symbolic
execution of Java bytecode was extended
by an approach for generating database
states of NoSQL databases. The approach
enables the symbolic execution of pro-
grams utilising NoSQL databases and takes
into account typical characteristics such as
alternative schemas. The proof-of-concept
tool has been implemented as an
extension of Symbolic PathFinder, an
open-source tool for the symbolic execu-
tion of Java programs. The tool strives to
vastly facilitate the development of sym-

dolic database mocks for any key-value,
document-oriented, or graph database.

We are also working on the test-case gen-
eration of Java programs. The tool strives to

efficiently employ machine learning tech-
niques without the demand of deep ex-
pertise. Furthermore, we develop new ma-
chine learning methods to solve chemical
problems in a more advanced fashion. Due
to our close collaboration, a very profitable
cooperation has been established and will
be continued in the future.

EVENTS

On November 24, the Jobhub IT, the IT
job fair of the University of Münster, was
organised as an online-event (due to the
Corona pandemic). 16 companies from the
Münsterland region participated.

PUBLICATIONS

High-Performance Code Generation for Multi-
GPU Clusters Based on a Domain-Specific
Language for Algorithmic Skeletons. Inter-

high-performance code based on a domain-specific language
for algorithmic skeletons. Journal of Super-
computing 76(2):5098–5116.

Lacerda, M., Pessoa, L.F., Buurque de Lima
Systematic Literature Review on General
Parameter Control for Evolutionary and
Swarm-based Algorithms. Swarm and Evo-


Menezes, B., de Araujo Pessoa, L. F., Kuchen,
H., & Buurque, F. (2020). Parallelization
Strategies for GPU-Based Ant Colony Opti-

mization. Applied to TSF. In Tan, F., Gerhard,
R. J., Ludík, K., Wolfgang, E. N., & Frans,
P. (Eds.), Parallel Computing: Technology
Trends, Advances in Parallel Computing

Hofstedt, P., Abreu, S., John, U., Kuchen, H., &
Seipel, D. (Eds.) (2020). Declarative Pro-
gramming and Knowledge Management.
Lecture Notes in Computer Science:
Vol. 12052. Springer.

Dagforde, J. C., & Kuchen, H. (2020). Con-
straint-Logic Object-Oriented Program-
ing with Free Arrays. In Proceedings of the
WFLP 2020. Corr abs/2008.13460,
Bologna, Italy.

Objects in Constraint-Logic Object-oriented
Programming. In Working Papers,

er

European Research Center for Information Sys-

tems: Vol. 32. Münster.

Rieger, C., Lucrédia, D., Pontin, M. F. R.,
Kuchen, H., Dias, F., & Duarte, L. (2020). A
Model-Driven Approach to Cross-Platform
Development of Accessible Business Apps.
In Proceedings of the The 35th ACM/SIGAPP
Symposium On Applied Computing (SAC
2020), Brno, Czech Republic, 984–993.

Feature Development in BPMN-Based
Process-Driven Applications. Business
Process Management (BPM) Forum,Seville,
Spain, 35–50.

Dagforde, J. C., & Teegen, F. (2020). Struc-
tured Traversal of Search Trees in Con-
straint-Logic Object-oriented Programming.
In Hofstedt, P., Abreu, S., John, U., Kuchen,
H., & Seipel, D. (Eds.). Declarative Pro-
gramming and Knowledge Management
(pp. 199–214). Lecture Notes in Artificial
Intelligence: Vol. 12057. Springer.

Sandfort, F., Strieth-Kolhoff, H., Kühnemund,
M., Beeccks, C., & Glorius, F. (2020). A Struc-
ture-Based Platform for Predicting Chemi-
cal Reactivity. Chem 6(6), 1379–1390.

DISSERTATIONS

Jan Dagforde: An Integrated Constraint-
Logic and Object-Oriented Programming

Language

Tobias Reichmann: Applied Matching Al-

githms

Fabian Wrede: Optimization, Application,
and Usability of Algorithmic Skeletons for
Parallel Programming on Multi-Core and
Multi-GPU Clusters

ABOUT THE INSTITUTION

Prof. Dr. Herbert Kuchen is leading the
Practical Computer Science group since
1997. He is teaching in the area of software
engineering, programming languages, and
programming. Maintaining close collabo-
ration with several local companies, his
group is offering students the chance to
write bachelor and master theses of high
practical relevance.

RESEARCH TOPICS

The research of the group focuses on se-
lected aspects of Software Engineering
and Programming. Fields of research are
Testing, Model-Driven Software Develop-
ment, Domain-Specific Languages, Pro-
cess-Driven Applications, the Integration
of Programming Paradigms, Parallel and
Distributed Programming, Swarm Intelli-

CURRENT RESEARCH PROJECTS

The research on the Münster Logic-Imper-
ative Language (Muli) has recently hit a
milestone as it now supports interactions
with objects as part of arithmetic and
boolean constraints, as published in a re-
cent ERCIS Working Paper. Moreover, our
forthcoming work adds support for arrays as
logic variables and investigates auto-
mated test-case generation as a potential
application of Muli.

The research on the Münster Logic-Imper-
ative Language (Muli) has recently hit a
milestone as it now supports interactions
with objects as part of arithmetic and
boolean constraints, as published in a re-
cent ERCIS Working Paper. Moreover, our
forthcoming work adds support for arrays as
logic variables and investigates auto-
mated test-case generation as a potential
application of Muli.

The research on the Münster Logic-Imper-
ative Language (Muli) has recently hit a
milestone as it now supports interactions
with objects as part of arithmetic and
boolean constraints, as published in a re-
cent ERCIS Working Paper. Moreover, our
forthcoming work adds support for arrays as
logic variables and investigates auto-
mated test-case generation as a potential
application of Muli.

The research on the Münster Logic-Imper-
ative Language (Muli) has recently hit a
milestone as it now supports interactions
with objects as part of arithmetic and
boolean constraints, as published in a re-
cent ERCIS Working Paper. Moreover, our
forthcoming work adds support for arrays as
logic variables and investigates auto-
mated test-case generation as a potential
application of Muli.
highly supported by Pascal Kerschke, is an initiative that has emerged in summer 2019, with the idea to consolidate and to stimulate activities on benchmarking iterative optimization heuristics.

**DAAD Exchange Program PPP Australia:** Detection and classification of malicious virtual grassroots influence campaigns. Dennis Assenmacher and Christian Grimme spent several weeks at the University of Adelaide in March.

The group strongly supports the joint European initiative CLAIRE (Confederation of Laboratories for Artificial Intelligence Research in Europe, www.claire-ai.org) that seeks to strengthen European excellence in AI research and innovation.

**AWARDS**

In May, our student research assistant Janina Pohl received a student research grant from the University of Münster for her work on “Visualization and Analysis of textual Stream Clustering Data for detecting manipulative campaigns in Social Media”.

**EVENTS**

In February, the whole group had a 2-day research workshop at "Landhaus Rothenberge".

In July, Dennis Assenmacher, Lena Clever and Christian Grimme organized a special session and a panel discussion on Data, Algorithms, and Humans in Digital Manipulation at the 22nd Conference on Human-Computer-Interaction (HCII 2020).

In September, several group members actively took part in the hybrid Parallel Problem Solving from Nature (PPSN) conference in Leiden (Program Chair, tutorials, workhops, session chairs, poster presentations).

**PUBLICATIONS**


Dr. Gottfried Vossen, Professor of Computer Science and head of the group, is a Fellow of the German Computer Science Society (GfK), Honorary Professor at the University of Waikato Management School in Hamilton, New Zealand, and a 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 program committees.

RESEARCH TOPICS
Research topics currently studied by the DBIS Group include challenges involving data and processes, business process management and mining, Big Data recommendation systems, knowledge management, data marketplaces, their pricing and querying, and specific challenges related to digitalization and digital transformation (such as bias in data or systems). Our approach is based on the conviction that “business” processes and process models are elementary tools for perceiving and analyzing 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
Process Model Transformation with NLP: The application of Natural Language Processing (NLP) and automated model transformation for the evaluation of the semantic quality of process models is a current research topic of the DBIS Group. Ambiguity during the process of modelling is a common challenge rooted, amongst other things, in the diversity of stakeholders involved. To address this problem, we compare different NLP techniques to analyze a process model and corresponding artefacts with model transformation steps to enable consistent AI-based decision-making processes. The DBIS Group is particularly interested in how to deal with such bias effects in practice and how they currently collaborate with several partners in the insurance industry on empirical research.

Digitalisation of Companies – Digi-Check: Digitalisation of companies is a current research effort of the DBIS Group. To initiate or drive forward digitalization efforts, the status concerning digitalisation, i.e., the digital maturity of the company, must be determined first. Therefore, the DBIS group has developed a maturity model that can capture the current digital maturity level of a company. It includes the three primary dimensions Processes, Data, and Business Model as well as the four secondary dimensions Connectivity, Interaction, Optimisation, and Disruption. Based on these dimensions, we have developed a digitalisation check (short Digi-Check) in the form of a questionnaire that consists of statements for each dimension. The user indicates the degree to which she or he agrees with these statements. In the end, the Digi-Check evaluates a digital level for each dimension and presents the maturity results by using a radar chart. Furthermore, it is possible to vary the weighting of the score in each dimension for the calculation of the overall digital maturity. Our Digi-Check is available online at https://digi-check.uni-muenster.de. We have successfully applied our check in a case study with 50 medium-sized companies in the area of Münster. Moreover, there is a new, reduced version of the survey that is more suitable for online distribution and self-completion by company representatives. Further research includes the automatic generation of recommendations for action and dynamic aspects regarding evaluation considering the branch of an organisation and the advancement of digitalisation requirements over time.

Process Mining: Business processes today are digitally supported by IT systems of various kinds, whose executions leave traces in the form of event logs. By analysing these logs, organisations can discover the underlying process model, compare the executions with an existing process model and detect deviations, and perform comprehensive KPI analysis. In that sense, process mining is seen as a link between traditional Business Process Management (BPM) and general Data Science technologies. The DBIS Group is particularly interested in the connection and interplay between process mining and process modelling in business environments to achieve maximum process analysis performance. Additionally, we investigate how process mining can be used within the relatively new declarative process modelling paradigm where processes are not described by modelling the allowed flow but by introducing constraints that restrict their behavior. Event condition action (ECA) rules, for instance, could serve as a means for checking declarative constraints on event data or discovering them on given logs. Benchmarking and Evaluating Recommender Systems: Recommender Systems are an integral part of our daily lives. Whether we listen to music, look for a new job position or browse in an online catalogue, in the background there is a system that recommends items or products, based on the data and our implicit and explicit feedback to generate recommendations reflecting our personal preferences and interests. To further improve the recommendation accuracy, the number of considered data sources in the recommendation process increases constantly. For instance, in online retailing, besides product purchases, a Recommender System might also consider a user’s browsing behaviour, e.g., clicks and views as well as his or her engagement with products on social media, e.g., likes or comments or newsletter interactions. Therefore, the DBIS Group investigates the impact of utilising and combining these additional sources based on the application of different collaborative filtering approaches. The applied approaches are evaluated and benchmarked not only by their accuracy but also their performance, e.g., for the model generation.

AWARD
Best Evolvability & Swarm Computation Paper Award, Best Paper Award, 6th IEEE Latin-American Conference on Computational Intelligence (LACCI 2019), Guayaquil, Ecuador, for “Supporting Customers with Limited Budget in Data Marketplaces,” by D. Martins, J. Lechtenbörger, G. Vossen.

PUBLICATIONS


The associated partners are research institutions mainly from Europe, but also from around the world, that have long-standing connections with the network. All associated members are outstanding Information Systems institutions, and, more importantly, the personal relations and close ties between the researchers lead to short communication lines and reliable structures for joint research endeavours.
Queensland University of Technology – Centre for Future Enterprise & Information Systems School

About the Institution
Queensland University of Technology (QUT) is a major Australian university with a truly global outlook. Home to nearly 50,000 students, we’re providing real-world infrastructure, learning and teaching, and graduate skills to the next generation of change-makers. QUT is ranked 20th worldwide in the year 2018 by THE Top 250 Under 50 years World Young University Rankings. QUT is ranked 19th globally in 2020 by the QS Top-50 Under 50 years World Young University Rankings.

Centre for Future Enterprise
The newly established Centre for Future Enterprise (CFE) is dedicated to demand-driven, rigorous research exploring and testing possible futures for enterprises of all sizes ranging from large incumbents to emerging start-ups, from the internationally listed corporation to the regional nonprofit charity. CFE is the only research centre within QUT’s Business School, Australia’s first triple crown accredited business faculty.

CFE research inspires, informs and enables current and future leaders to navigate a fast-emerging new world, differentiating essential requirements from distracting noise. Based on the fundamental hypothesis that an increasingly opportunity-rich environment will require new enterprise capabilities, CFE research focuses on four themes and the nexus between these themes:

1. Entrepreneurial Enterprise
   Our related research covers entrepreneurial diversity in people, entrepreneurial opportunities, the entrepreneurial process, and immigrant entrepreneurship in Australia. In alignment with the technology-focus of QUT, research is also focused on AI and Big Data in entrepreneurship and the use of data analytics and metrics for capturing and studying the entrepreneurial landscape and developments.

2. Digital Enterprise
   Research within this theme is organised in four streams, i.e., (1) humans in the digital economy (e.g., ‘deviant behaviours, digital literacy’), (2) organisations in the digital economy (innovation frameworks, digital maturity, technology impact), (3) policy and processes in the digital economy (future-proof economies, robotic processes, economy of algorithms) and (4) measuring the digital economy (digital trade, technology dependent growth).

3. Social-purpose Enterprise
   The newly established Centre for Future Enterprise (CFE) is dedicated to demand-driven, rigorous research exploring and testing possible futures for enterprises of all sizes ranging from large incumbents to emerging start-ups, from the internationally listed corporation to the regional nonprofit charity. CFE is the only research centre within QUT’s Business School, Australia’s first triple crown accredited business faculty.

4. Robust Enterprise
   In our research on the robust enterprise we develop approaches to revenue resilience, trust management methodologies, strategic envisioning for technology opportunism and disruption, and study intrapreneurial talent acquisition. Trust-as-a-service as an entrepreneurial opportunity or value resilience in nonprofit organisations are possible future research pathways.


Semantic Shopping
Semantic search has become a widely deployed approach to find information. However, the act of shopping has so far largely lacked a comparable user experience. This joint initiative between QUT and ERCIS has led to a paper summarising alternative forms of semantic shopping and as such provided an entirely new proposal for a digital engagement channel in the retail industry.

Selected Publications

City 5.0
Industrie 4.0 is a now established umbrella term describing the sophisticated, integrated digitisation of manufacturing. Our research extends this focus on smart production towards smart consumption. We apply this new paradigm to the conceptual framework City 5.0. Here, digitisation is dedicated to overcoming restrictions and leads to a city that is constantly evolving according to the needs of its citizens.

Organisational Intelligence
The emergence of new forms of technological sophistication requires new forms of digital intelligence in organisations. However, unlike individual upskilling, the development of digital literacy within an organisation is still poorly understood, and the exemption in practice. This project between Prof. Michael Rosemann, Director of the Centre for Future Enterprise, and Dr. Ann-Kristin Cordes, ERCIS, has led to the development of a six stages conceptual model advise for such corporate upskilling initiative. Grounded in the theory of dynamic capabilities, the framework is currently empirically tested.

Selected Publication

Contact Details
Prof. Dr. Michael Rosemann
Centre for Future Enterprise,
QUT Business School
Queensland University of Technology
Science and Engineering Faculty
2 George Street
Brisbane QLD 4000
Australia
p + 61 7 3138 9473
m.rosemann@qut.edu.au
https://www.qut.edu.au/research/centre-for-future-enterprise
CRICOS No 00231L
The established Master’s Program in Information Systems and Operations Management demands together with a board of leading Austrian stakeholders from industry and government to meet today’s challenges and develop innovative solutions. The program aims to be a think tank for business and society that focuses on the sustainable design of information technology. The Institute for Production Management focuses on research in the area of supply-chain management.

The Erasmus+ project “Supporting Educators’ Pedagogical Activities with 360° Video” is a joint collaboration between university partners from the UK (coordinating partner), Belgium, Italy, Greece, and Austria. Its goal is to explore new and innovative learning opportunities introduced by 360°-video technology, by developing scenarios together with lecturers and researchers and designing an online platform and tool to create interactive 360°-video scenarios. The project initiated in October 2019 and has a duration of 3 years.

Project on Policy Enabled Next Generation Internet (PENNI) from 2020 to 2022. The PENNI project will lay the foundations for policy, trust, and transparency enabled decentralized Next Generation Internet (NGI), that can support intelligent agents that act on behalf of humans.

Project on Consent Request RamWork (CURE) from 2019-2020. In the project, we aim to develop a GDPR compliant Consent Request RamWork (CURE) that elicits greater involvement of data subjects when it comes to granting consent; improves consent request understandability; affords them more control via usage-based generated consent; templates and/or customization features; and provides high transparency with respect to personal data processing.

EVENTS
DecentWeb 1st Decentralised Web Symposium (January 27, 2020) https://decentweb.org/events/decentralised-web-symposium/

SELECTED PUBLICATIONS


CONTACT DETAILS
STEVEN GROSS, MSC.
Institute for Information Business Vienna University of Economics and Business
Wihandelplatz 1
1020 Vienna, Austria
+43 1 33336 5215
steven.gross@wu.ac.at
http://www.wu.ac.at/infobiz/
The Leuven Institute for Research in Information Systems (LIRIS), founded in 1987, coordinates research in the area of information technology and management in organisations. This research embodies: fundamental issues of information systems in organisations, applied research, and research on the use and implications of information systems throughout society. The LIRIS Faculty currently counts 8 professors, 2 postdocs and around 15 PhD researchers.

**Development of knowledge**
- **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 organisation and HRM: This cluster focuses on the changes in the governmental landscape and the way in which the government handles its human capital.
  - 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 organisations, but also across and between governments.

**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.
- **AM3BIT: A multi-stakeholder, multi-modelling, multi-representation based approach to developing information systems, 2020–2024.**
- **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.
  - Improving the Interpretability, Bias, and Fairness of Process-Driven Decision Models, 2020–2024.
- **Business decision management**
  - Business decision management (modeling, mining and implementing decision representations and business rules) is an area with a long tradition in LIRIS. The research recently led to an industry standard, DMN (Decision Model & Notation), adopted by the OMG.
- **Business Analytics & Data Science**
  - In close collaboration with a worldwide 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).

**Research topics**
- **Public Governance Institute focuses on**
  - 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.

**Research topics**
- **Public Governance Institute focuses on**
  - 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.

**Research topics**
- **Public Governance Institute focuses on**
  - 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.

**Research topics**
- **Public Governance Institute focuses on**
  - 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.

**Research topics**
- **Public Governance Institute focuses on**
  - 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.

**Research topics**
- **Public Governance Institute focuses on**
  - 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.
Recent research projects of Public Governance Institute are:


Linis 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:

ING Research Chair: Applying deep learning on metadata as a competitive accelerator.

Brussels Airport Chair: Smart airport operational analytics.

EDUCATION

Erasmus+ – Higher Education Joint Master Degrees – Master of Science in Public Sector Innovation and eGovernment together with Westfälische Wilhelms-Universität Münster – University of Münster and T niln University of Technology.


JOURNAL PUBLICATIONS


...
University of São Paulo – School of Arts, Sciences and Humanities (copyright – Natalia Dourado)

About the Institution

The University of São Paulo (USP), founded in 1934, is the leading institution of higher education and research in Brazil. USP is a free public university with open access to students selected for an entrance exam. USP forms a large part of Brazilian masters and PhDs and alone accounts for over 20% of all national research production, delivering on average almost 50 research papers per day. There are seven university campi in the state of São Paulo; the main campus is in the city of São Paulo, the state capital. The university has nearly 50 schools and institutes covering all areas of knowledge. There are about 250 undergraduate programs and 250 graduate programs serving almost 100,000 students.

The School of Arts, Sciences and Humanities (EACH) created in 2005, is an interdisciplinary unit of USP that brings together 11 undergraduate and 11 graduate programs in different areas of knowledge. Of these, we act in the Bachelor’s Information Systems undergraduate program, with nearly 40 faculty members, and in the Master of Science and PhD in Information Systems graduate program, with nearly 20 faculty members. Our graduate program in Information Systems has two broad research lines – “systems management and development” and “systems intelligence” – both with strong appeal in applied computing.

Two other USP units with a strong presence in the information systems and applied computing area are: the Institute of Mathematical and Computer Sciences (ICMC), in the campus of São Carlos, with nearly 50 faculty members, and the School of Philosophy, Science and Literature (PPCLP) with the Department of Computing and Mathematics, in the campus of Ribeirão Preto, with nearly 15 faculty members.

Research Topics

With a total of over 100 researchers in the computing field, USP contributes research in a variety of areas, including some focused specifically on information systems. Some important research topics are: artificial intelligence; big data; bioinformatics; bio-inspired computing; biometrics; business process management; chemistry; complex networks; computational intelligence; computational neuroscience; concurrent programming; databases; distance learning; distributed systems; economics; education; e-government; embedded systems; enterprise environments; functional genomics; games; graphics processing; health, interface human-computer; internet; internet of things; it management; linguistics; machine learning; medical images; mobile devices; mobile robotics; multimedia interactive systems; natural language; pattern recognition; process mining; robotics; serious games; smart toys; social networks; software engineering; systemic biology; web systems.

Current Research Projects

Process Mining

The quality of business processes running in organisations is of utmost importance in achieving the organisation’s strategic goals. This project aims to explore key machine learning and computational intelligence techniques to discover advanced process knowledge for process and organisational improvement.

Smart Toys and Social Robots

Smart toys are becoming more attractive to children, and their sales may increase considerably soon. This project seeks to propose solutions for both toy makers and privacy regulations to be ready to deal with risks posed to children’s privacy when the time comes. Another possible reality soon, social and companion robots can be used to diagnose depression and anxiety in the elderly in their homes and to propose activities to reduce these states, providing a better quality of life.

Events


Publications


About the Institute

The natural sciences have been a part of the research teaching at Charles University since its founding in 1348.

The Faculty of Mathematics and Physics has been created by separating a part of the Faculty of Natural Sciences on 1 September 1952. Now, it is composed of 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 entrepreneurial experts working as computer program developers and technological innovators. Members of the School of Computer Science achieve outstanding scientific results in discrete mathematics. Predominantly in graph theory and its application in intelligent systems, optimization, programming methods, semantics, 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, Bioinformatics & Cheminformatics, XML technologies, parallel computing, Big Data, and e-Science.

Research Topics

There are three research groups in the department:

1. **Similarity RETrieval Research Group (SiRet)**
   - **http://sireset.ms.mff.cuni.cz/**
   - SIRET was founded in 2006 at the Department of Software Engineering, in the Faculty of Mathematics and Physics, at Charles University in Prague. SRG deals with database methods for efficient and effective similarity search in databases of complex unstructured objects. In particular, SRG is interested in three areas: general methods of indexing similarity (metric and non-metric spaces), biological applications of the similarity search, indexing image databases for content-based retrieval.

2. **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. Recently, the Big data, linked data, and graph databases research is currently at the forefront of the group.

3. **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 GPUs and NUMA servers programming, many-core GPUs and GP/GPU computing, utilization of emerging parallel architectures (Intel MIC, Parallelia/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 Technology Agency of the Czech Republic. In the SiRet group the projects concern three scientific areas: Bioinformatics & Cheminformatics, e.g., rfinderorDB is a predictive database of secondary structures of individual RNAs and their formatted plots. The structures are generated by template-based prediction of RNA secondary structure with experimentally identified structures as templates. Multimedia projects include multimedia exploration framework (Creation of efficient multimedia exploration applications) – an extensible solution for creation of multimedia exploration applications. For example, the Sketch-based Video Browser (or Video Hunter) is an interactive video retrieval tool for known-item search tasks, the project SIR (Smart image retrieval) combines traditional MPEG-7 visual descriptors with feature signatures, leading to improved similarity search in image collections. Finally, PGR Tree allows to apply an R-tree index in a commercial databases platform (PostgreSQL database).

Awards


1st place at the Video Browser Showdown 2020 – The SOMHunter team from the SiRet research group has won the 9th Video Browser Showdown competition organized at the 26th International Conference on Multimedia Modeling in Daejeon.

Publications


The Department of Digitalization (DIGI) is the core community of the department that embraces theories and methods from the fields of information systems, management, computer science, organisation studies, economics, sociology, psychology, and the humanities. The mission statement of the department is: Co-creating knowledge with sustainable impact through the study of relationships and processes connecting people, data, and information technology.

The association of Information Systems (AIS) is the core community of the department. DIGI has achieved a prominent international position in the AIS Senior Scholars' Basket of 8 rankings. DIGI researchers have a strong presence in adjacent research communities such as human-computer interaction, e-government, organisation studies, the learning sciences, and computational social science. DIGI also drives several competence building initiatives. The project at for Business Teachers aims to equip faculty at CBS and the Danish business academies with fundamental skills in artificial intelligence. DIGI collaborates with Microsoft to develop student competencies for leveraging data as a force for dialogue. The project Smart Greater Copenhagen develops a training concept to improve innovation competencies amongst employees within smart technology and digitalisation.

RESEARCH TOPICS
At present, the Department of Digitalization conducts research within the following research themes: Digital Health, Digital Sustainability, Digital Anthromorphism, Sports Digitalization, Blockchain, Digital Transformation of Work, Big Social Data Analysis, and FinTech. At least three of these themes have a close affiliation with the new ERCIS clusters:

1. The Big Social Data Analysis theme links to the data science ERCIS cluster. Research in this theme seeks to design, develop and evaluate big data analytics applications for managers (e.g., analytics), teachers (e.g., learning analytics), and citizens (e.g., public health analytics).

2. The Digital Transformation of Work theme contributes to the knowledge and learning ERCIS cluster by providing insights on new practices, in which services and products are produced differently by use of crowds, machines, artificial intelligence, and algorithms.

3. The Digital Health theme fits into the Digital Public Services ERCIS cluster. Digital health researchers at DIGI examine how digitalisation changes the practices and processes in healthcare organisations, and the behavior of individuals under the overall aim to enhance the quality and safety of healthcare.

RECENT PROJECTS
DIGI has launched several new research projects. The Virtual Stage project demonstrates how virtual reality and augmented reality technology can strengthen the digital skills of companies and help export Danish design companies in bringing new products to the international market. Virtual Stage was launched in collaboration with the Lifestyle & Design Cluster and is supported by the Danish Industry Foundation.

The Advancing Blockchain Commerce for Danish Design (ABCD) project aims to equip Danish companies with the competencies to make strategic decisions. Regarding choosing, implementing, and embedding blockchain technology in core activities, with the goal to improve the transparency, traceability, and authentication in their supply chains. The project supports effective distribution and trade consistent with multiple UN Sustainable Development Goals.

The project E-export via Online Markets (E-eksport) aims to improve Danish B2B firm’s ability to export via online marketplaces, such as Amazon and Alibaba. This generates knowledge on how to adapt business models when entering global markets. The project designs and develops a platform that enables easy integration to online market places. It is funded by the Danish Industry Foundation and involves several industry partners.

DIGI also drives several competence building initiatives. The project AI for Business Teachers aims to equip faculty at CBS and the Danish business academies with fundamental skills in artificial intelligence. DIGI collaborates with Microsoft to develop student competencies for leveraging data as a force for dialogue. The project Smart Greater Copenhagen develops a training concept to improve innovation competencies amongst employees within smart technology and digitalisation.

AWARDS
DIGI researchers received several awards in 2019/20. Associate Professors Xiao Xiao and Till Winkler were awarded with the AIS Early Career Award and PhD fellow Albert Fei Liu received the AIS Doctoral Student Service Award at the International Conference on Information Systems 2019. Professor Rony Medaglia won the Danish Society for Education and Business (DSEB) Education Award 2019. Post-doctoral researcher Rajani Singh received the 2020 Malawski Young Scientist Award for outstanding contributions to the development of mathematical economics.
Tallinn University of Technology – School of Business and Governance

**About the Institution**

Ragnar Nurkse Department of Innovation and Governance (RND) was established in 1992 as the Department of Public Administration. Since 2013 it carries the name Ragnar Nurkse Department of Innovation and Governance. RND is the largest and most international Public Administration teaching and research centre in Estonia, having approximately 30 staff members. It is the only research centre in Estonia offering governance and public administration teaching on BA, MA and PhD level.

RND is part of Tallinn University of Technology (TalTech), the only technological university in Estonia, and the flagship of Estonian engineering and technology education. TalTech is a university, which responds actively to the needs of the rapidly developing society and is involved in tackling the challenges of the digital era, by relying on academic competencies and professional management.

**Research Topics**

RND is an interdisciplinary research centre that focuses on socially relevant and future-oriented research issues, such as (i) models and practices of governance and public administration, (ii) e-governance and digital transformation of societies: datafication, public services and state-citizen relations in the digital era, smart cities and digital public services and cross-border collaboration, (iii) P2P technologies, its governance and potential new production models, (iv) fiscal governance and fiscal bureaucracies, (v) science and innovation policies and their management and (vi) philosphy and ethics of science and technology.

Our research contributes to solving the most pressing long-term challenges of Estonia and the European Union and we also contribute to achieving the UN’s Sustainable Development Goals.

**Current Research Projects**

CAP4CITY (Strengthening Governance Capacity For Smart Sustainable Cities) is an Erasmus+ Capacity Building Project with partners from 12 Universities in Latin America and 8 in Europe. The specific aims of the project are to (i) improve the quality in the higher education about Smart Sustainable Cities (SSC), (ii) increase the competences in developing countries in Latin America, (iii) develop a network for cooperation among the partners from different regions in the world, and (iv) share knowledge, experience and good practices to achieves SSC and in general smart ecosystems. The project officially started in 2019 and lasts until 2022. During the last year we have been working on the development of content (creation of Smart Sustainable Cities related courses). Last month we recorded three lectures that will be included in a MOOC that will be launched by the end of 2020.

RND is also part of the Erasmus Mundus PIONEER Masters’ programme, which is an interdisciplinary programme combining the expertise of the fields of Public Administration, Public Management, Information Systems and eGovernment. This programme is run in cooperation with KU Leuven and University of Münster. This year the 2nd cohort of PIONEER students successfully defended their masters’ theses.

**Publications**


**Dissertations**

1. Morten Meyerhoff Nielsen, Doctor’s Degree, 2020, Morten Meyerhoff Nielsen, Doctor’s Degree, 2020, University of Tartu

2. Maarja Olesk, Doctor’s Degree, 2020, Maarja Olesk, Doctor’s Degree, 2020, University of Tartu


**Events**

RND was involved in co-organising the fifth edition of the E-Vote-ID conference – one of the leading international events for e-voting experts from all over the world. This year the conference took place in a digital format. One of the main objectives of the conference is to provide a forum for open interdisciplinary discussion on all matters related to electronic voting.

**Research and Development**

RND has been coordinating The Once-Only Principle project (TOOP) under the Horizon2020 program since 2017. TOOP is looking to contribute to the EU digital single market by developing a technical architecture that is able to connect public administrations and registries across Europe. Over the years TOOP has involved 62 partners from 23 countries. In January 2021 the project will officially come to an end after successfully piloting in three domains: (i) general business mobility, (ii) e-procurement, and (iii) online ship and crew certificates.

**Contact Details**

© shutterstock.com

**Tallinn University of Technology School of Business and Governance**

print@taltech.ee

robert.krimmer@taltech.ee

www.taltech.ee/nurkse

© shutterstock.com

On 28 August, Prof. Krimmer was elected by the Senate of the University of Tartu for the ERA-Chair in e-Governance. Robert Krimmer started his new position on 1 October 2020, as will remain adjunct professor at TalTech until March 2021.
ABOUT THE INSTITUTION

The roots of the Institute for Information Systems Science were established in the 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 Systems Science completes the sphere of Information Sciences at the University of Turku adding to the more technically and natural science-oriented work at the Department of Future Technologies. Research widely covers the topic spectrum of Information Systems Science, with a gravity point in Information and Network Management in the 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 examples contain issues such as Business Strategy, digital strategy, governance and management of IT, governance of data, data integration and federation, blockchain and distributed ledger technologies, IT management best practices, CIO/CEO work, ICT in small and medium-sized enterprises, process modelling, master and reference data management, preparing for the distributed ledger technologies, IT management best practices, CIO/CEO work, ICT in small and medium-sized enterprises, process modelling, master and reference data management, preparing for the introduction of blockchain and distributed ledger technologies, IT management best practices, CIO/CEO work, ICT in small and medium-sized enterprises, process modelling, master and reference data management, preparing for the introduction of IT governance issues.

PUBLICATIONS


University of Turku Information Systems Science Doctoral Theses 2020: Governance of Platform Data: From Canonical Data Models to Federative Interoperability. Nokkala Tiina

Inter-Organisational IT Governance: A Case Study of Municipal ICT Cooperation. Helin Ari

INSTITUTION AT A GLANCE

The University of Turku is a multidisciplinary scientific university located at the Southwest coast of Finland, in the vibrant student city of Turku. With over 25,000 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 employees with approximately 20 active doctoral level students. The yearly admission for students to the bachelor level, having Information Systems science as their major subject, is around 15 of the annual admission of 250 of the whole Business School. Yearly, in addition, 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 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

CONTACT DETAILS

PROF. REIMA SUOMI
Department of Management and Entrepreneurship
University of Turku
Rehtorinpellonkatu 3
20500 Turku
Finland
p + 358 2 333 51
reima.suomi@utu.fi
www.utu.fi

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 school also has a rich tradition in the public sector and third sector organisations. E-health is a good example of this, where the role of public service is essential. 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 emphasize the management and organisational aspects of data security and privacy, as well as IT governance issues.
KEDGE BUSINESS SCHOOL – DEPARTMENT OF OPERATIONS MANAGEMENT AND INFORMATION SYSTEMS (MOSI)

ABOUT THE INSTITUTION

Founded in 1874, KEDGE is a leading French business school with four campuses in France (Paris, Bordeaux, Marseille and Toulon), three abroad (Shanghai, Suzhou and Dakar) and three partner campuses (Avignon, Bastia and Bayonne). The KEDGE community is made up of 12,500 students (including 51% coming from abroad), 275 international faculty of five departments: Management and Information Systems, Marketing, Strategy, and Accounting, Finance, Economics. Kedge also covers areas such as global responsibility, supply chain management, wine and spirits management, arts & culture management, and innovation in SME. Its faculty also supports students participating in Thesis Lab, Game lab, and Case Lab.

The "Operations Management and Information Systems" (MOSI) department is valued for its competency in the area of Information and Decision Science, Supply Chain Management, Knowledge Management, Serious games, e-business, and Organizational Learning. The main objective of the department of MOSI at Kedge Business School is to develop applied research within the following fields: information systems management, procurement and supply chain management, and quality management.

RESEARCH TOPICS

Majority of research topics currently conducted by the faculty of MOSI department include multiple disciplines, given in the following: IS in operations management, purchasing and IS, e-distribution, e-commerce, e-business, supply chain and operations management, decision-making & decision analysis, digital transformation in supply chain, organizational learning/knowledge management/competences - communities of practices, gamification in supply chain, supply chain network design, sustainable supply chain and manufacturing, humanitarian logistics, simulation and optimization in supply chain management, maritime transportation, and port management. Our department has a close collaboration with three Centres of Excellence of Kedge Business School: Marketing, Supply Chain and CSR, and five Centres of Expertise: Wine & Spirits, Innovation & Entrepreneurship, Health Management, Finance Recomposited, and Creative Industries & Culture.

CURRENT RESEARCH PROJECTS

1) MAIA – Models and Methods for an Active Ageing workforce: An International Academy

- Funded by the Horizon 2020 research and innovation program, MAIA is aimed at strengthening research collaboration through a multidisciplinary network with leading expertise on ageing and psycho-social aspects, ergonomics, manufacturing system design, robotics/assistance technologies, and economics, between 7 European universities from Italy, Germany, France, and Slovenia as well as 6 non-European universities from USA, Japan, New Zealand, Hong Kong, and Canada. The project will focus on a timely and strategic international challenge: the efficient involvement of active ageing industrial workforce in the manufacturing systems of the future.

- Contact: Olga Battaia
  olga.battaia@kedgebs.com

2) VitiREV – Innovons pour des territoires VITICOLEs Respectueux de l’Environnement

- The project VitiREV (2019–2024) focuses on the sustainability in wine sector (logistics and wine tourism), tourism, on implementing innovative wine tourism strategies from a sustainable development point of view. The project aims to examine the "service provider – customer" relationships via quantitative studies (surveys, modeling and experiments) in order to provide a plural, integrated and exhaustive vision of innovative wine tourism practices and experiences. The objective of this track would be to develop theoretical knowledge and to provide assessments and recommendations specific to the areas. This project involves 159 partners, and the total budget is 14 M€. Among the academic project partners are ISV, University of Bordeaux, Bordeaux Sciences Agro, Bordeaux Wine Campus, and University of British Columbia (Canada), Oenoviti Network, Hong Kong Polytechnic University School of Hotel & Tourism Management (HK), Sano State University (USA), UniSA (Australia).

- Contact: Tatiana Bouzdine-Chameeva
  tatiana.chameeva@kedgebs.com

3) Analysis of quantum computing development using dynamic communities’ detection and topic modelling

- We seek to better understand the dynamics of the quantum computing field. We take the view that meso-level structures play a key role in the development of scientific knowledge. To that end, we built networks of co-authorships for successive time windows between 1976 and 2015. For each of these networks, we identified the communities. We then identified the different events that communities undergo from one time step to the next (i.e. formation, growing, shrinking, continuing, merge, split, dissolution). In parallel, we identified the topics dealt with by the communities. We then investigated the co-evolution of knowledge and communities. Preliminary results show that growing and merge are the key events leading to new knowledge production (formation of communities doesn’t produce much knowledge). Plotting the frequency of occurrence of events over time shows that growing and merging mostly occur when the field really “takes off”. The last periods are characterised by a high number of community disolutions suggesting that the field has reached some form of maturity where communities are sustainable only if they really contribute to a now structured field.

- Contact: Olivier Dupouet
  olivier.dupouet@kedgebs.com

PUBLICATIONS


MESCHEL, P.-X., A. RICARD, E. TAPIA-MOORE, “Pre-Internationalization Conditions and Performance of First-Exporting SMEs” Forthcoming M@n@gement.


The problem

The current research projects

About the institution

NUI Galway was founded in 1845 and has grown massively in size and reputation over the past 170 years. According to QS World University Rankings, the University is now among the top 1% in the world. NUI Galway offers a wide range of undergraduate and postgraduate courses, as well as flexible learning, professional qualifications and online learning options. NUI Galway has five Colleges, 16 Schools, and over 50 academic disciplines.

Lero NUI Galway resides within the J.E. Cairnes School of Business & Economics. Lero is the Irish software research centre. It brings together leading software research teams from universities and institutes of technology, in a coordinated centre of research excellence with a strong industry focus.

Lero NUI Galway aims to deliver world-class, high impact research through industry collaboration. We work at the cutting edge of software development and management, providing unique insights that impact the performance of organisations, while also setting the academic research agenda in the area.

The group has received over €4m in research funding and secured another €3.5m over the next 4 years. The research is funded by Enterprise Ireland, Science Foundation Ireland, the Irish Research Council, the European Commission, and by multinational industry partners.

Research topics

Our research concentrates on the following key areas: agility, temporality, open innovation, and project portfolio management.

Agility: The growing popularity of agile/lean methods such as Scrum and Kanban indicate a strong desire to improve how we work and create value for customers. Despite many potential benefits of agile/lean adoption, there is no recipe to follow that will guarantee success. We examine agile methods within industry settings and further contribute to the concept and customisation of agile methods.

Temporality: Researchers are quick to refer to time in simple terms such as speed of organisational and social life. Our research explores time as an inherently complex, multi-faceted, and subtle phenomenon. This includes the evaluation of the true ‘velocity’, speed, and value afforded by analytics and methods such as agile and flow.

Open Innovation: Open Innovation and the associated domains of crowdsourcing, crowdfunding and inner source software are changing the way organisations run projects. While there has been much focus in practice about the use of these methods, little reflection exists upon the theory and processes that underpin the concept. As organisations are faced with increased competition in the innovation space, new methods are needed to form the next generation of innovative products.

Project Portfolio Management: This gap in the literature becomes even more pertinent when we consider that contemporary implementations of agile go beyond small co-located teams with non-standard implementations now widespread – i.e., large and distributed teams or start-ups. This presents new challenges for the scaling of agile/lean and requires a rethink of project portfolio management.

Current research projects

A core activity is the researcher-industry knowledge exchange. These exchanges take place every three months and provide evidence-based insights on software implementation and management issues. This enables Lero NUI Galway to create tangible research outcomes that are immediately applicable to organisation settings. The team works with multinationals such as Dell, AIB, Accenture, and MarketMics to deliver solutions to software agility issues.

Currently, the team looks at areas such as:

1. Social network analysis of multiplex information flow, with a particular emphasis on open and networked innovation and the role of information and communication technologies within these paradigms.
2. The use of open innovation strategies and practices across, public, private, and philanthropic organisations.
3. The socio-technical aspects of information systems development (ISD) (Lean, Flow, Scrum) and the emphasis on viewing ISD as evolving activity systems (teams, organisations) beyond a single user.
4. Software engineering practices in software development management and established organisations.
5. Research on agility through the lens of complex adaptive systems theory.
6. Information technologies within these paradigms.
7. The role of information and communication technologies within agile/lean and requires a rethink of project portfolio management.
8. Information Mosaic to deliver solutions to software agility issues.

-temporal complexity and business value in an agile/lean context.

The Lero team at NUI Galway has now established a “time and technology” group. This group will examine how technology is radically shaping not only the pace and rhythms of work, performance, and life more generally, but also the overall human experience of time. An emerging and interdisciplinary research programme examines these complex phenomena from the perspectives of business analytics, psychology, sociology and computer science, exploring a diverse range of topics including the velocity afforded by analytics and methods such as agile and flow, the role of technology in societal pace and rhythms of life, temporality and ethical decision-making in artificial intelligence, and the dialectical relationships between time and technology in a liquid modern era. Members of the group have recently published research, blogs and articles (see below) on the complexity of time and the interplay between time and technology in organisational and societal contexts.

Publications


Brett, O’Reilly’s 1984 and living in liquid modernity. RTÉ Brainstorm article written by Ronan Doyle

Teaching and research activities in the IS field at Luiss are conducted at the intersection of Technology, Innovation, and Organizing, supported by CLIO members who have published in top international journals including IJIS, IS, I&M, ICM, RP, AM and Management Decision.

Research Topics
Research on IS at Luiss is done in conjunction with project activities in which members of the IS group participate in the iterative phases of designing and evaluating sociotechnical interventions. A multidisciplinary team of IS and organisation scholars with backgrounds in computer science, engineering, economics, law, management and political sciences collaborate in both project and research activities by bringing together a multiplicity of methods for analysing organisational problems and planning interventions. This design-oriented approach allows to engage in national and international cooperation with other universities and research institutions.

IS research at Luiss focuses on four main streams. The first is related to the Dark Net and the Risk Society. The second is related to Digital Innovation. The third is related to Digital Workplace Transformation. The fourth relates to crowd-based phenomena and the Risk Society. The second relates to crowd-based phenomena that can be utilised by public and private organisations like crowdsourcing, crowd-funding, and citizen science.

Current Research Projects
The national competence center in cybersecurity Cyber 4.0 launched in 2015, is a three-year project funded by the Italian Ministry for Economic Development. The project is aimed at increasing cybersecurity awareness and capabilities in the industrial sector with a special focus on SMEs. The Cyber 4.0 is a public-private partnership involving about 40 partners, including universities, manufacturers, service providers, and companies operating in the defense sector. CLIO contributes to the governance of the competence center by structuring training, research, and dissemination activities jointly with the faculty of the Master in Cybersecurity Governance.

Four additional project proposals in the area of cybersecurity have been submitted to H2020 and Italian institutions. The four projects are now under evaluation and will strengthen the links with industrial partners in the cyber defense sector. In these initiatives, the CLIO’s team complements the contribution of technical partners by addressing the regulatory and organisational aspects of cybersecurity governance.

Additional IS projects led by CLIO members are related to cyber intelligence, digital workplace transformation and business resilience. The research on Dark Nets and Online Blackmarkets has been advanced towards theoretical developments on the generative mechanisms of digital infrastructures and platform control in digital ecosystems. An action research project on agile transformation has been started in a pharma company where the CLIO team is developing and validating a framework to manage innovation. An action research project has been started in a car rental company to assess the status of smart-working practices and issue internal policy recommendations. A study on Business Resilience and Digital Transformation has been started to investigate the impact of the business environment on the digital business. CLIO impacts are further involved in a project regarding the impact of 3D printing and other digital technologies on the organisation of firms and industries. Such project has been developed in collaboration with the Chair of Technology and Innovation Management at ETH Zurich. Finally, a research project founded by the Italian Ministry of Research on efficient Algorithms for harnessing networked data.

Publications


The Institute of Information Systems at the University of Liechtenstein represents the Association for Information Systems (AIS) in Liechtenstein through the Liechtenstein Chapter of the AIS (LCAINS), which was recognised as Outstanding Chapter of the AIS for the sixth consecutive year in 2019.

**RESEARCH TOPICS**

- Data – Data science focuses on capabilities to harvest and analyse data as a key enabler for improving and innovating processes as well as services, products, and business models.
- Innovation – Digital Innovation focuses on the transformative power of digital technologies to create new IT-enabled products, processes, and business models.
- Processes – Business process management takes an innovation-driven and value-oriented perspective on business processes to identify and evaluate the business potential of information and communication technologies in contemporary organisations. Recently, a collaborative effort has been initiated, involving many ERCIS partners, to constitute Proxess Science as the interdisciplinary study of processes.
- Security – Data and Application Security focuses on the development of reactive and proactive security mechanisms.

**CURRENT RESEARCH PROJECTS**

- Digital capital creation
- Digital capital describes infrastructure (networks etc.) and institutional (regulations etc.) factors that enable digitalisation on an individual, organisational, political and societal level. It forms the basis for the generation of other forms of capital, such as economic capital or human capital, which is the primary goal of all organisations. Well-known forms of digital capital range from digital procurement processes to the Sharing Economy. As part of a research project, the Institute of Information Systems examines the role of digital technologies in the generation of various forms of capital. The aim of the project is to develop a Liechtenstein model for the generation and use of digital capital.
- Digitally Multisensory: From Human-Like to Human-Centered Principles
- Digital technologies are already ubiquitous in our daily lives, but they can do even more when they are able to communicate with us through various sensory modalities. Even though most interfaces rely on vision and hearing, some digital technologies also take the potentials of other sensory perceptions into account.

**AWARDS**

- AIS Fellow Award
- Prof. Dr. Jan vom Brocke received the AIS Fellow Award for outstanding contributions to the information systems discipline in terms of research, teaching and service.
- Honorary Professor at the National University of Ireland, Galway
- Prof. Dr. Stefan Seidel has been appointed Honorary Professor of the National University of Ireland, Galway (NUIG).
- AIS Best Information Systems Publications Award
- Prof. Dr. Stefan Seidel, Dr. Leona Chandra Kruse, Dr. Nadine Szekeley, Michael Gau, and Daniel Stieger received the “AIS Best Information Systems Publications Award” for their publication “Design Principles for Sensemaking Support Systems in Environmental Sustainability Transformations” in the European Journal of Information Systems.

**PUBLICATIONS**


**DISSEMINATIONS**

- Charlotte Wehking: “On the Role of Socio-Technical Inertia in Organizational Transformations”
- Ana Procopio Schan: “The missing piece of the puzzle: An exploration of the human aspect in open forms of innovation”
- Miriam Schüller: “Unveiling Business Model Innovation: Capabilities and Interdependencies within the Ecosystem”
- Isabelle Wohlgemuth: “On the Potential of Gamification to Increase Knowledge Sharing in Value Networks”
ABOUT THE INSTITUTION

The Department of Information Systems of 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 since by prof. R. Butleris). In 2014, the Center has been expanded as part of the move to the newly established Integrated Science, Studies and Business Centre “Santaka”. As of autumn 2020, the Department and Centre combined employ 30 researchers and teachers. Over the years, we have established strong relationships with the local IT companies and accumulated valuable research experience with Lithuanian and international partners.

Our academic work is about providing quality education on fundamental and advanced subjects in the field of information systems. The Department has developed and changed the second cycle study programmes titled “Information Systems” and “Information Systems Engineering” respectively. For the 2020–2023 study year, 86 new students were admitted to the Bachelor study programme, and 10 to the Master’s. There were also 7 PhD students at the Department.

RESEARCH TOPICS

The KTU Department of Information Systems / Centre of Information Systems Design Technologies specializes in various areas related to Information Systems and Software Engineering, namely:

- Model-driven development, model-to-model transformations
- Computer-aided software engineering (CASE) technologies
- Conceptual modeling and databases
- Modeling of business processes, business vocabularies, and business rules
- User needs analysis and requirements modeling
- Ontologies and solutions for the Semantic Web
- Big data and business intelligence
- Knowledge based systems
- Model-driven testing of information systems
- Project management
- Information systems user interface and usability
- Machine learning
- Blockchain

CURRENT RESEARCH AND DEVELOPMENT PROJECTS

- Development of Measures to Improve Efficiency of the Public Sector Buildings Life-Cycle by Applying Building Information Modeling – BIM-LT (2019–2022). Financed by the EU structural funds. The project is carried out in cooperation with the Vilnius Gediminas Technical University as well as several Lithuanian public institutions and coordinated by the Ministry of Environment of Lithuania.
- Development of Public Services of the Syntactic Semantic Information System of the Lithuanian Language (2017–2020). The project is carried out along with the Vytautas Magnus University (Lithuania) and financed by the Ministry of Transport and Communications of Lithuania.
- Integrating Virtual and Augmented Reality With Wearable Technology Into Engineer Education. ERASMUS+ KA203 project coordinated by the University of Agder and involving another ERCIS member – University of Southern Denmark.
- Integrating Virtual and Augmented Reality With Wearable Technology Into Engineer Education. ERASMUS+ KA203 project coordinated by the University of Agder and involving another ERCIS member – University of Minho.

EVENTS

The 26th International Conference on Information and Software Technologies took place on October 14–16, 2020, in Kaunas, Lithuania. ICIST is organized annually by the Faculty of Informatics of Kaunas University of Technology and is chaired by the professor Audrius Lopata of the Department of Information Systems.

PUBLICATIONS

Drungilas V., Čeponienė L. (2019). Integrating Virtual and Augmented Reality With Wearable Technology Into Engineer Education. ERASMUS+ KA203 project coordinated by the University of Agder and involving another ERCIS member – University of Minho.


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 26 permanent positions and three adjunct professors, this is one of the largest IS departments in Norway.

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 26 permanent positions and three adjunct professors, this is one of the largest IS departments in Norway.

The research in the Department of IS is mainly organized in three interdisciplinary centres:

### Centre for Digital Transformation (CeDI)
CeDI conducts advanced social science research on how digitalization transforms societies and institutions. CeDI applies an institutional approach to address transformation processes following digital innovation and change, based on a multidisciplinary approach with an active engagement of multiple stakeholders. The centre includes researchers from the Faculty of Social Sciences, including academics within areas such as organizational studies, political science, sociology, developmental studies, and information systems.

### Centre for eHealth
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.

### Centre for Integrated Emergency Management (CIEM)
Focuses on how the potential for persons with disabilities in working life through the use of technology (2017–2020). Project funded by the Research Council of Norway. The project consortium consists of the University of Agder, The Oslo School of Architecture and Design, two municipalities, two IT consulting companies, the Confederation of Norwegian Enterprises, and The Norwegian Association for Persons with Intellectual Disabilities. The project aims at developing innovative applications that can ease the transition from school to working life for persons with intellectual disabilities.

Sharing incident and threat information for common situational understanding (IN-SITU) (2019–2022). Project funded by the Research Council of Norway. The project is led by the Centre for Integrated Emergency Management at UiA, with the Norwegian University of Science and Technology, Linköping University, and the University of Sydney as academic partners. The consortium also includes two IT companies and the County Governor of Agder. INSIIT will develop knowledge and solutions for effective information sharing among emergency responders in complex operations requiring collaboration between several agencies.

### Publications


The Department of Business Informatics (BI) at the University of Gdansk has been running the Pomeranian Regional Academy Cisco, educating hundreds of students for their projects and works in 2018, 2019, 2020, and 2021. The University of Gdansk participated in the World IT Project since 2004.

In the years 2013–2017, the Department of Business Informatics at the University of Gdansk participated in the World IT Project (S. Wrycza and D. Gajda), regarding ITOC – Occupational Culture of IT in various civilization areas, coordinated by University of North Carolina, USA. In 2019 the summarising publication book entitled “The World IT Project. Global Issues in Information Technology”, World Scientific-Now Publishers, 2020. In the succeeding chapters, the outcomes of research from 37 countries are presented.

The Department is involved in the following international research initiatives:

• Agility
• Big Data
• Business Informatics
• Business Processes Modelling
• Digital Transformation
• ERP, CRM, SCM, WFM, BI Systems
• Information Systems Development
• ICT Global Development
• IT Acceptance Research
• SCRUM
• Social Media Analytics
• UML and SysML

The Department has been an associate partner of the European Research Center for Information Systems – Poland (ERCIS) consor- tum since 2006. The Polish Chapter of Association for Information Systems – PLIAS was awarded five times by AIS as an outstanding chapter – in 2014, 2016, 2017, 2018 and 2019. The Polish Chapter of AIS – PLIAS was established in 2006 as the joint initiative of Prof. Claudia Loebbecke, University of Cologne, Germany, former President of AIS and Prof. Stanislaw Wrycza, University of Gdansk, Poland. PLIAS co-organises international and domestic conferences on Business Informatics and now on Digital Transformation. There is a very dynamic and creative Gdansk AIS Student Chapter at the Department of Business Informatics, one of only few European AIS Student Chapters. Student teams of this branch are awarded annually in the global AIS Competition for students for their projects and works in 2015–2020, successively at: University of Alabama (2015), Indiana University (2016), Birmingham Young University (2017), University of Texas in Dallas (2018), Illinois State University (2019 – 1st place). Gdansk AIS Student Chapter gained the title of Best New Chapter Award for the years 2015–2016 and in 2017 the title of Outstanding Fundraising Award for AIS Student Chapter. Each yearly Student Competition is connected with the advanced Annual AIS Student Chapter Leadership Conference.

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

The Annual International Conference on Information Systems – BIR.

The Final International Conference on European Distance and E-Learning Network (EDEN 2009) and the series of events rebranded now as EuroSymposium on Digital Transformation. The Department has been an associate partner of the European Research Center for Information Systems (ERCIS) consortium since 2004.

ABOUT THE INSTITUTION

With 21,958 students, 11 faculties and 1,767 academic staff members, the University of Gdansk is the largest institution of higher education in the Pomeranian, Poland. It offers the opportunity to study in 89 different fields of studies with more than 270 specialisations.

The Department of Business Informatics (BI) of University of Gdansk is involved in research and teaching in the field of Business Informatics on Bachelor, Master, Post-Diploma and Doctoral levels. For 20 years, the Department of Business Informatics has been running the Pomeranian Regional Academy Cisco, educating hundreds of computer network administrators with professional skills confirmed by international Cisco certificates. As regard to teaching, some of Department’s academic publications are bestsellers in Poland, like the book “Business Informatics. Theory and Applications,”, PWN, 2019 (in Polish). This book was awarded in the Competition of Polish Society for Informatics, for the best informative book of 2019. The Department is also active internationally, organising conferences including the 10th European Conference on Information Systems (ECIS 2002) entitled “Information Systems and the Future of the Digital Economy”, The 7th International Conference on Perspectives in Business Informatics Research (BIR 2008), The 8th International Conference on European Distance and E-Learning Network (EDEN 2009) and the series of events rebranded now as EuroSymposium on Digital Transformation. The Department has been an associate partner of the European Research Center for Information Systems (ERCIS) consortium since 2004.

In the years 2013–2017, the Department of Business Informatics at the University of Gdansk participated in the World IT Project (S. Wrycza and D. Gajda), regarding ITOC – Occupational Culture of IT in various civilization areas, coordinated by University of North Carolina, USA. In 2019 the summarising publication book entitled “The World IT Project. Global Issues in Information Technology”, World Scientific-Now Publishers, 2020. In the succeeding chapters, the outcomes of research from 37 countries are presented.

The Department is involved in the following international research initiatives:

• Agility
• Big Data
• Business Informatics
• Business Processes Modelling
• Digital Transformation
• ERP, CRM, SCM, WFM, BI Systems
• Information Systems Development
• ICT Global Development
• IT Acceptance Research
• SCRUM
• Social Media Analytics
• UML and SysML

RESEARCH TOPICS

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

- Prof. dr. hab. Stanisław Wrycza
- Malankowski Jacek

Monograph articles


Conference materials


CURRENT RESEARCH PROJECTS

Currently, the Department is concerned with the development and launch of an English Master’s Degree in Business Informatics at the Faculty of Management of University of Gdansk in the academic year 2021–2022 in intensive cooperation with SUA – SAP University Alliance including its alliances, and its rich educational e-learni- ng resources.

PUBLICATIONS

Journal articles


Monograph articles


Conference materials

The Department of Applied Informatics (DAI), chaired by Professor Ngoc Thanh Nguyen, as part of the Faculty of Computer Science and Management currently consists of 54 computer science scientists and 9 Ph.D. students. We regularly cooperate with three international scientific conferences: Asian Conference on Intelligent Information and Database Systems (ACIDS), International Conference on Computational Collective Intelligence (ICCCI), and International Conference on Multimedia and Network Information Systems (MNSS). We also teach students of the Faculty of Computer Science and Management at two levels of education: three-and-half-year bachelor’s degree and one-and-half-year master’s degree. Our department offers two specializations for full-time study programme in the field of Computer Science. We supervise PhD candidates conducting research in areas linked to our work.

**Research Topics**

Our main objective is to carry out basic and applied research in the field of Applied Informatics (AI). Due to ERCIS classification the following clusters have been identified: (1) Data Science and Artificial Intelligence, (2) Process Science, (3) Knowledge and Learning, (4) Supply Chain Management and finally (5) Digital Public Services. The major issues, perspectives and challenges are as follows:

- Computational Collective Intelligence, mainly established in cluster (1).
- Knowledge Management Systems, referred to any kind of ISs from cluster (3).
- Agents and Multi-Agent Systems related to cluster (3).
- Recommendation and Personalization Methods applied in all ERCIS clusters.
- Ensemble and Hybrid Models resulted in all ERCIS clusters.
- Semantic Information Retrieval comes up in cluster (3).
- Multimedia Information Processing covering clusters (1), (3).
- System Performance Analysis merges clusters (2), (4), and (5).
- E-Learning Methodologies focused on applications from cluster (3) of online collaboration paradigms.

**Current Research Projects**

The Department of Applied Informatics was involved in the year 2020 in two international and two national projects.

1. Joint Polish-Vietnamese research agreement led by the Ho Chi Minh City International University and the Department of Applied Informatics at the Wroclaw University of Science and Technology. Duration: 2020–2022. Contact: Prof. Ngoc Thanh Nguyen
2. Polish-Norwegian research project on “Highly accurate and autonomous programmable platform for providing data services on air pollution to drivers and public entities” (HAPADS) funded by the National Center for Research and Development. Duration: 2020–2022. Contact: Dr. Krystian Wojtkiewicz
3. Mozart project on “Development of an innovative method of matchmaking business and scientific partners based on the deep learning model” funded by the City of Wroclaw. Duration: 2020–2021. Contact: Prof. Dariusz Krol
4. Sonata project on “Methods of managing the evolution of ontologies and their alignments” funded by National Science Centre. Duration: 2018–2021. Contact: Dr. Marius Pietranik

**AWARDS**

- Prof. Lech Madejczyk and Prof. Ngoc Thanh Nguyen were elected to the IT Committee of the Polish Academy of Sciences for the 2020–2023 term.
- Rafał Palak, MSc., and Krystian Wojtkiewicz, PhD faced the problem of measuring centralization in graphs in an unconventional way. For their work, they were awarded at the 33rd International Conference on Industrial Engineering & Other Applications of Applied Intelligent Systems, winning the Best Poster Paper Award.

**Contact Details**

**PROF. NGOC THANH NGUYEN**
Ph.D., D.Sc., ACM Distinguished Scientist, Head of Department of Applied Informatics, Chair of the IEEE SMTC on Computational Collective Intelligence, Editor-in-Chief of Trans. on Computational Collective Intelligence – Springer
Ngoc-Thanh.Nguyen@pwr.edu.pl
http://kis.pwr.edu.pl/staff/nguyen/

**PROF. DARIUSZ KROL**
Ph.D., D.Sc., MCF, SMIEEE, Leader of Knowledge Engineering Group, Chair of the Program Committee for Applied Informatics at the Faculty of Computer Science and Management
Dariusz.Krol@pwr.edu.pl
http://kki.pwr.edu.pl/org/index.html

**Department of Applied Informatics**
Faculty of Computer Science and Management
Wroclaw University of Technology
Wyd. Wyspianskiego 27
50-370 Wroclaw, Poland
ABOUT THE INSTITUTION

The Department of Information Systems is located in the Campus de Azurém of University of Minho, in the city of Guimarães, the cradle city of Portugal. The department was established in the late 1990s, after a graduation program in Information Systems was created. The Department of Information Systems currently offers an integrated master (5 years degree program) in Engineering and Management of Information Systems, a master on Information Systems and a doctoral program on Information Systems and Technologies originated in the Engineering and Management dimensions of the following research topics: (I) analysis and design of information systems; (II) business and location-enhanced database systems; (III) metadata and ontologies for the semantic Web; and (IV) process and project management life-cycles.

CURRENT RESEARCH PROJECTS

In 2020 numbers, the IST research was funded by new projects totaling the amount of €3,262,233, including the projects:

• VoL – Virtual Open Lab (www.voI.eu);
• AugmentedWeardu – Integrating virtual and AUGMENTED reality with WEARable technology into engineering EDUCATION;
• IVISSEM – 6,849,32 Journal Articles Every day: Visualize or Perish! (http://www.ivis-sem.net/);
• IntVIS4Insp – Sistema de Visão por Computador Inteligente e Flexível para Inspecção Automática (http://www.ccg.pt/my-product/intvis4insp/);
• TSIM – Test System Intelligent Machines (http://www.comp.pt/my-product/tsim-test-system-intelligent-machines/).

PUBLICATIONS


DEDICATION/MOTIVATION

Débora Dutra, “Decision-making factors for providing mobile governance solutions”.

Supervisors: Dejina Sá Soares.

Maria Isabel Mendes Pereira, “Adoption of information systems security policies in local public administration in Portugal”.

Supervisor: Filippe de Sá Soares.
The fields of cyber-physical systems and wireless communications. The Telecommunication Systems Laboratory and the Laboratory for the Inter-Net of Things belong to the top priorities of the research agenda of MIEM. Following topics are the particular focus: Wireless telecommunications and communication systems. The Telecommunication Systems Laboratory and the Laboratory for the Internet of Things and Cyber-physical Systems, which have been launched recently, boast world-class competencies in 5G systems and focus their activities on the scientific and technological issues related to the scientific and technological problems related to next-generation, 6G technologies.

Following topics are the particular focus:

1. Quantum hardware components and photonics. The Laboratory for Quantum Technologies has been set up in order to boost research activities in the field of quantum detectors and photonics outlined one of the future priorities. The efforts are focused on the scientific and technological problems related to the creation of quantum hardware components for national manufacturers of electronics.

2. Security of cyber-physical systems. At present, research activities are successfully underway in the traditional field of computer and information security, as well as the field of security of cyber-physical systems, e.g., advanced developments in post-quantum cryptography, special solutions for cloud storage protection, and safe computing.

3. Computer simulation of radio-electronic equipment. This is a well-established area of research at HSE MIEM. Today, several agreements are in place to support its development, in cooperation with such enterprises as Mikron, Milandr, and certain RAS Institutes. At present, the field has broadened, thanks to its merging with digital synthesis, i.e., fabless-design of microelectronics.

In addition to the specified topics, covering comprehensively end-to-end technologies for cyber-physical systems, several niche sub-fields are also developing under the Engineering Sciences. On one hand, they are fairly closely linked with this major field, and, on the other hand, they represent autonomous topics, which feature certain achievements and potential for their further development. These include aerospace technologies, development of technologies for remote Earth sounding and geospatial data processing, as well as supercomputer simulations of physical processes, new materials, and engineering systems.

CURRENT RESEARCH PROJECTS

Projects supported by the Russian Science Foundation:

- Methods for ensuring that heterogeneous traffic service quality requirements are met in fifth- and next-generation wireless networks
- Algebraic and analytical methods of the theory of nonlinear ordinary differential equations and their applications to the study of finite-dimensional dynamical systems
- Development of methods for studying the historical structure of a population from genome-wide sequences using deep machine learning

Projects supported by the Russian Foundation for Basic Research:

- Investigation of the effect of magnetic disorder on the transport and superconducting properties of thin epitaxial transition metal films
- Research of information technology principles and methods of moelung and ensuring the reliability of electronic craft equipment of cyber-physical systems
- Methods for analysing secure data transmission protocols
- Investigation of multi-element single-photon devices with an enlarged input aperture as silicon photoreceivers
- Monte Carlo simulation algorithms and modern problems of statistical mechanical
- Development of algorithms for generating sparse rigid structures
- Modeling of hydrodynamic problems using the lattice Boltzmann equation method
- Hyperchaos and mechanisms of its occurrence, multistability and synchronization in models of interacting neurons
- Quantum tomography of a superconducting single-photon detector
- Experimental study of the band structure of single carbon nanotubes in nonequilibrium systems

EVENTS

In 2020 MIEM hosted and co-organised the following international events:

- Moscow Workshop on Electronic and Networking Technologies, March 11–13, 2020, Moscow
- Engineering Technologies and Computer Science: Innovation & Application, June, 24–27, 2020, Moscow Saint-Petersburg
- Computer Simulations in Physics and beyond, October 12–16, 2020, Moscow
- History of Computing in the Russia, former Soviet Union and Council for Mutual Economic Assistance countries, October 6–8, 2020, Moscow

SELECTED PUBLICATIONS


Dissertations/Habilitation

A. P. Pesinova, Method of synthesis of subatomic controls for uncertain nonlinear dynamic systems.

I. P. Zigaranova, Study of virtual time models in parallel discrete event simulation algorithms.
The Higher School of Economics in Nizhny Novgorod (HSE NN) was founded in 1996. The main educational activities of the Faculty of Informatics, Mathematics and Computer Science (IMCS) of the HSE NN are related to modern enterprise organisation, enterprise architecture, business mathematical and computer modeling. Three laboratories TAPRADESS (Theory and Practice of Decision Support Systems), LATNA (Laboratory of Algorithms and Technologies for Networks Analysis) and TMD (Topological Methods in Dynamics) are the research units of the Faculty IMCS. In 2014 the Department of Fundamental Mathematics was opened.

RESEARCH TOPICS

The research of the Faculty IMCS focuses on the 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 behaviour and decision making processes of individual and collective agents in complex distributed systems.
- Original ways of formalising 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 multigent optimisation 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

- Mathematical modeling of pathological behavior in multiplex networks arising as a result of dysfunction of single elements in application to biomedicine problems (TMD laboratory).
- Development and analysis of new methods of sub-symbol distributed computing for the aggregation of linguistic estimates in multi-criteria choice problems (TAPRADESS laboratory).
- “MURA Defect Algorithm Development and Ability Construction” (LATNA Laboratory).

AWARDS

Ekaterina Didenkulova (Laboratory of Topological Methods in Dynamic): Prize for young scientists (General Assembly of the European Geophysical Union, Vienna). The award was given for the development of the theory of nonlinear waves in geophysics, in particular, for the study of extreme waves (rogue waves).

EVENTS

XII Summer School on Operations Research, Data, and Decision Making, OSA 2020, May 19–21, 2020
The 10th International Conference on Network Analysis, June, 15–16 2020
The 10th International Conference on Network Analysis, June, 15–16 2020

SELECTED PUBLICATIONS


Ulitin B., Babkin E. “Providing Models of DSL Evolution Using Model-to-Model Transformations and Invariants Mecha


CONTACT DETAILS

ACADEMIC RANKINGS

Higher School of Economics
Nizhny Novgorod
Bolshaya Pecherskaya Str. 25/12
603155 Nizhny Novgorod
Russia
p +7 831 416 9800
www.hse.ru

PROF., PH.D. PAVEL MALYZHENKOV
Academic Responsible for Master Programme in Business Informatics,
Department of Information Systems and Technologies
pmalyzhenkov@hse.ru

PROF., PH.D. EDUARD BABBIN
Head of TAPRADESS Laboratory
ebabkin@hse.ru

PROF. VALERII KALYAGIN
Head of LATNA Laboratory
vkalyagin@hse.ru

DR. NATALIA ASEVA
Dean of the Faculty IMCS
naseeva@hse.ru

DISERTATIONS/HABILITATIONS

Ilya Bychkov (LATAS laboratory) has defended the dissertation «Models and algorithms for the problem of production cells formation solutions».
The Faculty of Organizational Sciences is a founding member of the University of Maribor. It has been involved in research and education about the organisational and informational sciences for more than 50 years. Today it provides Bologna programs for more than 5000 students who have pursued employment in modern organisations, business processes management, simulation systems research, and in the eCenter. All are involved in re-search and development projects, prototyping, consulting, education and training at national and international level. Their activities have been organised and are run following the Living Lab approach, with a strong involvement of business and government organisations, users, IT providers and universities. The resulting eLivingLab is the Slovenian founding member of the European Network of Living Labs (ENoLL). The Faculty has a wide range of experiences from many EU, national and industry projects. The Faculty has established connections with numerous institutes, faculties and universities around the world and strives to enhance its internationally renowned reputation.

**Research Topics**

Research area of the Faculty of Organizational Sciences is focused on investigation of complex dynamic management systems, covering various aspects from human resources, information systems, business processes and general management. Research is organised 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 organised and are run following the Living Lab approach, with a strong involvement of business and government organisations, users, IT providers and universities. The resulting eLivingLab is the Slovenian founding member of the European Network of Living Labs (ENoLL). The Faculty has a wide range of experiences from many EU, national and industry projects. The Faculty has established connections with numerous institutes, faculties and universities around the world and strives to enhance its internationally renowned reputation.

**CURRENT RESEARCH PROJECTS**

<table>
<thead>
<tr>
<th>EU projects and Bilateral projects:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals and faculties together for prosperous and scientific based healthcare (ProCare), Erasmus+</td>
</tr>
<tr>
<td>Development of a cyberphysical system for stress control for individuals and groups at-risk – Bilateral Project</td>
</tr>
</tbody>
</table>

The majority of our research and development activities are carried out within the following research topics:

- **Business models and business model innovation**
- **Digital business and digital transformation**
- **Data science**
- **eHealth**
- **Social media and social CRM**
- **Cloud computing and HPC**
- **Internet of things**
- **Decision support systems**
- **Management of information systems**
- **Business processes management**
- **Simulation systems and models**
- **Organisational learning**
- **Quality and asset management**
- **Enterprise sustainability and sustainable development**

**EU projects and Bilateral projects:**

- Hospitals and faculties together for prosperous and scientific based healthcare (ProCare), Erasmus+
- Development of a cyberphysical system for stress control for individuals and groups at-risk – Bilateral Project

**Selected Publications**


**National Research programme:**

- Decision support systems in digital business, Research programme, P5-0018
- Impact of management, organisational learning and knowledge management in modern organisations, Research programme, P5-0364-0586

**Research area of the Faculty of Organizational Sciences**

- Decision support systems in digital business, Research programme, P5-0018
- Impact of management, organisational learning and knowledge management in modern organisations, Research programme, P5-0364-0586

**Current research projects:**

- Decision support systems in digital business, Research programme, P5-0018
- Impact of management, organisational learning and knowledge management in modern organisations, Research programme, P5-0364-0586

**Recent publications:**


**Finished dissertations:**


**Conference presentations:**


**Disseminations/habiliations:**


**Recent publications:**


**Research topics:**

- Decision support systems in digital business, Research programme, P5-0018
- Impact of management, organisational learning and knowledge management in modern organisations, Research programme, P5-0364-0586

**Current research projects:**

- Decision support systems in digital business, Research programme, P5-0018
- Impact of management, organisational learning and knowledge management in modern organisations, Research programme, P5-0364-0586

**Recent publications:**


**Finished dissertations:**


**Conference presentations:**


**Disseminations/habiliations:**


**Recent publications:**


**Finished dissertations:**


**Conference presentations:**


**Disseminations/habiliations:**


**Recent publications:**

Future City Open Innovation Center (FOIC) and Open Innovation Big Data Center (OIBC)

FOIC focuses on the development of innovative future and smart city technologies, including retrofitting existing infrastructures with the latest technological advances for the efficient establishment and proliferation of a smart city. OIBC focuses on developing platform technologies from big data gathered from the implementation of FOIC-led initiatives. Both centers are based on a foundation of open cooperation: the Open Innovation Centers aim to create socio-economic value by attracting companies and startups to foster their growth through collaboration with the University’s advanced research infrastructures.

CURRENT RESEARCH PROJECTS

- Blockchain platform with business models towards cross-domain interoperability (Ministry of Science and IT, June 2018 – Dec. 2021). The objective of the project is developing a blockchain platform that supports cross-domain interoperability. The platform will be applied in three industries such as healthcare, insurance, and automotive.


AWARDS

Ms. Jungeun Lim, Dr. Minsoo Cho, Dr. Minseok Song won the best paper award at the Second International Workshop on Process-Oriented Data Science for Healthcare (PODS4H), 2020.

Mr. Shimyung Park and Dr. Minseok Song won the best paper award at the International Conference on Artificial Intelligence in Financial Services, 2020.

SELECTED PUBLICATIONS


About the Institution

The Universidad de Sevilla (US) was established in 1505 and, with more than 70,000 students and 6,800 staff, is the third largest university in Spain. US embraces academia, industry, engineering, and science and, with a relevant educational and technological infrastructure, is an intellectual reference in South of Europe. More than 10,000 students are following postgraduate courses, enrolled into 86 master’s programmes and 152 doctoral programs. US holds academic partnerships with 870 institutions throughout the world.

US is also devoted to research and innovation. Therefore, in addition to its 4,300 academic staff, there are 1,400 researchers and over 470 scientific groups associated to the university who research in economic, social and human sciences, law, technological activities, life sciences, physics, chemistry, mathematics and environment. Research is carried out within academic departments in 8 research centers and 9 university research institutes.

The Applied Software Engineering (ISA) Group at US is led by Antonio Ruiz-Cortés and composed by 21 members. Its research has always aimed at finding ways to automate activities that are usually performed by hand. Currently, it spans six areas of interest including Business Process Management (BPM), Service Governance, Metahierarchies, Experiments Support, Search-based Software Engineering, and Software Testing. The research on BPM aspects is led by Manuel Resinas and it occupies 9 group members including 1 Professor, 3 Associate Professors, 5 Assistant Professors, and 1 Post-doc Researcher.

Research Topics

In the field of performance management, the group has a strong experience in the monitoring of business processes based on process performance indicators (PPIs). The current interests involve improving the modelling, monitoring, and prediction of PPIs. Regarding modelling, the research is focused on making the definition of PPIs and the whole process to develop a PPI dashboard easier for non-expert users. Concerning monitoring, new techniques and methodologies for the definition and monitoring of decisions and unstructured processes are being devised. Finally, in the area of predictive monitoring of PPIs, the research targets problems that appear when a predictive model is deployed in a production system, such as the reliability of the models or the evolution of the predictive model.

The research on human resources covers several different angles. One stream of research focuses on the application of methodologies to improve personal productivity. This includes the analysis of the effect of techniques like mindfulness to perform cognitively-intensive tasks like conceptual modelling and the development of novel methodologies for time management and work organisation. Another research stream is focused on the configuration and use of workstream collaboration tools and other related technologies to improve the collaboration and productivity of people in a context of digital transformation. Finally, the third research stream tackles the organisational perspective of business processes pursuing the optimisation of the management of human resources along with process modelling, execution, and analysis.

Finally, we have recently started a research line focused on how to develop chatbots that can automate certain aspects of the process management or support the interaction of customers and participants with a given business process.

Current Research Projects

- **OPHELA.** Optimisation of Human-based Knowledge-intensive Services with Service-based Applications. RTI2018-101204-B-C22. Funded by Spanish Government. 01/01/19 – 31/12/21. 207,836€. Part of project HAMLET. The objective of OPHELA is to improve the efficiency of knowledge-intensive human-based services supported by service-based applications (SBA).

- **HORATIO.** Improvements in the reliability, customisation, and operating costs of service software services regulated by user agreements. RTI2018-101204-B-C21. Funded by Spanish Government. 01/01/19 – 31/12/21. 148,836€. Part of project HAMLET. The objective of HORATIO is to develop models, techniques and tools that improve the reliability, customisation and operating cost of user agreement-regulated SBAs.

- **CONFLEX.** Integration of context-aware resource management into flexible process-oriented organisations. RTI2018-100763-100. Funded by Spanish Government. 15/11/19 – 14/11/22. 151,008€. The aim of CONFLEX is to integrate contextual information in the tasks related to resource management in business processes and to align the solutions developed with actual needs of today’s organisations.

- **EKIPMENT+.** Performance improvement in Knowledge-intensive Processes: An empirical approach based on people, teams, software, and data. P18-FR-2855. Funded by Andalusian Government (PAMI 2020). 01/03/20 – 31/12/21. 126,625€. The aim of EKIPMENT+ is to increase the efficiency of organisations by developing models, techniques, and tools that help them improve the performance of their knowledge-intensive processes and the mechanisms to monitor and empirically validate these improvements.

AWARDS

- Bedilla Estrada Torres, postdoctoral researcher of the ISA group, and her coauthors were nominated to the Best Paper Award at KCIS conference 2020 with their paper: "Discovering Business Process Simulation Models in the Presence of Multitasking".

- Albert Martín López, PhD student of the ISA group, won the ACM Student Research Competition at ICSE conference 2020.

EVENTS

- Cristina Caníbalans (Universidad de Sevil- la, Spain), together with Andrea Delgado (Universidad de la República, Uruguay), Aurelie Montarnal (IMT Mines Albi, France) and Hernán Astudillo (Universidad Técnica Federico Santa María, Chile) are organising the minitrack on “Digital Government and Business Process Management” within the HICSS 2021 conference. It was intended to be held in Hawaii, in January 2021, but due to the COVID-19 pandemic, it will take place virtually.


- Cristina Caníbalans, currently postdoctoral research fellow at Universidad de Sevilla, received her habilitation for Full Professor from Wu Vienna in Information Systems in June 2020.

IE BUSINESS SCHOOL – INFORMATION SYSTEMS AND TECHNOLOGY DEPARTMENT

ABOUT THE INSTITUTION
IE Business School is one of Europe’s top providers of management education and a laboratory for new entrepreneurial ventures. IE’s Information Systems and Technology Department (ISTD) is responsible for all technology-related courses and pursues research on the transformative use and impact of digital technologies in today’s world.

Faculty at ISTD teaches courses on Digital Innovation and Technology Management in the MBA and the Tech MBA programs, manages the concentration on Digital Business in the Master in Management, and supervises the major on Information Systems in the PhD in Management and the Doctorate in Business Administration. Members of the Department have published in leading IS journals, including MIS Quarterly, Information Systems Research, European Journal of Information Systems, International Journal of Information Management, and Decision Support Systems, among others.

RESEARCH TOPICS
Research work within ISTD includes several research lines. One research line focuses on Digital Innovation, studying the interplay between organizational capabilities and digital innovation, value co-creation in digital platforms, and digital competences. A second line of research is Information Security and Privacy, investigating topics such as cybersecurity behaviour of Spanish households, hacker behaviour analysis, computational reputation applied to cybersecurity, and the interplay among trust management, security risks, and compliance. Another line of research focuses on Business Intelligence, Analytics, and Machine Learning; it works in this line has concentrated on applying machine learning in key areas such as sustainability, green IS, education, and e-health. A final research line is Economy of Information Systems, focusing on IT outsourcing and Cloud Computing, organisational networks and the Sharing Economy, and the valuation of digital innovations.

CURRENT RESEARCH PROJECTS
DIGYMATEX is an EU-funded project that aims to provide evidence-based tools to assist in understanding and determining children’s digital maturity. The project wishes to provide clear evidence on how digital maturity impacts information and communication technologies (ICT) behaviour of children at the ages of 9–16, by maximising risks (risk factors), minimising risks (resilience factors), and maximising benefits (enhancing factors). The main two outputs of the project are two tools: The Digital Youth Maturity Index (DYMI) and the DIGYou3 program. The DYMI is an innovative tool that will establish and implement a comprehensive understanding and taxonomy of children’s digital maturity. The DYMI will precisely measure and predict harmful and beneficial ICT-related behaviour and consequences for specific user groups. The DIGYou3 program is a technology-related solution and recommendation program, which supports the application of the DYMI on three levels – individual, social, and national. The program will help to improve relevant dimensions of children’s digital maturity, the development of ICT-related competencies and support the more beneficial influence on components of child development.

For more information, please visit https://digymatex.eu

AWARDS
Prof. Luz Rello was awarded the R+D+i Entrepreneur Award of Very Young Scientists Awards by Muy Interesante Magazine, 2020.

In 2019, Change Dislexia, a social enterprise founded by Prof. Luz Rello, was awarded the UNESCO’s King Hamad Bin Isa Al-Khalifa Prize for the Use of ICT in Education (first Spanish institution to receive this award), and the Finnovating InsurTech Awards 2019 for its social impact.

EVENTS
IE hosted SCECR 2020, the Sixteenth Symposium on Statistical Challenges in Electronic Commerce Research. The theme for SCECR2020 was “Technology + Human”. The event was held totally online and included over 100 paper and 50 posters.

For more information, please visit http://www.scecr.org/

SELECTED PUBLICATIONS


university of st. gallen –
institute of information management

1989, the institute pursues a mixed fund-
has been dedicated to applied
(IWI-HSG)
ness innovation, including methods, refer-
ners, fall under the responsibilities of dif-
HSG is usually organized in the form of re-
ed and enterprise systems, and digital con-
nineteen research assistants, ten research
ating a thorough description of the dynamics,
derminants, and design configurations
through which platform owners simultane-
ously manage and legitimate a balanced co-
existence of top-down control and bottom-up emergence. Further informa-
https://www.alexandria.unisg.ch/id/
project/247758

Cognitive Automation: The Competence Center Cognitive Automation combines academic insights from the forefront of cognitive automation research and adviso-
ry expertise in a platform of exchange and collaboration for practitioners. Members
are enabled to seize the vast potential of cognitive automation to improve opera-
tional efficiency and effectiveness and to leverage cognitive technologies as a stra-
tegic differentiator for their organisation.
Further information: https://cognitive.iwi.unisg.ch/

Crowdsourcing: The research goals of the Competence Center Crowdsourcing include the development of models and instruments for systematic design, intro-
duction as well as usage of crowdsourcing approaches for digital work 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 strives to
improve the capability of corporate IT and to reduce costs and risks in innovation projects. Further information: http://dthsg.com/

Digital Service Innovation: Research con-
ducted in the context of the CC Digital Ser-
vice Innovation revolves around service and business innovation. It also seeks to
understand the acceptance and usage of digital services by individuals and en-
hance their user experience through digi-
tal nudging. Further information:
https://dsi.iwi.unisg.ch/

Ambidextrous Digital Platforms: With
the aim of developing both descriptive
and prescriptive theories and drawing on
both organisational ambidexterity and
complex adaptive systems as theoretical
lenses, this project is expected to provide a thorough description of the dynamics,
derminants, and design configurations
through which platform owners simultane-
ously manage and legitimate a balanced co-
existence of top-down control and bottom-up emergence. Further informa-
https://www.alexandria.unisg.ch/id/
project/247758
The University of Twente is where talent can best realise its full potential. Students and staff are the key and thus, over 3,000 scientists and professionals carry out ground-breaking research, bring about socially relevant innovation, and provide inspiriting teaching for more than 17,740 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 1,000 successful spin-off companies, including well-known businesses such as Booking.com, SciSports and Takeaway.com. The university’s business park, Kennispark Twente, encourages and assists entrepreneurs to start new companies. But there’s so much more happening on our wonderful, green campus. Our sports and cultural facilities are unique and we host events such as the Batavieren Race. The campus is a hive of activity – a truly inspirational place to be! – University of Twente, the entrepreneurial university. The UT has ICT and Information Systems Research among its focus areas.

The Digital Society Institute is one of the three multidisciplinary research institutes of the University of Twente. At the Digital Society Institute, we strive to engineer digitalisation toward systems that allow for well-informed, even accountable, decision-making. We achieve this by doing scientific research that contributes to solving

- **Improving Healthcare with E-Health**
  It becomes more and more evident that the current approach to healthcare is not sustainable, especially when considering the increasing volume and demands of chronic diseases, requiring a rethinking of strategies towards innovative solutions. The use of information and communication technologies in healthcare – e-health – is a promising strategy to improve healthcare worldwide.

- **Improving Business with E-Business**
  Around 100 businesses, including student and government bodies, and citizens are committed to creating, innovating, and developing digital technologies to adopt and cultivating them to our everyday needs, desires, and habits. In this way, digitalisation shapes technologies by adding value and imposing what we can and are willing to adopt and use for our desires and the challenges we face. The Digital Society Institute focuses on three themes:
  - **Data Science and Artificial Intelligence**
    Various groups at the University of Twente conduct research on data science and artificial intelligence, including work on fundamental understanding of machine learning, sensors, efficient realisation of artificial intelligence in hardware, to development and application of artificial intelligence in fields such as health, safety, and security, the geo-spatial domain, and manufacturing, to name a few. Central unifying themes are embedded and augmenting intelligence.
  - **Creating Intelligent Manufacturing Systems**
    Smart innovations in manufacturing are key to securing the welfare and wellbeing of society. Smart industry is the way forward for industry. Using Smart industry means personalised and smart products, optimising human-machine interaction, yielding faster, cheaper, and more sustainable production. It means adapting business models to changing industries and services and is thus of utmost importance to maintain the competitive edge.
  - **Autonomous Logistics Miners**
    The project studies the development of performance and recommender systems for circular products and processes across supply chains.
  - **Circular Performance Management**
    The project studies the development of performance and recommender systems for circular products and processes across supply chains.
  - **SynchronmodAI**
    This project aims at designing advanced algorithms and business-IT architectures to facilitate dynamic planning of logistics across various modalities. As part of the project, two PhD theses where completed and an educational game was developed to illustrate the synchronmodal concept – see https://www.trucksonbarges.org/
  - **AWARDS**
    The Netherlands Organization for Scientific Research (NWO) funded several projects for PhD and postdoc positions in the IEBIS department.

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.

- **Data-driven Architecture for Predictive Maintenance in the Maritime Sector**
  This project focuses on the development of service logistic control towers in a maritime setting, in which several supply chain players participate. In this joint university-industry project, we develop decision support models that integrate the planning of operations, maintenance, and resources.

- **Autonomous Logistics Miners**
  This project investigates the application of AI to autonomous logistics.

- **Circular Performance Management**
  The project studies the development of performance and recommender systems for circular products and processes across supply chains.

- **SynchronmodAI**
  This project aims at designing advanced algorithms and business-IT architectures to facilitate dynamic planning of logistics across various modalities. As part of the project, two PhD theses were completed and an educational game was developed to illustrate the synchronmodal concept – see https://www.trucksonbarges.org/

- **AWARDS**
  The Netherlands Organization for Scientific Research (NWO) funded several projects for PhD and postdoc positions in the IEBIS department.

- **EVENTS**
  On January 14th, 2020, the IEBIS department, jointly with the land registry (Kadaster), organised a supply chain hackathon. Eight companies presented their datasets and student teams used data science and supply chain integration methods to provide new insights and suggest new business models.

**PUBLICATIONS**


- **Folmer, E., Ronchini, S., Van Hillegersberg, J., Beek, W., & Lennert, R. (2020). Business Rationale for Linked Data at Governments: A Case Study at the Netherlands’ Kadaster Data Platform. IEEE Access, 8, 70822–70835.**


**Dissertations**

- **Data quality improvement: procedure to improve data quality issues within and between sources. Turpin, B., 12 Apr 2019, Enschede: University of Twente. 165 p., PhD Eng Thesis.**

- **Industrial Symbiotic Recommender Systems, van Capelleveen, G. C., 27 May 2020, Enschede: University of Twente. 276 p., PhD thesis.**

- **Multi-client functional encryption for controlled data sharing, van de Kamp, T. R., 21 Feb 2020, Enschede: University of Twente. 150 p.**

All publications are available at doc.utwente.nl
The Leiden Institute of Advanced Computer Science (LIACS) is a center of excellence for multidisciplinary research and education in computer science and artificial intelligence (AI). LIACS features a wide range of research, from theory to algorithms to applications, with a strong focus on artificial intelligence and data science. Within LIACS is a center of excellence for Artificial Intelligence and Data Science. Within the university on artificial intelligence topics, LIACS is integrated in a wider community of research centers, including the BeNeLux conference on Social Media Analytics: Identification and Visualisation, and support the work of researchers in LIACS and external speakers.

LIACS participates in the ERCIS competence center on Social Media Analytics: Identification and Visualisation, and support the work of researchers in LIACS and external speakers.

LIACS collaborates with knowledge institutes, governments, and companies.

LIACS has around 90 staff members, 90 PhD students, and 40 non-scientific personnel.

Recent Research Projects

HORIZON 2020 Research and Innovation Staff Exchanges (RISE) project RISE_SMA “Rise Social Media Analytics”, with University Duisburg-Essen (ERCIS Partner), Agder University Kristiansand (ERCIS partner), and others. The role of LIACS is to devise algorithms for complex network analysis and visualisation, and support the work packages on text mining.

LIACS participates in the ERCIS competence center on Social Media Analytics: Identification and Visualisation, and support the work of researchers in LIACS and external speakers.

The Benchmarking Network (https://sites.google.com/view/benchmarking-network) is supported by ERCIS members Münster (Pascal Kerschke) and Leiden (Mike Preuss). It emerged in summer 2019, with the idea to consolidate and to stimulate activities on benchmarking iterative optimisation heuristics.

Events

The Parallel Problem Solving by Nature (PPSN 2020) international conference (A-rated in the CORE ranking) was hosted by LIACS from Sept. 5–9, 2020 at Leiden University and the Corpus Museum & Conference Center. It was chaired by Thomas Back and Mike Preuss in a hybrid format and featured 90 original research papers.

The MISDOOM international conference (October 26–27, 2020 hosted by LIACS) emerged from the ERCIS project ProStop in 2019. The second issue featured more than 30 presentations and more than 190 registered participants. The multi-disciplinary conference discussed the media situation and tools to respond to societal challenges in online media such as filter bubbles, fake news, disinformation, and social bots. It was chaired by Frank Takes and Suzan Verberne.

BNAIC (19 & 20 November, 2020 hosted by LIACS) is the BeNeLux conference on artificial intelligence and has this year continued its tradition of bringing together AI researchers from the BeNeLux region.

The mid-term meeting of EU Horizon 2020 RISE-SMA project was planned for end of October 2020. Several collaborations between ERCIS members emerged, such as a visit by Michael Emmenich to the Kristiansand Kommune in January 2020 and several joint research projects and publications with the groups of Frank Takes and Suzan Verberne (LIACS) https://social-media-analytics.org/

Dissertations

The full list of recent dissertations is available at: https://theses.liacs.nl.

Publication


CONTACT DETAILS

ASSIST. PROF. MIKE PREUSS
Leiden University, Faculty of Science
Leiden University
Leiden Institute of Advanced Computer Science (LIACS)
Niels Bohrweg 1
2333CA Leiden
The Netherlands
m.preuss@liacs.leidenuniv.nl
Twitter: mike_preuss
http://liacs.leidenuniv.nl
ABOUT THE INSTITUTION
Simon Kuznets Kharkiv National University of Economics is the leading higher education institution of the Eastern Ukraine, which provides a full range of educational services, carrying out multistage training, retraining and upgrading experts’ skills in 15 specialties, such as Economics and Entrepreneurship, Management and Administration, Information Systems and Computer Science, Publishing and Printing Business.

The Information Systems Department has 32 professors, more than 350 students on bachelor level and more than 100 on master level. The department is an active member of IT Ukraine Association and Kharkiv IT Cluster. 12 professors are Microsoft certified specialists. Microsoft IT Academy works since 2009, collaboration with IBM in the frame of IBM Academic Initiative program has been ongoing since 2012.

The Master Double Diploma Programme MBA “Business Informatics” with University Lumiere Lyon-2, France was established in 2005. According to research of SMBG Consulting Group, the Programme is included in the top 10 Master Programmes of Economics and Marketing in Ukraine, and Kharkiv National Air Force University, 2020. Project “Very digital residences”, the task of which was to rethink the cultural heritage of the cities of Kharkiv and Odessa by using media art and digital technologies.

Modern methods and means of analysis and development of information systems. The purpose of the research is the development of basic research in the field of intellectual and information-computer technologies in various spheres of human activity.

CURRENT RESEARCH PROJECTS

ERASMUS+ CBHE DocHub – Structuring cooperation in doctoral research, transferable skills training, and academic writing instruction in Ukraine’s regions. One of the project objectives is to establish inter-HEI subject-specific research network in information systems that is integrated through regular seminars and co-supervision of PhD students.

ERASMUS+ CBHE EDUQAS – Implementation of Education Quality Assurance system via cooperation of University-Business-Government in HEIs. Wider objective of the project is to improve education quality assurance systems through the development of efficient internal quality standards leading to better employability of students in Partner Countries Universities. IS department of KhNUE will work on the establishment of QA system for bachelor and master degree programs in Information Systems.


RESEARCH TOPICS

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
- System of monitoring in scientific researches in higher education
- Fuzzy logic and modeling in logistic and marketing
- Information security
- Distributed data warehouses
- Knowledge base and artificial intelligence
- Innovative computer technologies in higher education
- Intellectual and Information-computer technologies in various spheres of human activity.

EVENTS


Participation in the Coursera for Campus project, as a result of which IT students received 230 certificates of MOOC Coursera.

ERASMUS+ CBHE EDUQAS – Implementation of Education Quality Assurance system via cooperation of University-Business-Government in HEIs. Wider objective of the project is to improve education quality assurance systems through the development of efficient internal quality standards leading to better employability of students in Partner Countries Universities.

Modern methods and means of analysis and development of information systems. The purpose of the research is the development of basic research in the field of intellectual and information-computer technologies in various spheres of human activity.
"What is it about humanity...?"

The 2019 annual ERCIS meeting was held at Loughborough University. A centrepiece to discuss different themes. The workshop was over 2/3 and included Boyka Simeonova who presented "Towards a New Humanism: Or are we too late?" The host team identified four themes to investigate regarding machines and humanism: Crime & Conflict, Jobs, Attention Economy, and Wellbeing. These themes were selected because of the coverage they had already attracted in the media and academic discourse.

To encourage discussion, a world café format was adopted. Our world café had four tables, one for each of the themes from the inspiration session and a table host that collated the discussion. There was time for three café rotations to allow ERCIS colleagues to discuss different themes. Key discussion points were captured using post-it notes on flip charts.

After workshop, Boyka Simeonova reviewed all the post-its and created a matrix of themes and cross cutting issues shared with the table hosts. Patrick and table hosts were invited to write up their contributions for the paper. Initial submissions from table hosts were provided in November 2019 and synthesised into initial draft February 2020. Crispin and Peter Kawalek reviewed and edited contributions, and added the introduction and conclusion, June-August 2020. The final paper, "What Is It About Humanity That We Can't Give Away To Intelligent Machines? A European Perspective" was submitted to International Journal of Information Management at the end of October 2020.

The workshop and write up process has produced an exciting and thought-provoking paper. We believe it is an excellent example of the contribution of ERCIS to important IS debates. The workshop activity was fun, engaging for colleagues, and is one example of how powerful the annual workshop can be and what we can produce. Peter and Crispin would like to extend our heartfelt thanks to all ERCIS members who participated in the workshop last year and our co-authors on the paper.

Continuing Collaboration with Sao Paulo.

In September 2020, Crispin Coombs delivered a guest lecture for PhD and MSc programmes at the University of Sao Paulo, Brazil. The lecture was at the invitation of Professor, Dr. Cesar Alexandre de Souza, School of Economics, Management, Accounting and Actuarial Sciences and attracted over 50 participants including IS academics across Brazil. Crispin’s talk was entitled “Will COVID-19 be the Tipping Point for the Intelligent Automation of Work?” and was based on his 2020 paper of the same name published in the International Journal of Information Management.

Researcher Profile

It has been another successful year for Dr Konstantina Spanaki. In 2020 she had four papers accepted. In addition, she is guest editor of two special issues. The first is for the International Journal of Production Research, and considers Artificial Intelligence (AI) and Data Sharing in Manufacturing, Production and Operations Management Research. The second is for the International Journal of Information Management and considers Understanding the Use of Digital Technologies in Entrepreneurial Start-Up Settings and Growth-Oriented Firms.

References to Dr Spanaki’s newest papers are below:


NEW RECRUIT FOR TECHNGI PROJECT

TECHNGI is a major UKRI initiative on the future of the insurance industry. It is led by Professors Holland and Milne. Anil Savio Kavuri recently joined as a Research Associate at TECHNGI and is already Research Fellow at Australian National University. Anil has a PhD in Economics from Australia National University, MPhil in Finance from University of Cambridge, a M.I.A from Columbia University and First Class BSc Economics from University College London. Anil is well known to his university classmates as he graduated top of the class in the most technical subjects. These include Game Theory, Experimental Economics, Money & Banking at University College London and Economics of Energy, Marine Energy Transportation, Petroleum Markets & Trading at Columbia University. His professional background includes being a project financier at Scotia Capital on Wall Street, New York, and a consultant at the World Bank. Anil’s research focuses on determining the impact of digital technologies, Fintech and InsurTech on innovation and other macroeconomic variables.

Crispin Coombs

LOUGHBOROUGH UNIVERSITY – CENTRE FOR INFORMATION MANAGEMENT (CIM) – SCHOOL OF BUSINESS AND ECONOMICS
Stevens Institute of Technology – School of Business

ABOUT THE INSTITUTION
Founded in 1870, Stevens Institute of Technology is a premier private university focused on research and entrepreneurship in technology-related fields. Located across the Hudson River from Manhattan in Hoboken, New Jersey, Stevens has a population of 3,624 graduate (master’s and PhD) students and 3,659 undergraduate students. Stevens is committed to exploring the frontiers of engineering, science, and management through integrative research and education programs. Stevens’ three schools and one college support the mission of the Institute: The School of Engineering and Science, the School of Business, the School of Systems and Enterprises, as well as the College of Arts and Letters.

Stevens is regularly listed in the top 3% of US universities based on student return on investment. Notable graduates include Frederick Winslow Taylor, the father of scientific management, Henri Gantt, whose Gantt chart is a staple in most project manager’s toolkits, and Alfred Fielding, the inventor of the Bubble Wrap.

The School of Business has 67 full-time faculty and 450 undergraduate, 500 MS students, 80 executive master’s students, 25 PhD students and numerous non-degree graduate and executive programs. Within the school, the Information Systems groups is among the largest graduate programs in the US, 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 (CDT), directed by Prof. Jeffrey Nickerson, performs funded research on topics related to decision making, combining perspectives from information systems, management science, organisation 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 mobilise a crowd in minutes to address large-scale social problems. One ongoing example of research relates to the open source sharing of designs for use with 3D printers. Researchers at the CDT are interested in the role that crowds can play in sustain-ability—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 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 (CEBPI) studies the interplay between business processes and the organisation. Under the direction of Prof. Michael zur Muehlen, the Center’s research activities have been organised around several key issues.

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 organisations. Research is also being conducted in the area of enterprise architecture, which contain analytical or prescriptive models of organisations, in order to efficiently identify organisational and technical interfaces, streamline cross-functional operations, and assert compliance to rules and regulations. Researchers at the CEBPI are also interested understanding the dynamics of digitalised design processes and the impact of digital technology on business process innovation.

Research at the CEBPI focuses on how organisations evolve in their ability to govern and change operational work and decision-making processes. Some organisations begin by creating technical infrastructure and the working out organisational adoptions, while others try to work out organisational details first before choosing appropriate technology. In either approach, the roles and responsibilities of a process support and management organisation evolve over time, and little guidance exists as to how organisation can pursue operational efficiency in a repeatable and effective fashion.

CURRENT RESEARCH PROJECTS
Recent research at the CDT focuses on the relationship between routines and innovation in design contexts, such as those with "open source-like" characteristics, to better understand the variables and phenomena such as routine variation, sequential structuring, structural evolution, and temporal modes as well as their impacts on design outcomes such as effective coordination, digital artifact innovation, and requirements computation.

Recent research at the CEBPI aims to understand the skills, positions, and organisation structures of change management professionals in industries under different regulatory intensities. Additional research projects focus on the opportunities of digital technologies such as Robotic Process Automation, Cognitive Computing, and Blockchain on the design of business processes, and the changing skills of workforce to survive in the age of smart business processes.

SELECTED PUBLICATIONS

Kumar, Akhil; Liu, Rong; Shan, Zhe. (2020). How Blockchain is a Silver Bullet for Supply Chain Management? Technical Challenges and Research Opportunities. Decision Sciences, 51(6), 8–37.


Nagasubramanian Gayatri; Sathivel, Rakesh Kumar; Patan, Rizwan; Gandomi, Amir H; Muthuramalingam, Sankaya; et al. (2020). Securing e-health records us- ing keyless signature infrastructure blockchain technology in the cloud. Neural Com- puting & Applications, 32(1), 639–647.


CONTACT DETAILS
PROF. DR. MICHAEL ZUR MUEHLEN
Associate Dean of Graduate Academics, School of Business
Stevens Institute of Technology
Castle Point on Hudson
Hoboken, New Jersey 07030
USA
p +1 (201) 216 8293
michael.zurmuehlen@stevens.edu
www.stevens.edu/business


DisseMinations/Mablerations
Mohan, Bisan: Unexpected Events in Mega Construction Projects: Responding to Un- expected Events through Multi-Stakeholder Strategies.
Personal members in the ERCIS network are experts in their field of research and have strong personal connections within the network. To become a personal member, one should already have worked with partners from the network in the context of research projects, joint courses, or publications.
About Me:
My research interests comprise service science, business process management, information modeling, and the socio-technical design of information systems. A particular focus of mine is designing information systems that enable service-oriented business models. Apart from conducting several projects for the European Commission and the German government, I am involved in many industry collaborations at the Software Innovation Campus Paderborn (SICP). I am a member of the editorial boards for Business & Information Systems Engineering (BiSE), a guest editor for several other journals, and one of the academic heads of the Service Science Competence Center at ERCIS.

SELECTED PUBLICATIONS

About Me:
Patrick Delfmann is a professor of Information Systems and head of the Research Group of Corporate Communication Systems at the University of Koblenz-Landau. He holds a Diploma Degree (MSc) in Information Systems and a Ph.D. from the School of Business and Economics at the University of Münster. Patrick’s research focuses on Business Process Management Technologies and covers Process Mining, Predictive Process Analytics, Business Rules Management, Process Query Languages, Conceptual Modeling, and Compliance. Currently, he supervises two research projects, “Social Process Mining” and “Handling Inconsistencies in Business Process Modeling”, both funded by the German Research Foundation (DFG). Patrick’s research has been published in journals such as Management Information Systems Quarterly, Information Systems, Communications of the Association of Information Systems, and Information Systems Frontiers, amongst others.

SELECTED PUBLICATIONS

About Me:
Marco De Marco is full professor of Organisational and Information Systems at Università Telematica Internazionale UNINETTUNO in Rome where he serves also as Dean of the Faculty of Economics. He is the author of several books and numerous essays and articles; mainly on the development of information systems, the impacts of technology on organisations and e-govern-ment. He is a member of the editorial board of several academic journals. In 2008 and 2009 he was a Board committee member of the Association for Information Systems, representing Europe, Africa, and the Middle East. His main research interests have included information systems development and performance measurement methodologies, while bank information systems and their specificities were a particular study and focus. He has been serving as an officer of the major conference on information systems ICIS, ECIS, MCIS and he was cofounder of the Italian chapter of the AIS. At ICIS 2020 he was awarded the AIS Fellows Prize for his contribution to the IS discipline.

SELECTED PUBLICATIONS


About Me:
I am an Associate Professor at the University of Tuscia, where I teach Organisation Theory and Management of Information Systems. I am the Director of the II level Program in Artificial Intelligence for Business and Security, a member of the board of advisors of the PhD course in Economics, Management and Quantitative Methods.

My research activities focus on the impact of ICT on communication and coordination of teams and organisations. Currently, I am studying how social media platforms support and constrain the management of communities for collective action with a specific focus on eParticipation and in collaboration with the University of Agder (NO), and the University of Pescara (IT). I am also exploring how IoT, Cloud Computing, Big Data, Artificial Intelligence, and Digital Technologies of Industry 4.0 contribute to organisational sustainability from a triple bottom line perspective in manufacturing companies.

SELECTED PUBLICATIONS


About Me:
I am an associate professor in Information Systems at the University of Agder, Norway, where I am member of the Centre for digital transformation (CeDiT). My research focuses on the adoption of e-government both by government employees and by citizens. Furthermore, I analyse how governments interact with their various stakeholders via different communication channels. In my research, which deals with e-government on a national and international level, I combine my Information Systems background with insights from other disciplines such as communication and media science. Currently, I am working on a study in which I analyse citizens’ channel choice for contacting governments as well as governments’ multichannel management strategies. In addition, I am researching the societal consequences of digitalisation in smart cities.

SELECTED PUBLICATIONS

Dr. Sara Hofmann
P +47 38 14 13 43
sara.hofmann@ui.no
University of Agder
Postbox 422
4604 Kristiansand
Norway

About Me:
Since 2017, I have been an assistant professor of information systems at Freie Universität Berlin in cooperation with the Einstein Center Digital Future (board member since 2018). Before that, I completed my doctorate at the University of Münster in 2015 and took on the coordination of the DFG graduate school “User-Centred Social Media” at the University of Duisburg-Essen (2015–2017). My research is focused on the emergence of innovative information and communication systems and their impact on individuals, enterprises, and society as a whole. In an exemplary project, I investigate the design and diffusion of social bots in enterprise social networks. In another project, I study aspects that influence the employee’s attitude towards the rapid digital transformation of their work environment as well as the acceptance of (Explainable) Artificial Intelligence in decision support systems.

SELECTED PUBLICATIONS

Dr. Christian Meske
P +49 30 838 64184
christian.meske@fu-berlin.de
Freie Universität Berlin
Galystr. 21
14195 Berlin
Germany

About Me:
Oliver Müller is a professor of Management Information Systems and Data Analytics at Paderborn University. He holds a BSc and MSc in Information Systems and a Ph.D. from the University of Münster’s School of Business and Economics. In his research, Oliver studies how organizations create value with (big) data and analytics; for example, by enhancing judgment and decision making, supporting knowledge management, or automating business processes. His research has been published in the Journal of Management Information Systems, Journal of the Association of Information Systems, European Journal of Information Systems, European Journal of Operational Research, and various others.

SELECTED PUBLICATIONS

Oliver Müller
oliver.mueller@upb.de
Paderborn University
Chair for Management Information Systems & Data Analytics
Warburger Str. 100
33098 Paderborn

About Me:
I am head of the Chair of Industrial Sales and Service Engineering in the Mechanical Engineering Department at the Ruhr-Universität Bochum. My main research interests are in the area of digital servitization of manufacturing. For instance, my team investigates how enterprises can innovate with product-service systems and smart services. Amongst others, I am principal investigator of the BMBF-funded consortium projects Smart Service Retrofits for Highest Availability of Machinery and Equipment (retrosmart), Development of a Privacy Management System for Personalized Assistance Systems in Production and Service (PersonA), and Integrated Business Model and Process Design for the International Provision and Marketing of Service Knowledge (SerWiss). Our team operates an innovation lab (www.leonardolounge.de) in cooperation with the IHK Mittleres Ruhrgebiet. Together with the ERCIS Personal Member Stefan Steiglitz and our two colleagues Frederik Ahlemann and Manuel Wiesche, I initiated a joint PhD Course on “Research Methods in Information Systems” in the Ruhr area in 2020.

SELECTED PUBLICATIONS

Jens Poeppelbuss
jens.poeppelbuss@iese.rub.de
Ruhr-Universität Bochum
Universitätsstr. 156
44801 Bochum
Germany

Contact Details

University of Agder
UiA
About Me:
Personal Members
k

Freie Universität Berlin
About Me:

Contact Details

RUB
Rubin

Contact Details

Paderborn University
Chair for Management Information Systems & Data Analytics
Warburger Str. 100
33098 Paderborn

Contact Details

Ruhr-Universität Bochum
Chair for Management Information Systems & Data Analytics
Warburger Str. 100
33098 Paderborn

Contact Details

University of Agder
About Me:
Stefano Za is Senior Assistant Professor at the University “G. d’Annunzio” Chieti-Pescara. He teaches “Digital Business Organization” and “Organizational Theory”. He is a member of the board of advisors of the PhD program in “Accounting, Management and Business Economics”. He is the Secretary of the Italian chapter of the Association for Information Systems (AIS) since 2008. His research is currently focused on digital innovations and business transformation affecting people and organisations. He is also interested in the use of social network analysis techniques applied to bibliometric data for performing literature analysis. He has also recently applied these techniques to social media data in order to investigate individual behaviors in an online community (in collaboration with the University of Agder (NO) and the University of Tuscia (IT)).

Selected Publications

Contact Details
Stefano Za, PhD
Assistant Professor
stefano.za@unich.it
Skype ID: stezak
Università degli Studi “G. d’Annunzio”
Dipartimento di Economia Asientdale (IDEA)
Viale Pindaro 42
65127 Pescara (PE), Italy

About Me:
Stefan Stieglitz is Professor for Professional Communication in Electronic Media/Social Media at the University of Duisburg-Essen. In his research he investigates the digital transformation, with a particular focus on communication and collaboration technologies, and its effects on enterprises and organisations as well as on society and individuals. Based on interdisciplinary research and advanced methods of data analytics, he and his group perform excellent research to improve theory and practice. The research group cooperates with selected partners from industry as well as outstanding national and international academic institutions. Stefan’s work has been published in reputable journals, such as Journal of Management Information System, Business & Information Systems Engineering, Journal of Information Technology, and European Journal of Information Systems (EJIS).

Selected Publications

Contact Details
Prof. Dr. Stefan Stieglitz
p +49 203 379 2320
stefan.stieglitz@uni-due.de
@rgstieglitz
University of Duisburg-Essen
Forsthausweg 2 (LE 310)
47057 Duisburg
Germany
The ERCIS network has strong connections to local, national, and international companies working with us on various fields of expertise. Aside from sponsoring the network, the feedback of those companies during regular meetings, round tables, or during one-to-one talks, as well as their inclusion in research projects and studies, ensures that we work on practically relevant topics.
As part of the Bertelsmann Group, Arvato Supply Chain Solutions SE is a full service provider and business process outsourcing partner. We are specialists in end-customer-oriented industries with a focus on efficient, scalable and adaptable supply chain and digital solutions.

The list of our references include over 500 global market leaders, Fortune 500 companies and established brands, as well as young start-ups and expanding SMEs who rely on us to help them develop and internationalize their business models.

We believe that to develop the most efficient SCM and IT-solutions, you need to understand market demands and customer requirements. That is why we are organized in different industry segments. Our management team and their respective teams are proven experts in their fields.

The business unit collaborating with ERCIS focuses on the automotive, banks and insurance business. We support the leading brands with omnichannel commerce, (digital) after sales, e-mobility and marketing solutions in Europe, the US and globally.

We cultivate an open, non-dogmatic and entrepreneurial company spirit, with a strong business focus on realization of SCM and IT innovations – beyond simple buzzwords. Exchange at eye level promotes a culture of creativity in the workplace and strengthens teamwork within our company. This in turn helps us to act entrepreneurial and forward facing.

For more information please visit our website: https://arvato-supply-chain.com

**PROJECT SEMINAR**

WWU Münster & ERCIS

In the previous semester we were partner of the project seminar “Logistics Marketing Portal” at the chair for Information Systems and Supply Chain Management (WWU Münster). The aim of the project was to concept an automated logistics marketing portal to improve and control of marketing activities in companies with independently operating salespersons. We are looking forward to the next phases of our collaboration, inspiring discussions and to be challenged by and to learn from ERCIS students forward thinking mindset.

**JOB OPPORTUNITIES**

Are you looking for a career entry? We could offer you to work in an international environment, with multifaceted projects in the automotive, banks & insurance sector and being part of young-spirited, open minded mixed team with heterogeneous backgrounds. We are looking forward getting to know you!

**CONTACT**

Dr. Stefan Hönemann
Director Business Development & Strategy

stefan.hoenemann@arvato.com
+49 5241-8072084

**ABOUT THE COMPANY**

As a leading supplier of merchandise management systems, Bison offers complete solutions for retail. Bison has its headquarters in Sursee, employs approximately 300 staff and generates a turnover of over EUR 70 million. With over 30 years of market experience, Bison makes a reliable, secure contribution to the success of its customers. Each customer receives comprehensive and long-term support, with a focus on mutual trust and the protection of customers’ IT investments.

Bison Smart Retail Solution was specially developed for the retail sector. This solution covers core processes for goods management and at the point of sale in full. By integrating a solution for traceability, Bison offers a modern, up-to-date package of solutions. Based on the standard solution and individually tailored to customer preferences, considerable added value is created for the customer.

Bison’s modern POS solution can be perfectly integrated into existing system environments thanks to the modular structure and its exceptional flexibility. Thanks to the ESL concept, the headquarters or individual branches can respond quickly to changing market or price situations. The wireless base station simplifies internal processes and creates a direct connection between the shelf and POS. In addition, the electronic shelf labeling at the POS creates new possibilities in terms of information. This is used not only for product identification and price labelling, but also in combination with specially developed apps or with internet of things (IOT) modules which provides further useful services for the customer in terms of traceability of the product, product features, contents (allergens) etc. Thanks to the mobile solutions, normal 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 RFID option vastly expands the range of uses. Thanks to standard or individually programmed applications, the devices offer a multitude of in-store application possibilities, e.g. stocktaking, order creation, goods-in process and picking.

Bison offers innovative communication options through digital signage. The solutions can be managed efficiently by the simple user functionality and automatic interfaces. Bison is a general contractor and covers all the processes of a modern retailer using integrated solutions, from the central ERP system to branch management to POS systems and digital signage.

**TOPICS OF INTEREST**

- Interest in European (sales) partnerships
- Development of new approaches to tackling retail-specific questions and problem areas bearing in mind the cloud approach
- Integration of Zebra Technologies, iPod, iPhone, iPad and Samsung Galaxy in operating procedures
- E-Paper integration options (e.g. Electronic Shelf Labeling)

**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

For further information please visit www.bison-group.com
**ABOUT THE COMPANY**

What started in 1913 with the manufacture of powerful straw binders has become a leading giant on the global market: CLAAS is one of the world leaders in the production of agricultural technology. The company is the European market leader in combine harvesters and world market leader for self-propelled harvesters. Its tractors, balers and forage harvesting machines also hold top positions in agricultural technology worldwide.

This is supported by the most state-of-the-art information technology. Machine-to-machine communication, intelligent networking, the improvement of the harvesting process as a whole – industry 4.0 is already the company’s reality and sustainability is its principle.

CLAAS products ensure efficiency in agricultural production and they go easy on natural resources as they continuously reduce energy consumption. More than 11,000 employees are engaged in this task in 140 countries; talented people from all professions, who make their daily contribution towards feeding the world.

**TOPICS OF INTEREST**
- Connected machines
- Farming 4.0
- Omni-channel customer experience
- Precision Farming
- Data Management
- Big data & AI
- Big data & AI

**JOB OPPORTUNITIES**

CLAAS is special because it is a family-owned enterprise with a long-term, forward-looking approach which is based on the commitment of its employees. At CLAAS, you won’t find ‘just another job’. You will instead face the challenging task of continuously improving harvesting performance through innovative technology.

- **Selected vacancies in Germany for professionals**: SAP Consultant, Specialist Big Data Infrastructures, Senior Sales Force Developer, IT Project Manager
- **Selected vacancies in Germany for students**: Internship Digital Transformation, Internship Online Business After Sales, Internship Business Development Digital Customer Touchpoint, Internship Data Analytics/ Data Science/ AI (usual procedure: 3 months internship + 3 months joint thesis project)

If you have any questions about our current international vacancies, our contacts at the respective locations are happy to help.

www.claas.jobs

Instagram: @claas_careers

**DO SOMETHING GREAT**

**ABOUT THE COMPANY**

With a pioneer spirit and start-up attitude, cronos was founded in 1991 in Münster, Germany. Our core area of consulting is IT and process optimization for utility companies. We support our customers in the process of digitization and the development of new business fields.

cronos is an official SAP, UiPath, celonis and Microsoft partner, has long standing partnerships with universities and a combined experience of over 1000 customer projects. Drawing from this experience and based on the latest technological trends, like Blockchain, SAP S/4HANA, Robotic Process Automation, Process Mining and Machine Learning, we are able to develop innovative and approved solutions for the utilities industry.

We make an active contribution to the success of the energy transition in Germany, Austria and Switzerland. With over 300 permanent consultants in 5 locations, we are the biggest independent SAP consulting firm for the utilities industry in USA. Our success is the result of a well-balanced team formation bringing together young and experienced IT specialists, who are among the most sought-after consultants in the industry.

**FACTS**
- market leader as biggest independent IT consultancy for the utility sector
- >300 consultants
- >200 active customers
- >1000 successful projects
- >25+ years of experience
- SAP Diamond Initiative & Gold Partner
- UiPath Diamond Partner
- Celonis Gold Partner

**TOPICS OF INTEREST**
- software engineering
- project management
- portals
- sap development
- SAP HANA
- process automation
- CRM
- SAP Customer Experience
- analytics
- online marketing
- HTML5, JAVA
- SAP Cloud Platform
- SAP Fior
- Machine Learning
- strategy consulting
- AI
- SAP UI5
- Process Mining
- Robotic Process Automation

**IT EXPERTS FOR UTILITIES**

**JOB OPPORTUNITIES**

Think outside the box – especially in IT! Driven by innovative and creative young people, digitization accelerates the development of new technologies and new challenges. Granting young professionals the freedom to explore ideas and to assume more responsibilities is part of our credo. We maintain a strong academic network and offer attractive programs for students and graduates. Our regular workshops, graduate programs and extensive onboarding system jumpstart a career in IT development and consulting.

**WE ARE LOOKING FOR TALENTS**
- Junior IT consultant
- Junior RPA developer
- Junior RPA consultant
- Junior app developer
- Junior cloud developer
- Junior ERP consultant
- Working Student
- Bachelor/Master Thesis

Find out more about our student and graduate programs:

www.cronos.de/campus
www.cronos.de/cronologewerden
ABOUT THE COMPANY
DMI takes responsibility for the digital archiving of patient records and provision in client software systems. Since 1966, the specialised service provider has been providing hospitals with continuous support in the optimisation of information-based processes and with fully compliant archiving throughout constant changes in technology and framework conditions. In production centres and at clients’ locations, DMI staff digitise, qualify, integrate and archive every second patient record for in-patients based on certified information security and data protection guidelines and ensure seamless integration into health IT systems. Through its interface expertise and specialised service provider has been providing digitised paper-based patient records with electronic documents and data, as well as medical image documentation, in audit-long-term archives. Interoperability (the ability of systems to interact with one another), locating on a data level, is the basis for the integration and sustainability of our solutions.

DMI provides its clients with lean, secure, efficient processes through consolidated patient records. Our relationships with our clients are shaped by commitment, respect and fairness. The quality of our service business is based on the professional and social skills of our employees.

ABOUT THE COMPANY
At Hilti we create and design leading-edge technology, software and services, which power the professional construction industry. Hilti stands for quality, innovation and direct customer relationships result- ing in about 250,000 individual customer contacts each day. Based in Schaan, Liechtenstein, the company has 30,000 employees in more than 120 countries around the world who contribute to making construction work simpler, faster and safer while inspiring customers every single day with technologically leading products, systems, software and services.

Many ideas for improvements are developed directly on construction sites while talking to customers. If there is an on-site challenge for which no Hilti solution exists, one will be developed. This is why the company invests approximately 6 percent of sales each year in research and development. We run our own research and design labs, working with top technical universities and partners, all over the world. We make our own products in Hilti factories and with external partners, making sure all our products match the same high quality and standards.

We are particularly motivated by the possibilities that digital technology can bring to a traditional sector like construction. Right now, we have a unique opportunity to solve real-world problems and lead the way in revolutionising our industry. As a company whose lifeblood is innovation, we give our customers the next level of digital offerings on an impressive global scale. For you, it means unrivalled opportunities to work in a ‘start-up within’ environment, develop an international career and have an impact on the shape of things to come.

ABOUT GLOBALIT IN HILTI
It’s an incredibly exciting time to join Hilti, especially if you work in the digital space. We’ve always been a company at the forefront of engineering hardware solutions, and today we’re investing more than ever in software technologies as digital transformation is a big priority for us.

Hilti is a great place for you to show your worth as you learn, grow and carve out your career in Information Technology. Global IT within Hilti is a truly global team with main hubs in Buchs (Switzerland), Kuala Lumpur (Malaysia), and Plano and Tulsa (USA). All locations have highly competent teams who work very closely together and in profound partnership with their business counterparts. Hilti’s Global IT team is known for their focus on sustainable business enablement by translating latest IT innovations into value creating solutions and services.

So, have a career with the best! Become a valuable member in a highly professional and international team of IT experts.

TOPOGRAPHICAL INTEREST
- Digitization, qualification, consolidation, presentation, and archiving of documents
- Integration into information-based processes
- Analysis of documentation process landscapes and support for optimization aiming at effectiveness and compliance.

FOR MORE INFORMATION, CONTACT: Dr. Viola Henke
Tel +49 2534 8005-0
Mobile +49 151 40798718
viola.henke@DMI.de
www.dmi.de

Our Global IT roles range from data analysts, project managers and system engineers to cyber security experts, user experience designers and enterprise architects.

We have been recognized as one of best workplaces on the 2020 Fortune 100 Best Companies to Work For® list and the 2019 Best Place to Work by Glassdoor, and were ranked among the top employers by the Great Place to Work® Institute multiple times. Further, the snow-draped mountains, crystal-clear lakes and marvelous landscapes in the so-called Happy Valley invite for lots of outdoor activities and allow you to work where others spend their holidays.

Hilti’s Global IT team is known for their focus on sustainable business enablement by translating latest IT innovations into value creating solutions and services.

So, have a career with the best! Become a valuable member in a highly professional and international team of IT experts.

TOPIC OF INTEREST
- Cloud application platform – where we build our current platform for all digital and software offerings to our customers.
- Enterprise computing – where we design, build and operate our network and computing capabilities.

Our Global IT roles range from data analysts, project managers and system engineers to cyber security experts, user experience designers and enterprise architects.

We have been recognized as one of best workplaces on the 2020 Fortune 100 Best Companies to Work For® list and the 2019 Best Place to Work by Glassdoor, and were ranked among the top employers by the Great Place to Work® Institute multiple times. Further, the snow-draped mountains, crystal-clear lakes and marvelous landscapes in the so-called Happy Valley invite for lots of outdoor activities and allow you to work where others spend their holidays.

Hilti’s Global IT team is known for their focus on sustainable business enablement by translating latest IT innovations into value creating solutions and services.

So, have a career with the best! Become a valuable member in a highly professional and international team of IT experts.

TOPIC OF INTEREST
- Cloud application platform – where we build our current platform for all digital and software offerings to our customers.
- Enterprise computing – where we design, build and operate our network and computing capabilities.

Our Global IT roles range from data analysts, project managers and system engineers to cyber security experts, user experience designers and enterprise architects.

We have been recognized as one of best workplaces on the 2020 Fortune 100 Best Companies to Work For® list and the 2019 Best Place to Work by Glassdoor, and were ranked among the top employers by the Great Place to Work® Institute multiple times. Further, the snow-draped mountains, crystal-clear lakes and marvelous landscapes in the so-called Happy Valley invite for lots of outdoor activities and allow you to work where others spend their holidays.

Hilti’s Global IT team is known for their focus on sustainable business enablement by translating latest IT innovations into value creating solutions and services.

So, have a career with the best! Become a valuable member in a highly professional and international team of IT experts.

TOPIC OF INTEREST
- Cloud application platform – where we build our current platform for all digital and software offerings to our customers.
- Enterprise computing – where we design, build and operate our network and computing capabilities.

Our Global IT roles range from data analysts, project managers and system engineers to cyber security experts, user experience designers and enterprise architects.

We have been recognized as one of best workplaces on the 2020 Fortune 100 Best Companies to Work For® list and the 2019 Best Place to Work by Glassdoor, and were ranked among the top employers by the Great Place to Work® Institute multiple times. Further, the snow-draped mountains, crystal-clear lakes and marvelous landscapes in the so-called Happy Valley invite for lots of outdoor activities and allow you to work where others spend their holidays.

Hilti’s Global IT team is known for their focus on sustainable business enablement by translating latest IT innovations into value creating solutions and services.

So, have a career with the best! Become a valuable member in a highly professional and international team of IT experts.

TOPIC OF INTEREST
- Cloud application platform – where we build our current platform for all digital and software offerings to our customers.
- Enterprise computing – where we design, build and operate our network and computing capabilities.

Our Global IT roles range from data analysts, project managers and system engineers to cyber security experts, user experience designers and enterprise architects.

We have been recognized as one of best workplaces on the 2020 Fortune 100 Best Companies to Work For® list and the 2019 Best Place to Work by Glassdoor, and were ranked among the top employers by the Great Place to Work® Institute multiple times. Further, the snow-draped mountains, crystal-clear lakes and marvelous landscapes in the so-called Happy Valley invite for lots of outdoor activities and allow you to work where others spend their holidays.

Hilti’s Global IT team is known for their focus on sustainable business enablement by translating latest IT innovations into value creating solutions and services.

So, have a career with the best! Become a valuable member in a highly professional and international team of IT experts.

TOPIC OF INTEREST
- Cloud application platform – where we build our current platform for all digital and software offerings to our customers.
- Enterprise computing – where we design, build and operate our network and computing capabilities.

Our Global IT roles range from data analysts, project managers and system engineers to cyber security experts, user experience designers and enterprise architects.

We have been recognized as one of best workplaces on the 2020 Fortune 100 Best Companies to Work For® list and the 2019 Best Place to Work by Glassdoor, and were ranked among the top employers by the Great Place to Work® Institute multiple times. Further, the snow-draped mountains, crystal-clear lakes and marvelous landscapes in the so-called Happy Valley invite for lots of outdoor activities and allow you to work where others spend their holidays.

Hilti’s Global IT team is known for their focus on sustainable business enablement by translating latest IT innovations into value creating solutions and services.

So, have a career with the best! Become a valuable member in a highly professional and international team of IT experts.

TOPIC OF INTEREST
- Cloud application platform – where we build our current platform for all digital and software offerings to our customers.
- Enterprise computing – where we design, build and operate our network and computing capabilities.
Another important subject area is Big Data. In recent years the amount of semi- or unstructured data sources has massively increased. At the same time the challenge of realizing storage, information extraction, and information integration for analysis rises. We support our customers to cope with the difficulty of complex Big Data solutions.

Last, but not least we employ Data Science and Predictive Analytics methods to create new possibilities for extracting knowledge from our client’s data. We offer guidance on planning and executing Data Science projects. Following our self-developed approach, shaped by the experience from hundreds of projects, we handle vast amounts of data and deliver high quality information and predictions.

We collaborate closely with our customers and help to expand their knowledge with individual trainings and valuable coaching.

Since our foundation in 2000, we managed to become renowned business analytics experts. To give our clients certainty in a couple of mouse clicks is the goal we have devoted ourselves to.

Visual Analytics promises a fast and effective way to get a thorough understanding of business data. No means are better suited to give meaning to data than a visual form of representation. We support our customers by creating diagrams and conveying the required knowledge. In fact, we also empower our clients to conduct ad-hoc analysis and reports by providing an environment in the sense of BI Self-Service which can be used by power- or business users without IT assistance. Eventually this leads to faster and more accurate decision-making. Of course, we will make sure that any data governance and legal obligations are met.

We design and implement BI, DWH and Big Data solutions. In a Data Warehouse data from different source systems and of varying formats is consolidated, stored for data analysis and ultimately used to support business decisions.

Our highly qualified staff has acquired profound knowledge for conception and design of such solutions and are familiar with new modelling and architecture paradigms.

Another important subject area is Big Data. In recent years the amount of semi- or unstructured data sources has massively increased. At the same time the challenge of realizing storage, information extraction, and information integration for analysis rises. We support our customers to cope with the difficulty of complex Big Data solutions.

Last, but not least we employ Data Science and Predictive Analytics methods to create new possibilities for extracting knowledge from our client’s data. We offer guidance on planning and executing Data Science projects. Following our self-developed approach, shaped by the experience from hundreds of projects, we handle vast amounts of data and deliver high quality information and predictions.

We collaborate closely with our customers and help to expand their knowledge with individual trainings and valuable coaching.

Since our foundation in 2000, we managed to become renowned business analytics experts. To give our clients certainty in a couple of mouse clicks is the goal we have devoted ourselves to.

Visual Analytics promises a fast and effective way to get a thorough understanding of business data. No means are better suited to give meaning to data than a visual form of representation. We support our customers by creating diagrams and conveying the required knowledge. In fact, we also empower our clients to conduct ad-hoc analysis and reports by providing an environment in the sense of BI Self-Service which can be used by power- or business users without IT assistance. Eventually this leads to faster and more accurate decision-making. Of course, we will make sure that any data governance and legal obligations are met.

We design and implement BI, DWH and Big Data solutions. In a Data Warehouse data from different source systems and of varying formats is consolidated, stored for data analysis and ultimately used to support business decisions.

Our highly qualified staff has acquired profound knowledge for conception and design of such solutions and are familiar with new modelling and architecture paradigms.
The PICTURE GmbH intends to promote or evaluate the company 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 organisations.

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 coherences 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 contextual 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.

Visit our website 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 Budge Consolidation
- Implementation of Document Management Systems Reorganisation
- Studies Interface Analyses, Implementation of Software

THE PICTURE PLATFORM

The Picture method is embedded in the web-based Platform picture. 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 generally intelligible methodology to illustrate these needs through customised processes.
SAP

Our Purpose: Help the world run better and improve people’s lives.

SAP’s strategy is to help every business run as an intelligent enterprise. As a market leader in enterprise application software, we help companies of all sizes and in all industries run at their best: 77% of the world’s transaction revenue touches an SAP® system. Our machine learning, Internet of Things (IoT), and advanced analytics technologies help turn customers’ businesses into intelligent enterprises. SAP helps give people and organizations deep business insight and fosters collaboration that helps them stay ahead of their competition. We simplify technology for deep business insight and fosters collaboration that helps them stay ahead of their competition. SAP helps the world run better and improve people’s lives.

For more information, visit www.sap.com

TOPICS OF INTEREST
Business Technology Platform
• Database & Data Management
• Intelligent Technologies
• Application Development
• Predictive Analytics
• Artificial Intelligence / Machine Learning
• Blockchain
• Cyber Security / Quantum Technologies

Intelligent Suite
• Digital Supply Chain
• Industry 4.0 / IoT
• Employee Experience Management

JOBS OPPORTUNITIES
Dreamers. Thinkers. Doers. Looking for your dream job? Find it at SAP. Bring everything you are — and become everything you want.

jobs.sap.com

SCHWARZ

ABOUT THE COMPANY
The Schwarz Group is a leading international trading company with 498,000 employees worldwide and over 12,500 stores in more than 33 countries. It is made up of the two retail divisions, Lidl and Kaufland, and is based in Neckarsulm in Baden-Wuerttemberg.

In addition to the retail business, the Schwarz Group has continuously expanded its portfolio to include production capacities for food. These include own brands in the beverages, baked goods, confectionery and ice cream sector.

The Schwarz Group has been involved in the collection, sorting and recycling of recyclable materials for many years. The group company, PreZero, is the disposal and recycling service provider for the entire group.

Schwarz IT is the powerful technology partner of the entire Schwarz Group. As a central IT service provider, Schwarz IT is responsible for the selection and provision of IT infrastructure, IT platforms and business applications for the whole group.

Schwarz IT develops professional, efficient solutions for the further development of existing business models and for the establishment of completely new concepts. For this to succeed, we create the decisive technological prerequisites.

Together we secure the diverse, global daily business of the Schwarz Group. Through the forward-looking development of innovative solutions, we enable new business ideas to be put into practice.

Become part of Schwarz IT, the powerful technology partner of Schwarz Group. We are looking for get-setters, who want to become part of the digital heartbeat. We offer a variety of opportunities from internships to permanent positions.

Schwarz IT — more IT than you might think!

Find out about our attractive job offers at www.ii.schwarz

www.linkedin.com/company/schwarz-it-kg
www.kununu.com/de/schwarz-it

Goals: The Schwarz Group, number four in global retail with annual sales of over 125.3 billion euros, will continue to grow with its divisions. The digitalization of the world offers many previously unimaginable possibilities for the further development of existing business models and for the establishment of completely new concepts. For this to succeed, we create the decisive technological prerequisites.

For more information, visit www.sap.com

TOPICS OF INTEREST

JOBS OPPORTUNITIES
In a wide range of exciting tasks and global responsibilities for the further development of innovative solutions, we enable new business ideas to be put into practice.

The Schwarz Group, number four in global retail with annual sales of over 125.3 billion euros, will continue to grow with its divisions. The digitalization of the world offers many previously unimaginable possibilities for the further development of existing business models and for the establishment of completely new concepts. For this to succeed, we create the decisive technological prerequisites.

Together we secure the diverse, global daily business of the Schwarz Group. Through the forward-looking development of innovative solutions, we enable new business ideas to be put into practice.

Become part of Schwarz IT, the powerful technology partner of Schwarz Group. We are looking for get-setters, who want to become part of the digital heartbeat. We offer a variety of opportunities from internships to permanent positions.

Schwarz IT — more IT than you might think!

Find out about our attractive job offers at www.ii.schwarz

www.linkedin.com/company/schwarz-it-kg
www.kununu.com/de/schwarz-it
ABOUT THE COMPANY
viadee Unternehmensberatung AG is a German IT Company with more than 150 tech-interested employees. Our company culture is dedicated to caring for each one individually, maximizing our potential. Applying this principle, we have come a long way since 1994 to offer great individual solutions to our customers.

viadee currently has an office in Münster, as well as an office in Cologne and Dortmund. All are located in the state of North-Rhine Westphalia, allowing us to focus a regional customer base. Projects are seldom far away from our employee’s home location, which proudly makes us say that most of our consultants have the chance to sleep at home.

The industry sectors, in which our consultants are active, include banking, electric power industry, trade, IT and service companies, logistics, public service, telecommunications, insurers, logistics and supply plants.

TOPICS OF INTEREST
We consist of a lot of people with a technological and methodical affinity. Keeping up to date with the ever-changing world of IT, there exist various opportunities within viadee. Bringing BPMN (business process model notation) models to life is currently one of our core activities. Prominent mention should be given to our open source contributions on GitHub, as well as our confluence BPM-Modeler on the Atlassian Marketplace. Work often is organized in agile projects leveraging other Java-based technologies, be newest technologies with Quarkus and Micronaut or Spring Boot, or established practices like WSDL and SOAP. Java and SAS have accompanied us through almost all of our company history and with most customers. However, we take an undogmatic view on technologies and methods and use whatever is appropriate, such as Python and R in the Data Science Domain. To keep up with the scientific discussion we enjoy cooperation, both with ERCIS, and other research institutions.

Test automation is great to ensure software quality. We feel it is even greater with software developed here called Mateo, the viadee test automation framework: An opportunity to create cross-platform integration tests, be it web-based, or on the level of an operating system. Areas of expertise and consulting products, such as these, are invented and supported like internal startups by using lean methods.

Employees have the opportunity to contribute their topics of interest as part of our research and development activities. Right now, this is happening with explainable artificial intelligence (XAI), IT-Security, Cloud Architecture, and several other topics.

JOB OPPORTUNITIES
Interested in our topics and ready to take the next step? If you see yourself in a technical role, while being open and interested in the social components of everyday business life, we would love to welcome you on board.

IT-Consultant for
• Software Development
• Software Architecture
• Business Intelligence

To find out about our benefits and further job listings make sure to visit our website www.viadee.de/karriere. For a closer look at our field of interest, you are invited to follow along at blog.viadee.de – a blog to which every employee can add content.

FOR MORE INFORMATION, PLEASE CONTACT:
Dr. Frank Köhne
Research & Development
p +49 251 7777-156
Frank.Koehne@viadee.de
www.viadee.de
### ABOUT THE COMPANY

The Westphalia DataLab is a data science software development and consulting company with deep expertise in the areas of artificial intelligence (AI) and machine learning – as shown by the “Deutscher KI-Preis” officially awarded by WELT / Axel Springer SE in 2020 and the title “Machine Learning Champion” bestowed upon us in 2021 by the Center Smart Services of RWTH Aachen University, an independent review of more than 300 machine learning providers.

As a visionary company, the Westphalia DataLab is one of the first data science companies in Europe that from the outset has committed to the productization of data science projects: that is, we develop scalable data products based on our cross-industry expertise and individual project experience. Simply put, we turn data products into data products. Our data products combine state of the art algorithms in the industry with deep expertise in the areas of more than 300 machine learning providers.

Westphalia DataLab – Software as a Service Product

Westphalia Forecast is the first product that we offer as a Software as a Service (SaaS) solution. It is a fully automated forecasting solution that enables customers across all industries to create precise forecasts of e.g. sales, incoming goods, or personnel requirements. It has already been used successfully for different use cases in various industries, especially when more traditional planning approaches, often based on Excel, fail to deliver the desired accuracy.

- **DeepEye – Innovation Pipeline**
  - Hamming AI to prevent blindness: deepEye is our product under development that is driving the digital revolution in ophthalmology. In cooperation with the eye center St. Franziskus-Hospital Muenster and Novartis as a sponsor, we have developed an AI-based decision support system for ophthalmologists in the treatment of the eye disease age-related macular degeneration (AMD), one of the leading causes of vision loss in the developed world.

**jobs and services**

- **Data Activation & Innovation – TOPICS OF INTEREST**
  - Data Activation & Innovation – Data Science Consulting & Implementation
  - Our experienced Data Activation & Innovation team offers tailored project support for customers across all industries – from identifying the most relevant use case and crafting out the Proof of Concept up to the seamless integration of the analysis results into operational business processes and IT infrastructure. Our current projects include developing route optimization tools for logistics, predictive quality solutions for mechanical engineering, a customer feedback analysis tool for consumer goods manufacturing, a predictive diagnostic ophthalmology assistant, and others.

- **Westphalia Forecast – Software as a Service Product**
  - Westphalia Forecast is the first product that we offer as a Software as a Service (SaaS) solution. It is a fully automated forecasting solution that enables customers across all industries to create precise forecasts of e.g. sales, incoming goods, or personnel requirements. It has already been used successfully for different use cases in various industries, especially when more traditional planning approaches, often based on Excel, fail to deliver the desired accuracy.

**topics of interest**

- **Shape Spaces**
  - Entering new spaces, shaping and designing them, grasping and changing the unknown. That’s our thing. We love to discover new things, try them out and develop them further—and we love to infect others with our enthusiasm for doing so.

- **Shape Spaces**
  - Shape Spaces expresses the key element of the zeb culture: shaping things. With expertise, courage and creativity, we drive the transformation of the financial sector forward. We love to discover new things, try them out and develop them further. We are looking for people who overcome boundaries, shape the future and infect others with their enthusiasm.

**company**

Westphalia DataLab is a data science advisory board.

**advisory board**

www.ercis.org
The ERCIS network bundles certain areas of expertise in several competence centers. Competence centers are multi- and interdisciplinary consortia consisting of partner institutions from research as well as from practice to focus on distinct topics.
Business Rules Management: Business rules are formal prescriptions that a company has to comply with in order not to face negative monetary or legal effects. Business rules are used to control the execution of business processes, and they are often maintained in business rule repositories as part of process-aware application systems such as business process management software and/or workflow management systems. An important task of Business Rules Management is to maintain repositories in order to cope with inconsistencies, for instance. In our research project “Handling Inconsistencies in Business Process Modeling (Hi’BPM)”, which is funded for two years by the German Research Foundation (DFG, DE 1983/9-1), we have developed a methodology that can identify such inconsistencies automatically and support analysts in resolving them with corresponding inconsistency measures and visualizations.

Social (Process) Mining: Process Mining is a popular research stream in the realm of Business Process Management. It develops approaches to learn the structure and behavior of a business process automatically from log files of business software. Traditional Process Mining focuses on highly structured processes as they are typically executed in enterprise systems or semi-structured processes, which are supported, for instance, by case handling systems. A new research field in Process Mining, which we initiated with our research project Social Process Mining (SPM), focuses on unstructured processes as we find them in Enterprise Social Software (ESS). The goal of the SPM-project, which is funded for three years by the German Research Foundation (DFG, DE 1983/12-1), is to develop Process Mining algorithms that consider the special character of unstructured ESS processes and to apply them on large ESS log data to automatically detect typical collaboration scenarios in ESS.

Predictive Process Monitoring: Predictive Process Monitoring is used to learn the structure and behavior of a business process automatically from log files of business software and predict the future behavior of currently running process instances. The prediction results can be used to proactively influence process instances, for example, to assure beneficial behavior and avoid unfavorable one. We can use predictive process analytics, for instance, to support public traffic systems or tourist installations to optimize their operating rate or to avoid congestion, optimize the behavior and output of plants, or decrease fine particulate matter pollution in large cities. Currently, we work on considering the process context in predictive process monitoring algorithms as it can be expected that including knowledge about additional process event attributes in the prediction will increase the prediction accuracy. The latter is an important aspect since current predictive process monitoring approaches still suffer from low prediction accuracy.

SELECTED PUBLICATIONS

COMPETENCE CENTERS

CRISIS MANAGEMENT

The Competence Center for Crisis Management (C³M) integrates the research efforts of the ERCIS network in the domain of crisis management (CM) and humanitarian logistics. Our main objective is to identify relevant challenges in practitioner realities and to design appropriate socio-technical solutions. In this context, C³M investigates the role of Information and Communication Technologies (ICT) concerning logistics and supply chain management. C³M integrates a collaborating network of different practitioners and research groups from the CM and humanitarian logistics domain. C³M concentrates on six research topics within the application domain, starting at the visualization and modeling of processes up to the analysis and coordination of humanitarian relief chains.

RESEARCH PROJECTS

In the year 2020 the whole globe experienced how it feels to be directly affected by a disaster. The spread of COVID-19 has impacted the way we work and live significantly. This, certainly, also applies for the C³M team. However, being active in several international networks implies that spending full working days in teleconferences has already been part of routines for many years. The almost whole C³M team participated actively at the conference and released the final D+ Trial Guidance Methodology (TGM) handbook and website. Besides, our simulation environment HumLogSUITE has received much attention at the innovation boost.

The final conference of the DRIVER+ project in February has been the last big event organized in a conventional physical setup. Over 220 international Crisis Management specialists, academics, and technology providers came together in Brussels to experience and discuss the manifold results of the DRIVER+ project, which came to an end after more than six years. The almost whole C³M team participated actively at the conference and released the final D+ Trial Guidance Methodology (TGM) handbook and website. Besides, our simulation environment HumLogSUITE has received much attention at the innovation boost.

Three new exciting research projects started this year:

- A direct continuation of the D+ activities are realized through the H2020 funded demonstration project “STAMINA: Demonstration of intelligent decision support for pandemic crisis prediction and management within and across European borders” (GA 883422, 09/2020-08/2020). C³M’s role covers the methodological design and support of twelve trials with the objective to assess potential innovations in pandemic crises.

- With the EPPIREACT project, “User-oriented Extension and Automation of Agent-based Software for Pathogen-specific Modelling of Epidemics”, we directly contribute to the development of information systems for pandemic management (FKZ 01IA1922, 02/2020–02/2022). The project is funded by the Nationale Forschungsplattform für Zoonosen and aims at the development and dissemination of a test-bed to evaluate epidemic and pandemic intervention strategies for deeper understanding of infection dynamics.

- The BISKIT project, “Blood Information System for Crisis Intervention and Management”, receives funding from the Federal Ministry of Education and Research (FKZ 01IS2144, 04/2020–07/2023). The tasks of the C³M team are to apply our simulation environment HumLogSUITE to evaluate different logistics setups for the South-African blood supply chains as well as to develop its Enterprise Response using the TOGAF framework.

We are honored to announce that the TGM did not only turn into a CEN workshop agreement, but also that ERCIS committed to maintain access to the interactive TGM website supporting nine European languages: tgm.ercis.de. This transformation from a research project into CM realities is embedded in a comprehensive sustainability plan, which relies foremost on CM practitioners throughout Europe. Thus, it was an honor to provide the first TGM training module to the Center of Expertise network. D+ was not just a project or as labelled by the EC Research Executive Agency – a success story, it was truly a unique and outstanding journey of a growing CM community mutually learning from each other towards continuously improving European resilience. The finalization of D+ is not its end, it is yet a new beginning.

Bискит

CONFERENCES, TEACHING AND OTHER ACTIVITIES

Although the ISCRAM conference 2020 has been skipped due to COVID-19, all accepted papers have been published in the annual proceedings. This year, we are especially encouraged by the first joint publication on congestion management with our associated partner Prof. Mark Haselkorn from the Center for Collaborative Systems for Security, Safety, and Resilience (CeSSaR) at the Human Centered and Design Department (University of Washington). And since our POMS mini-track on simulation in humanitarian operations had to be postponed due to the same reasons, we were very happy to organize a mini track at the virtual edition of the 51st Annual Conference of the Decision Sciences Institute.

Additionally, it was a pleasure to continue our course “Logistics in Humanitarian Action” for the Joint Master’s Programme in International Humanitarian Action offered by the Network on Humanitarian Action (NOHA) at the group of Prof. Dr. Dennis Dijkzeul, Institute for International Law of Peace and Armed Conflict (Ruhr Universität Bochum) in February this year. Further, we were pleased to participate at the NOHA Cluster Workshop hosted by our colleagues from the Ruhr University Bochum in order to discover further collaboration potential. If you are interested in further activities in the year 2020, such as our group presentations at Risky Monday, hosted by the Institute of Rescue Engineering and Civil Protection of the TH Kün University of Applied Sciences or the AMICS research seminar LACAIIS, please have a look at our website: crisismanagement.ercis.org.

We are so grateful for the exchanges and collaborations with our friends and partners and we are looking forward to their continuation and new initiatives in the next year. Stay healthy!

SELECTED PUBLICATIONS


We are so grateful for the exchanges and collaborations with our friends and partners and we are looking forward to their continuation and new initiatives in the next year. Stay healthy!

CONTACT DETAILS

PROF. DR.-ING. BERND HELLINGRATH
Academic Director
p +49 251 83-38000
bernd.hellingrath@wi.uni-muenster.de

ADAM WIDERÀ, M. A.
Managing Director
p +49 251 83-38011
adam.widera@wi.uni-muenster.de

University of Münster
ERCIS – Competence Center Crisis Management (C³M)
Leonardo-Campus 3
48149 Münster
Germany

crisismanagement.ercis.org
DT in SMEs

The Digital Transformation in SMEs Competence Center (DT in SMEs CC) is a joint effort of several ERCIS institutional members, namely University of Agder, University of Luleå, University of Münster, University of Turku, University of Twente, University of Minho, Wrocław University of Science and Technology. The Competence Center aims at encouraging research and providing expertise on the digital transformation of SMEs.

Webpage: https://ccdt.ercis.org/

ACTIVITIES
Seminar: Socio-technical approaches in the IS Discipline
February 20 – 21, 2020, Porto, Portugal
Professor Suprateek Sarker – University of Virginia’s McIntire School of Commerce

The Seminar “Socio-technical approaches in the IS Discipline” aimed to train junior researchers in the social and technical components that characterise the phenomena researched in the Information Systems discipline as well as the role of socio-technical approaches in the development of research in this discipline. Participants in the seminar were invited to analyse their research in the light of socio-technical principles.

Within the socio-technical approach, the qualitative research of the phenomena relevant to the Information Systems discipline was discussed. This presentation aimed to promote an understanding of the role played by qualitative research in the IS discipline. The seminar focused in particular on interpretive case studies and ethnographic studies, highlighting their specificities. Participants were encouraged to reflect on the challenges associated with writing and publishing these studies by analysing and discussing high-quality papers.

The seminar was intended for researchers and PhD students in Information Systems. The seminar brought together participants from several universities in Portugal, including UMINHO, as well as from University of Münster and Università degli Studi della Tuscia.

PROJECTS
Submitted in 2020:
• ERASMUS+ KA200 “SMEs: Be prepared for supply chain risks”: Resubmission of a previously submitted project called “Awareness Training for supply chain RISks in SMEs”. The project was approved. The ERCIS Members involved were Alessio Braccini – Università Degli Studi Della Tuscia (IT), University of Minho (PT), and Tallinn University of Technology (EE).
• ERASMUS+ KA203 “Integrating virtual and AUGMENTED reality with WEARable technology into engineering EDUcation” – AugmentedWearEdu’s main goal is to introduce a novel framework for e-Learning to integrate low-cost off-the-shelf commercial (COTS) VR/AR tools and haptic wearables to enable digital access to laboratories in higher education. The project was approved. The ERCIS Members involved are University of Agder (NO – coordinator), Kaunas University of Technology (LT), and University of Minho (PT).
• H2020-5SwafS-2018-2020 “Open Science For the digital transformation of Circular bbiSmEss models”: FOCUSED aims to put citizens’ concerns at the heart of the research agenda on circular economy by tackling issues that concern them. The project was not approved but a resubmission is planned for next year.

The ERCIS members involved are the University of Minho (PT – coordinator), the Tallinn University of Technology (EE), and Alessio Braccini – Università Degli Studi Della Tuscia (IT).

Being carried out in 2020:
• Virtual Open Innovation Lab (VOIL) – ERASMUS+: KA203 – Strategic Partnerships for higher education. The project aims at developing a curriculum to guide the learning of emerging technologies and assess their potential for innovating and digitally transform Micro, Small and Medium Enterprises – SMEs.

The participating ERCIS members are the University of Münster, the University of Minho, the Kaunas University of Technology and the University of Agder.

Intellectual Outputs in their almost final stage: O1 Digital transformation toolkit, O2 Digital transformation curriculum, and O3 Simulation Resource Pack.

PUBLICATIONS

Isabel Ramos
University of Minho, Portugal
iramos@dsi.uminho.pt

Niels F. Garmann-Johnsen
University of Agder, Norway
niels.f.garmann-johnsen@uia.no

CONTACT DETAILS

https://ccdt.ercis.org/
Two new studies funded by the National E-Government Competence Centre in Germany

The German National E-Government Competence Centre (MEGZ) has funded two studies that researchers from the ERCIS Competence Center E-Government have been working on in 2020. The study on citizen user journeys investigates how public sector organizations can apply the customer journey concept that originates from the private sector to shift the focus to the citizens’ needs. Despite various examples from the government practice, research on digital government has barely regarded customer journeys. Therefore, the ERCIS E-Government Competence Center completed a project this year that transferred the customer journey concept to the public sector. The researchers developed a generic citizen journey and identified critical contact points where citizens moved from the online to the offline channel.

A second study focuses on no-stop shops, which means that a citizen does not need to perform any action to receive a government service. A no-stop shop requires a comprehensive integration of citizen data to anticipate their needs. Additionally, public sector organizations offer various services that could potentially be provided in such a no-stop shop. The ERCIS E-Government Competence Center runs a project that first develops a catalogue of requirements for a no-stop shop with special consideration of the citizens’ digital sovereignty. The project’s second aim is the creation of a method for the selection of services for the implementation in a no-stop shop.

Master’s Program Public Sector Innovation and E-Government (PIONEER) started fourth round
PIONEER is a joint master program organized by the KU Leuven, the University of Münster and Tallinn University Tallinn providing the students with interdisciplinary expertise. The third cohort has attended the summer term in Münster. Due to the COVID-19 pandemic, it was a completely virtual semester with lots of challenges on very short notice for both, students and lecturers. Nevertheless, Kari Jacobsen and Stephen McCarthy supported the program as virtual guest lecturers. While the third cohort has moved to Tallinn now, mostly in a presence setting, the fourth cohort with 21 students started in Leuven.

German online access act – status quo in municipal administrations
This project examines the status quo of the implementation of the German online access act for municipal administrations. The main focus is on accessibility and usability of public services online. This project runs since 2018 and is funded by the German Federal Ministry of Education and Research (BMBF). The project partners are the introduces the project’s key findings and provides recommendations for future developments.

Digital government track at the Wirtschaftsinformatik conference
Sara Hofmann and Michael Räckers from the Competence Center have organized this year’s Digital Government Track at the German Wirtschaftsinformatik conference. Being scheduled in March prior to the lockdown, the conference could take place physically in Potsdam, Germany. In this track, researchers from the ERCIS partner at the University of Paderborn, Germany, presented their design of a software prototype considering local customers’ shopping interests and geospatial data on their shopping trips for retail site selection. With real data on 500 customers and 1,500 shopping trips, they demonstrated and evaluated the IT artefact. The results illustrate how retailers and public town centre managers can use CCARS for spatial location selection, growing retailers’ profits and a city centre’s attractiveness for its citizens.

Selected publications


Dr. Sara Hofmann
Competence Center E-Government
University of Agder
Postboks 422
4604 Kristiansand
Norway
p: +47 38 14 13 43
sara.hofmann@uia.no

Dr. Michael Räckers
Competence Center E-Government
University of Münster
Leonardo-Campus 3
48149 Münster
Germany
p: +49 251 83-38075
michael.raekers@ercis.uni-muenster.de
The proliferation of the Service Economy has changed the way we view value creation throughout various industry sectors and societies. Selling products is increasingly replaced by customised service offerings and alternative revenue streams (e.g., power-by-the-hour). Research in the academic discipline of Service Science, Management, and Engineering is focused on understanding and facilitating the creation of value in service systems, involving interactions of service providers and service customers. 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 commercial businesses, the public sector, and society.

On the other hand, we contribute to further shaping the course of the service economy by designing new business solutions and software artifacts. Our research is equally dedicated to research excellence and to providing results that companies can utilise to further shape their businesses in the service society. We achieve this goal based on a network of excellent researchers in the ERCIS network.

**SELECTED RESEARCH PROJECTS**

**DeLePred**

The DeLePred (Deep Learning in the Context of Predictive Maintenance) project, funded by the BMBF, aims to develop a machine learning approach to predict the failure of machines. While current techniques for predictive maintenance apply statistical approaches, we focus on deep learning-based methods in this research project. The results will support the adoption of predictive maintenance, taking it from buzzword to real-world application.

**Digital Business (DigiBus)**

Digital platforms like Amazon, Uber, and Airbnb disrupted much of the B2C market. The goal of the DigiBus project is to unlock the potential of digital platforms for industrial companies in the B2B sector. Objectives involve identifying what platforms exist, how companies can offer their services on existing platforms, and what strategic options they have to launch a platform themselves.

**ACADEMIC ACTIVITIES**

Martin Matzner and the Chair of Digital Industrial Service Systems at FAU organised the Doctoral Consortium of the 15th Internationale Tagung Wirtschaftsinformatik in 2020. The doctoral consortium offered Ph.D. students the opportunity to discuss their dissertations with renowned researchers and collect their feedback and input. With Thomas Grisold from the University of Liechtenstein, Martin Matzner served as Track Chair for the Student Track at the 20th Internationale Tagung Wirtschaftsinformatik (MTW 2020).

Daniel Beverungen and his team at Pad-erborn University organised the workshop “Organizational transformation as a part of digital service system engineering” at Wi2020 and the 2nd SICP (Software Innovation Campus Paderborn) Symposium. At these events, participants from academia and industry discussed implementation and transformation strategies for digital service innovations. Christian Bartel-heimer serves as a student representative for the AIS Special Interest Group on Services (SIGSSVC).

**EDITORIAL JOBS**

Daniel Beverungen is a member of the editorial board of Business & Information Systems Engineering (BISE). With Christoph Breidbach and Lysanne Lessard, he served as Track Chair for “Service Innovation, Engineering, and Management” at the virtual 2020 ECIS Conference. Daniel Beverungen, Christiane Lehrer, Thomas Hess, and Antonia Kästler chaired the track “Digital Transformation and Business Models” at the Wi 2020. A follow-up special issue in Electronic Markets is underway.

Martin Matzner is one of the editors of the Journal of Service Management Research.

**AWARDS**

Tobias Pauli won the paper-a-thon award at the 40th International Conference on Information Systems (ICIS) in Munich.

Daniel Beverungen was awarded as a Distingished Member of the AIS.

**SELECTED PUBLICATIONS**


“Smarter Work” describes an approach of
• Algorithmic Management and
The Competence Center Smarter Work sup-
smarter work
quiring about employees who use new
designing these new ways of working, sup-
porting by communication and collabora-
tion systems, with a strong emphasis on
the well-being and productivity of all ac-
tors involved. We help exploiting the po-
tentials of new working modes by means of
a conscious and coordinated use of
technologies and aligning digital as well
as analogous work.

The Competence Center Smarter Work sup-
ports organizations with the introduction,
use and management of new communica-
tion and collaboration systems. We build
on years of experience with transformation
processes towards “Smarter Work”. We inte-
grate individual and organizational perspectives in our research projects, in-
quiring about employees who use new
technologies in their everyday work. Our
research is characterized by the pursuit of
long-term improvements. To this end, we
seek a focused understanding of underly-
ning organizational problems before point-
out customized options for action. Our
recommendations are based on estab-
lished scientific approaches. We combine
a broad repertoire of methods (e.g., sur-
veys, interviews, physiological measure-
ments, digital forensics) with traditional
and innovative theories, which allow
us to understand and answer complex ques-
tions about the organization of work. This
is made possible by an interdisciplinary
team of scientists from business, comput-
er science, psychology, sociology, as well
as practitioners from the IT industry.

SELECTED RESEARCH PROJECTS
• Algorithmic Management and
People Analytics
(Pl. Hüllmann)
Algorithmic management departs data-
driven technologies to support or auto-
mate decision-making with people-related
outcomes. Organizations increasingly
implement algorithmic management in the
workplace — under the name people
analytics — to scrutinize and improve their
people’s practices and decisions. Moving
beyond the hype, we question the wider
implications of its use in the workplace,
dressing growing concerns about priva-
cy, validity, and algorithmic bias.

• Leadership in Online Communities
(Pl. S. Vidolov)

Drupal™

Our conceptualization of leadership
moves the focus from individual traits to
the actual practices of leading that can be
embraced and carried by different com-
Iunity actors. In this project, we develop
an analytical tool to evaluate the leader-
ship capacity of an open-source software
community from a distributed leadership
perspective using the example of Drupal.
We examine mediated interactions and
work practices (Drupal’s issue queue) and
combine it with theoretically informed
leadership archetypes. Practical insights
are derived for managers to improve their
leadership capabilities.

• Working from Home during COVID-19
(Pls. J. Müller, S. Lansmann)
Based on a four-week diary study in April
and May 2020 with 37 participants from the
University of Munster, we examine the
impact of “enforced” working from
home due to COVID-19 for employees. We
use the concepts of psychological detach-
ment and communication overload to
analyze the relationship between working
from home and perceived stress. Initial
findings show that employees do not feel
more stressed and that working from
home is a viable option for the post-COVID-19
work organization.

• To Zoom or Not to Zoom
in Times of COVID-19
(Pls. K. Dassel, S. Klein)
We examine the selection and use of Zoom
as a video conferencing application in
academic environments during the onset of
the COVID-19 pandemic at universities
across the globe. In addition to under-
standing decision-making in times of crisis,
we are particularly interested in individual
responses to the well-documented securi-
ty risks of Zoom.

• Dialectics of Individual and
Collaborative Work
(Pl. S. Lansmann)
Against the backdrop of the prolifera-
tion of Enterprise Collaboration Platforms,
specifically Microsoft Teams, we aim at
conceptualizing the back-and-forth of indi-
vidual and collaborative work in multi-pro-
ject settings. Particularly, we investigate
how Microsoft Teams is appropriated and
used by knowledge workers at Hilti (Liech-
tenstein) and LVM (Germany). Following a
socio-technical perspective, we shed light
on how employees integrate the tool into
their existing set of communication tools
and how this affects the rhythm of individ-
ual and collaborative work.

• Organizational Onboarding
in the Age of Pandemics
(Pls. K. Dassel, S. Schellhammer, P. Troglauer)
Onboarding is management jargon refer-
ing to the mechanism through which new
employees acquire necessary behaviors,
knowledge, and skills to become effective
organizational members. What used to be
done through mutual introductions and
personal discussions has changed signifi-
cantly due to the COVID-19 pandemic. As
a consequence of studying and working
from home, not only the start in the organi-
ization but also the development of social
networks is exacerbated. In a bachelor’s
project seminar in cooperation with the
Practical Computer Science Group (Prof.
Dr. Kuchen), we investigate how to offer an
adequate digital alternative for conduct-
ing effective organizational onboarding
for students of the University of Munster.

SELECTED PUBLICATIONS
Lansmann, S., Schallenmüller, S., & Rigby,
M. (2019). Teams Everywhere — Investi-
gating the Impact of Microsoft Teams on
Knowledge Worker. In Proceedings of the
Pre-ICIS 2019, 9th International Workshop
On The Changing Nature of Work, Munich,
Germany.

Thriving in a Demanding Environment —
Coping Strategies of IT Professionals. In
Proceedings of the Pre-ICIS 2019, 9th Inter-
national Workshop On The Changing Na-
ture of Work, Munich, Germany.

of Meaning through Digital Traces. In Pro-
ceedings of the Pre-ICIS 2019, 9th Interna-
tional Workshop On The Changing Nature
of Work, Munich, Germany.

Hüllmann, J. A. (2019). A Classification of Or-
ganizational Interventions to Enable De-
tachment from Work. In Proceedings of the
33rd Bled eConference, Bled, Slovenia.

Hüllmann, J. A., & Krebbeler, S. (2020). Iden-
tifying Temporal Rhythms using Email Trac-
es. In Proceedings of Americas Conference
of Information Systems (AMCIS), Salt Lake
City, United States.

Issues with the State of People and Work-
place Analytics. In Proceedings of the 33rd
Bled eConference, Bled, Slovenia.

Thapa, R., & Vidolov, S. (2020). Evaluating
Distributed Leadership in Open Source
Software Communities. In Proceedings of
the 28th European Conference of Informa-
tion Systems (ECIS), Marrakesh, Morocco.
The main research focus of the CC SMA is the misuse of social media technology for disinformation, propaganda, and fake news distribution. The (international) partners approach the topic from the different angles of their respective disciplines: computer science, psychology, statistics, journalism and media, communication science, as well as mathematics.

Besides considering automated systems for (dis-)information and fake distribution, the CC SMA increasingly focuses on the human factor in propaganda and hate speech. Together, these elements can be building blocks for disinformation campaigns and imposed societal shifts.

In this context, the University of Münster established a funded joint research scheme with colleagues from the University of Adelaide to investigate on disinformation campaigns and simulated grass roots movements. Additionally, during the summer, several members of the CC SMA have spent several weeks at the University of Florida Artificial Intelligence Research Society Conference, Originally to be held in Leiden, Netherlands, Montreux, and summarised their ideas regarding a benchmarking framework in a position paper submitted to Information Systems.

The methodological aspects of the CC’s work is also related to the continued collaboration with the joint European initiative CLAIR, i.e., the Confederation of Laboratories for Artificial Intelligence Research in Europe.

Continuing the MISDOOM Story

Members of the CC SMA supported the ERCIS & CC-SMA partner LIACS @University of Leiden in organising the Multidisciplinary International Symposium on Disinformation in Open Online Media (www.misdom.org) held in Leiden (NL) by October 26–27 (postponed due to COVID-19). The symposium is sponsored by ERCIS and continues the initial idea of a multidisciplinary joint conference on disinformation research from bringing together computer science, social science, political science, journalism, and public services. The second edition of this conference has significantly grown compared to the 2019 edition: more than 70 talks and papers were presented in two plenary and four parallel sessions.

PUBLICATIONS

Members of the CC SMA have published multiple papers on disinformation identification and current topics like the COVID-19 pandemic and related disinformation and conspiracy campaigns:


The research is supported by ERCIS and continues the initial idea of a multidisciplinary joint conference on disinformation research from bringing together computer science, social science, political science, journalism, and public services. The second edition of this conference has significantly grown compared to the 2019 edition: more than 70 talks and papers were presented in two plenary and four parallel sessions.


Activities

• Research visit to Australia in 2020: Dennis Assenmacher and Christian Grimm spent several weeks at the University of Adelaide in March.

• The CC SMA and the ERCIS (by sponsor) supported the organisation of the MISDOOM 2020 in Leiden, The Netherlands.

• The CC SMA organised two sessions on the topic “Data, Algorithms, and Humans in Digital Manipulation” at the 2020 Human Computer Interaction International Conference in Copenhagen, Denmark.

• Christian Stöcker held a keynote at the Parallel Problem Solving from Nature Conference (Leiden, NL) about “AI and Academia – are you ready to become toolmakers?”

PD DR.-ING. CHRISTIAN GRIMME
Competence Center Social Media Analytics
p +49 251 83-38200
christian.grime.uni-muenster.de

PROF. DR.-REIKE TRAUTMANN
Competence Center Social Media Analytics
p +49 251 83-38200
trautmann@uni-muenster.de

University of Münster
ERCIS – Competence Center Social Media Analytics
Leonardo-Campus 3
48149 Münster
Germany
CRISIS COMMUNICATION IN SOCIAL MEDIA

Researchers from LIACS and University and Kommune Kristiansand strengthened their collaboration within the Project EU Horizon 2020 RISE-Social Media Analysis in Societal and Crisis Communication with University Agder, University of Duisburg-Essen from the ERCIS network. The midterm meeting will be held end of October 2020. Michael Emmerich (Leiden University) visited Kristiansand Kommune and Agder University for a research visit that took place 1st January – 8th January 2020 in order to join efforts in network modeling for the dynamics of news in crisis communication. The research visit was part of the RISE-SMA Project. During the visit, the three types of crisis communication were discussed: health crisis, catastrophes/natural disaster, and socio-political crisis and how network models can help to understand the dynamics of crisis information flow in social media.

STRATEGIC PARTNERSHIP BETWEEN UNIVERSITY OF TWENTE AND UNIVERSITY OF MÜNSTER

A strategic partnership between the University of Twente and the University of Münster has been established and the executive boards of the two universities have expressed their mutual interest in stimulating strategic joint research initiatives to enhance opportunities for collaboration. Annual grants are available, for example, a (joint) position, special equipment, or networking events for the gathering of new consortia, or to secure the participation of industrial parties/companies in a joint, third-party funding application.

UNIVERSITY OF AGDER AND UNIVERSITY OF DUISBURG-ESSEN: JOINT PHD EXAMINATION

Stefan Steiglitz, University of Duisburg-Essen, and Sara Hofmann, University of Agder, co-supervised PhD candidate Tobias Kroll who defended his thesis at University of Duisburg-Essen in July 2020. The thesis title is “Towards a Soft Paternalism to Manage Information Systems in Organisations”.

ONGOING COLLABORATION BETWEEN LUISS AND UNIVERSITY OF AGDER

Two EU H2020 projects in the cybersecurity area have been jointly developed by CLIo and the Center of Integrated Emergency Management of the University of Agder. Furthermore, Luiss University and the University of Agder have continued their collaboration activities on e-participation and cybersecurity. Paolo Spagnolletti and Tommaso Federici have visited UIA in 2020.

JOINT PHD EXAMINATION WITH THE UNIVERSITY OF AGDER AND THE UNIVERSITY OF TWENTE

By invitation of University of Agder, and prof Bjørn Erik Munkvold, Jos van Hillegersberg took part in the PhD evaluation committee of Marlies Rea Llave on Business Intelligence and Analytics in Small and Medium-Sized Enterprises. The candidate was supervised by Dag H. Olsen and Eli Hustad at University of Agder. The thesis defense took place online in August 2020 because of the covid travel restrictions.

KICK-OFF MEETING OF THE PROJECT AUGMENTEDWEAR4EU

On November 2nd the kickoff-meeting of the project Integrating virtual and Augmented reality with WEARable technology into engineering EDUcation (Augmented-WearEd) took place (ERASMUS+ KA203 – Strategic Partnerships for higher education – 2020-1-NO01-KA203-076540). The project aims at developing a novel framework for e-Learning to integrate low-cost off-the-shelf commercial (COTS) VR/AR tools and haptic wearables to enable digital access to laboratories in higher education. The project is coordinated by the University of Agder and includes 5 partners from different European countries. Other partners belonging to the ERCIS network are the Kauno Technologijos Universitetas (JT) and the University of Minho (PT).

JOIN RESEARCH PROPOSAL – SMARTFORMS

The University of Minho participated in the effort of improving the proposal – SMARTFORMS – Personalized, adaptive and self-learning user interfaces for data exchange in digitized public administrations, submitted to H2020-SC6-TRANSFORMATIONS-2020. This was a collaborative effort of 12 partners, some of which members of ERCIS. The proposal was not approved for funding but received an encouraging evaluation. Therefore, it will be resubmitted in a next opportunity.

WORLD IT PROJECT

The University of Gdańsk participates in the World IT Project. The project includes 37 countries from all continents in the research topic IT Occupational Culture (ITOC). The videoconferences on IS/IT research and the Center of Integrated Emergency Management of the University of Agder. The project was approved for funding even though the evaluation it received (32) was above the threshold (30). Therefore, it was decided to resubmit the project later.

JOINT RESEARCH PROPOSAL – FOCUSED

The University of Minho lead the effort to develop an H2020 project proposal – Open Science For the digital transformation of Circular BUSSiness models (FO-CUSED) that was submitted to the call of H2020-SwafS-2018-2020. The main objective of FOCUSED is to address the goal of the European Commission to increase public engagement in scientific endeavors, in particular those aimed at assisting the innovation of circular business models through digital technologies. FOCUSED aims to put citizens’ concerns at the heart of the research agenda on circular economy by tackling issues that concern them. This was a collaborative effort of 12 partners, some of which members of ERCIS. The proposal was not approved for funding but received an encouraging evaluation. Therefore, it will be resubmitted in a next opportunity.

SCIENTIFIC COLLABORATION BETWEEN LEIDEN UNIVERSITY AND WWU MÜNSTER

Leiden University and WWU Münster continued their successful collaboration within the ERCIS-project on topics of social media, artificial intelligence, and multicriteria decision making. There have been joint supervision of PhD students (The thesis of Pelin Aspar is supervised by both Thomas Bäck in Leiden and Heike Trautmann in Münster) and by meetings on joint publications that were submitted in 2020. Also, members of WWU Münster served in the PPSN2020 Computer Science conference, by organizing tutorials and workshops; Heike Trautmann was joint program chair in this event organized by Leiden University.
As part of the RISE_SMA project, a new focus group on COVID-19 was formed. The group deals with COVID-19 in the full scope of the project (i.e., information extraction and dissemination for societal and crisis communication). So far, it specifically focussed on misinformation. A cooperation of the ERCIS partners in Duisburg-Essen, Leiden, and Kristiansand (Agder) lead to a first article – one of the earliest papers on COVID-19 misinformation to be published on a journal level.

We would like to include more ERCIS partners in this thread of research. While we arguably cannot engage in research on medical remedies, we as IS researchers can – and should – contribute to mitigating the pandemic, nonetheless. Finding better ways of fighting misinformation on social media is one example for this. If you are interested in research on communication and information extraction in the context of COVID-19, please reach out to Tim A. Majchrzak (timam@uia.no).

The project will result in a reference module which enables aspiring business process managers to become “reflective practice practitioners” and take a more holistic view on business process work.

The University of Liechtenstein is leading an Erasmus+ funded project on explorative business process management (BPM). In cooperation with the Vienna University of Economics and Business and the University of Bayreuth, a reference module is developed that covers different aspects of explorative BPM. This is important because BPM activities are mostly concerned with operational efficiency and overlook opportunities for innovation. Particular focus is placed on the role of digital technologies. The project will result in a reference module including a set of various lectures and recommendations on how explorative BPM can be taught in Europe and beyond.

The University of Liechtenstein, the Vienna University of Economics and Business, the University of Cologne and Radboud University have acquired an Erasmus+ funded project on Business Process Management (BPM) and Organisational Theory. Led by Dr. Thomas Grisold (University of Liechtenstein), the project integrates theories and methods from the organisational studies into BPM. It will result in a transdisciplinary curriculum which enables aspiring business process managers to become “reflective practice practitioners” and take a more holistic view on business process work.
VirtuAl Phd Seminar on “Design Science”

Since 2017, Prof. Dr. Jan vom Brocke (University of Liechtenstein) and Prof. Dr. Robert Winter (University of St. Gallen) have been offering a joint PhD course on “Design Science” as part of the VHB-ProDok course program. Being forced to virtualize the course because of the COVID-19 restrictions, Jan vom Brocke and Robert Winter redesigned the course syllabus so as to be compatible with distance learning. While in previous years about 15 PhD students could take part in the on-site physical course, the online format attracted about 60 participants from Europe (many of them from the ERCIS network), the United States, and New Zealand and it has been offered three times in 2020. Born out of necessity, the virtual format allowed more interested students to participate and helped to increase the visibility and reach of the course.

Picture: PhD seminar at Flumserberg

PhD seminar at Flumserberg

For the seventh time, the Institute for Information Systems organised a ski seminar for PhD students. The seminar took place at Flumserberg and was led by Prof. Dr. Stefan Seidel, University of Liechtenstein, Prof. Dr. Nicholas Berente, University of Notre Dame, Prof. Dr. Roland Holten, Goethe University Frankfurt, Prof. Dr. Jan Mendling, Vienna University of Economics and Business, and Prof. Dr. Christoph Rosenkranz, University of Cologne. Eleven PhD students from different universities presented their PhD research projects and discussed current topics of Information Systems research. Joint ski tours guaranteed an unforgettable experience for all participants.

Picture: PhD seminar at Flumserberg

University of Liechtenstein: Visiting Professors from Various ERCIS Partners

As part of the University of Liechtenstein’s master’s program in Information Systems, Prof. Dr. Gottfried Vossen, Dr. Amin Stein (both University of Münster), and Prof. Dr. Jan Mendling (WU Vienna) visited the University of Liechtenstein, where they gave lectures to the students.

Prof. Dr. Jan vom Brocke from the University of Liechtenstein is Adjunct Lecture at the University of St. Gallen and Adjunct Professor at the National University of Ireland Galway. Further, Prof. Dr. Stefan Seidel (University Liechtenstein) has been appointed Honorary Professor of the National University of Ireland in Galway.

Picture: PhD seminar at Flumserberg

Joint Programmes Between University of Münster and University Twente

Students can now opt for the two year master programme in Business Information Technology offered by the University of Twente (The Netherlands) and the Westfälische Wilhelms-Universität Münster (Germany). This programme leads to two diplomas. Students can benefit from the experience of spending time at both institutions. More details are available on the web: https://www.utwente.nl/en/mbit/studyprogramme/doubledegree/

Furthermore, the double degree Bachelor “International Business Administration – Learning across Borders” has been established, as well as an executive program in Data Science, where University of Twente faculty is contributing to the design and execution of several teaching modules. Several meetings have been held already to explore this initiative. The program will kick-off in November 2020: https://weiterbildung.uni-muenster.de/en/startpage/master-programs/data-science/
The Erasmus+ project partners at the University of Liechtenstein (Jan vom Brocke), University of Duisburg-Essen (Stefan Stieglitz), and University of Agder (Tim A. Majchrzak) investigate the potential of virtual reality (VR) in university teaching. In a first step, they collected existing VR applications in the literature and on the market. Afterwards, they conducted a survey among university teachers in the ERCIS network to assess the current state of VR implementation and related challenges in European universities. They conducted design thinking workshops with teachers and students at the three partner universities to develop innovative VR application scenarios that go beyond the current state-of-the-art. Now, the three project partners will implement innovative VR applications in real courses at their universities. This exciting phase in the project will result in recommendations for teachers to facilitate the introduction of VR in university teaching.

Here comes a sneak preview of what will happen in the implementation phase: The project partners at the University of Liechtenstein developed an educational VR game based on the well-known game “Who-am-I”. Usually, players have a sticky note on their forehead and ask questions to guess the celebrity name on it. In the VR edition, students will receive nameplates with Information Systems theories, concepts, and methods to practice for their final exam. The project partners at the University of Duisburg-Essen will redesign the lecture Communication & Collaboration Systems as a flipped classroom. Students will be provided with a standalone VR headset and join the app “Spatial” to learn through discussions and group work with their fellow students. The project partners at the University of Agder will introduce 360° videos in a course on Information Security Management. The students will immerse themselves in hacking scenarios enabling them to improve their skills in security need and requirement analysis.

**PUBLICATIONS**


EVENTS IN THE ERCIS NETWORK

PROJMAN 2020 – INTERNATIONAL CONFERENCE ON PROJECT MANAGEMENT

October 21–23, 2020, Algarve, Portugal. During this 3-day conference, under the leitmotiv of Project Management, academics, scientists, project managers and solution providers from all over the world will had the opportunity to share experiences, bring new ideas, debate issues, and introduce the latest developments in this largely multidisciplinary field.

ICIST 2020

October 15–17, 2020, Kaunas, Lithuania, https://icist.ktu.edu/

The 26th International Conference on Information and Software Technologies (ICST) is organised by Kaunas University of Technology and is one of the oldest IT research conferences in Lithuania. In 2020, the conference talks and presentations revolved around five major areas, namely:

- Intelligent Methods for Data Analysis and Computer Aided Software Engineering
- Intelligent Systems and Software Engineering Advances
- Smart e-Learning Technologies and Applications
- Language Technologies

In addition to the above, a special session on Distance education, Technologies and Security During the Period of COVID-19 Pandemic has also been held.

The conference featured 3 keynote presentations and 30 paper presentations, some of which were delivered via videoconferencing. For the ninth time already, the Conference Proceedings were published by Springer as a part of Communications in Computer and Information Science (CCIS) series.

INNOVATION BREAKFAST

In November 2020, the University of Liechtenstein in cooperation with the Vienna University of Economics and Business and the University of Bayreuth launched a new virtual format. The “Innovation Breakfast“ presents entrepreneurs with results from current research on innovating business processes. The results stem from the EU-funded Erasmus+ project “Reference Module Design for Explorative Business Process Management“. The Innovation Breakfast will involve four meetings, all of which are planned as one-hour sessions in the morning. They are dedicated to various topics, such as corporate strategy and digital technologies. Each session includes a keynote, which is followed by an open discussion round. Participation is free of charge. Anyone can register at www.uni.li/digitalisierung.

39th INTERNATIONAL CONFERENCE ON ORGANIZATIONAL SCIENCE DEVELOPMENT: ORGANIZATIONS AT INNOVATION AND DIGITAL TRANSFORMATION ROUNDBOARD

September 23–24, 2020 (online event)

The International Conference on Organizational Science Development is the conference with the longest tradition at the University of Manitoba. Every year in March it attracts international participants and researchers in the field of organisational sciences. This year the conference was organised online, due to COVID-19 pandemic.

CAPS2020 – CONFERENCE OF THE PORTUGUESE ASSOCIATION FOR INFORMATION SYSTEMS

The 19th edition of the Portuguese Association of Information Systems Conference was held online on October 16th and 17th, 2020 in a joint effort by Portuguese University, University of Porto and the Polytechnic of Porto. The conference main theme was “Artificialization, Humanization: The challenges of Information Systems in the transformation of society”.

15th INTERNATIONAL CONFERENCE ON DESIGN SCIENCE RESEARCH IN INFORMATION SYSTEMS AND TECHNOLOGY (DESRIST)

The University of Agder hosted the 15th DESRIST conference on December 2-4, 2020. The conference theme was Designing for Digital Transformation – Co-creating Services with Citizens and Industry.

DESRIST brings together researchers and practitioners engaged in all aspects of design science research, with a special emphasis on the design of services for digital transformation. The conference was run online, and was organised by the Department of Information Systems & CeDiT – Centre for Digital Transformation at the University of Agder, Norway.

CONFERENCE “EDUCATION IN INFORMATION SOCIETY”

October 9, 2020 (online event)

Modern life can no longer be imagined without information and communication technologies (ICT). In pedagogic terms, ICT increases both the level of motivation among learners as well as their creativitiy; it allows teachers to present complex knowledge and skills in a much clearer manner and illustrate intricate issues through play, practical examples and interactive learning. This conference presented both the modern teaching methods as well as the use of modern ICT at the primary, secondary and tertiary level of education. It also analyses the situation in Slovenia and inform us of developments elsewhere in Europe. The conference was held online, due to Covid-19 pandemic.

http://vivid.fov.uni-mb.si/
The 16th International Conference on Parallel Problem Solving from Nature (PPSN XVI) was held in Leiden, The Netherlands on September 5–9, 2020. Leiden University and the Leiden Institute of Advanced Computer Science (LIACS) are proud to have hosted the 30th anniversary of PPSN. The PPSN conference series (bi-annual) was originated in 1990, to bring together researchers and practitioners in the field of Natural Computing, the study of computing approaches which are gleaned from natural models. Today, the conference series has evolved and welcomes works on all types of iterative optimization heuristics; including submissions on connections between search heuristics and machine learning or other artificial intelligence approaches. PPSN XVI featured workshops and tutorials covering advanced and fundamental topics in the field of Natural Computing, as well as algorithm competitions. The keynote talks were given by leading researchers in the AI community, Carme Torres (AI and robotics), Eric Postma (deep learning) and Christian Stöcker (AI and climate change).

OnLine ACIIDS 2020 was the 12th event in a series of international scientific conferences on research and applications in the field of intelligent information and database systems. The aim of ACIIDS 2020 was to provide an international forum of research workers with scientific background on the technology of intelligent information and database systems and its various applications. The ACIIDS 2020 conference was hosted on the ZOOM.us platform and co-organized by King Mongkut’s Institute of Technology Ladkrabang, Thailand and Wroclaw University of Science and Technology, Poland under the patronage of the Polish Ministry of Science and Higher Education and IEEE SMC TC on Computational Collective Intelligence.

For this edition of the conference, the hosts received 285 papers from 43 countries all over the world. Each paper was peer-reviewed by at least two members of the international Program Committee and the international reviewer board. Only 105 papers with the highest quality were selected for an oral presentation and publication in these two volumes of the ACIIDS 2020 proceedings.

33rd Bled eConference: Enabling Technology for a Sustainable Society (June 29, 2020, online event)

The Bled eConference attracts speakers and delegates from universities, business, information technology providers and government and is the major venue for researchers working in all aspects of digital business and digital transformation. The 33rd Bled eConference theme was related to enabling technologies for a sustainable society. For the first time in history, the event was held online. It attracted 90 participants from more than 20 countries. Beside opening session with keynote address, there was also a separate session for short presentations of the accepted research papers, separate session dedicated to PhD consortium and separate session for Students bazaar of innovative digital prototypes.

SEMINAR:
SOCIO-TECHNICAL APPROACHES IN THE IS DISCIPLINE

The event occurred on Feb 27-28, 2020 in Porto. The event had the objective of promoting the discussion of the role and principles of sociotechnical approaches in the development of research in the Information Systems discipline. The seminar was lead by Suprateek Sarker from the University of Virginia’s McIntire School of Commerce, Charlottesville, VA, USA. This seminar was attended by a total of 27 participants, including professors, researchers and doctoral students in Information Systems from various universities, polytechnics and research laboratories in Portugal and Europe.

SEMINAR:
SOCIO-TECHNICAL APPROACHES IN THE IS DISCIPLINE

The event occurred on Feb 27-28, 2020 in Porto. The event had the objective of promoting the discussion of the role and principles of sociotechnical approaches in the development of research in the Information Systems discipline. The seminar was lead by Suprateek Sarker from the University of Virginia’s McIntire School of Commerce, Charlottesville, VA, USA. This seminar was attended by a total of 27 participants, including professors, researchers and doctoral students in Information Systems from various universities, polytechnics and research laboratories in Portugal and Europe.

33rd BLED ECONFERENCE: ENABLING TECHNOLOGY FOR A SUSTAINABLE SOCIETY (June 29, 2020, online event)

The Bled eConference attracts speakers and delegates from universities, business, information technology providers and government and is the major venue for researchers working in all aspects of digital business and digital transformation. The 33rd Bled eConference theme was related to enabling technologies for a sustainable society. For the first time in history, the event was held online. It attracted 90 participants from more than 20 countries. Beside opening session with keynote address, there was also a separate session for short presentations of the accepted research papers, separate session dedicated to PhD consortium and separate session for Students bazaar of innovative digital prototypes.
OUTLOOK FOR 2021

FEBRUARY 2021

START OF THE HILTI FELLOWSHIP PROGRAM (Summer term 2021), February, www.uni.li/hilti-fellowship

PHD SKI SEMINAR, February 01–06, Flumserberg, Switzerland

DA GSTUHL SEMINAR ON “CHALLENGES ON BENCHMARKING OPTIMIZATION HEURISTICS”, February 21–26, Schloss Dagstuhl, Wadern, Germany, www.dagstuhl.de/21088

ERCIS BPM WINTERSCHOOL, February 22–26, www.ercis.org/education/ercis-bpm-winter-school

MARCH 2021


40TH INTERNATIONAL CONFERENCE ON ORGANIZATIONAL SCIENCE DEVELOPMENT – ORGANIZATION AT INNOVATION AND DIGITAL TRANSFORMATION ROUNDBOUGHT, March 18–20, Portorož, Slovenia, konferenca.fou.uni.si/en/homepage/

APRIL 2021

13TH ASIAN CONFERENCE ON INTELLIGENT INFORMATION AND DATABASE SYSTEMS (ACIIDS 2021), April 7–10, Phuket, Thailand, aciids.pwr.edu.pl/2021/


JUNE 2021

34TH BLED ECONFERENCE – ACCELERATED DIGITAL INNOVATION FROM THE CRISIS, June 28–July 1, Bled, Slovenia, bledconference.org

SEPTEMBER 2021


ERCIS ANNUAL WORKSHOP, September 2021, Wroclaw, Poland, www.ercis.org/events/annual-workshop

13TH INTERNATIONAL CONFERENCE ON COMPUTATIONAL COLLECTIVE INTELLIGENCE (ICCCI 2021), September, Rodos Palace, Greece, iccci.pwr.edu.pl/2021/

21ST INTERNATIONAL SYMPOSIUM ON OPERATIONS RESEARCH IN SLOVENIA – SOM’20, September, Bled, Slovenia; sorrow.fou.uni-mb.si

12TH INTERNATIONAL CONFERENCE ON MULTIMEDIA & NETWORK INFORMATION SYSTEMS (MISSI 2021), September 1–3, Paris, France, missi.pwr.edu.pl/2021/

EUROPEAN CONFERENCE ON MACHINE LEARNING AND PRINCIPLES AND PRACTICE OF KNOWLEDGE DISCOVERY IN DATABASES (ECML PKDD 2021), September 13–17, Bilbao, Spain, 2021.ecmlpkdd.org

OCTOBER 2021

DEADLINE FOR APPLICATION FOR THE HILTI FELLOWSHIP (Summer term 2022), October 31, www.uni.li/hilti-fellowship

EDUCATION IN INFORMATION SOCIETY, October, Ljubljana, Slovenia, vivid.fou.uni-mb.si

CAPSI2021 – Conference of the Portuguese Association for Information Systems, October, (location: not yet defined)

27TH INTERNATIONAL CONFERENCE ON INFORMATION AND SOFTWARE TECHNOLOGIES (ICIST 2021), October 14–16, Kaunas, Lithuania, icist.klu.edu/

NOVEMBER 2021

PROJMAN 2021 – INTERNATIONAL CONFERENCE ON PROJECT MANAGEMENT, November, projman.scika.org

For everything that concerns the ERCIS network simply write us an email. 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 is being supported by Dr. Katrin Bergener, who works part-time for the team and furthermore as Coordinator for the WWU Centre for Europe, and Julia Seither.

Besides answering emails, the team helps organising events, maintains the website, organises the network communication, and supports project applications.

If you are interested in the network, get in touch with them!

info@ercis.org
THE IS RESEARCH NETWORK –
LET’S TAKE CARE OF EACH OTHER