The Network provides new ways of thinking and uncomplicated initiation of research and constitutional conditions. Along with ERCIS, it involves a wide range of disciplines related to IS. Research conducted by ERCIS ranges from fundamental research to application-oriented research. Besides individual research activities of ERCIS members, the Network brings together and supports selected research aspects of IS in Competence Centres aimed at strengthening research in specific areas. The Advisory Board members come from various industry sectors, which guarantee that the research conducted at ERCIS is relevant for practice. Regular meetings of the Board of Directors with the Advisory Board members, as well as annual workshops of ERCIS’ associated research institutions, ensure continuous, direct and productive exchange of knowledge.

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

DEAR FELLOW ERCIS PARTNERS AND INTERESTED READERS OF THIS REPORT,
I was so much looking forward to see many of you this September at the 20th Business Process Management Conference in Münster. We also intentionally put the ERCIS Annual Workshop at that time so that ERCIS partners could participate at both events without having to travel twice. Great plan, but unfortunately not for me: A Covid infection made me stay in bed for the whole week so, sadly, I missed the BPM Conference and the ERCIS Annual Workshop. From the many mails that I got afterwards I would conclude that both events were a great success and all participants enjoyed being at a conference in person. As I said, I would have loved to be there and meeting all of you! I hope that at least for the ERCIS Annual Workshop, this will be possible in 2023, when we will meet in Wroclaw! Thank you, Dariusz and Ngoc, for the kind invitation and for hosting the ERCIS Annual Workshop next year.

Apart from the BPM conference, in which quite many ERCIS members were involved, we had several other activities going on in our network: The ERCIS Doctoral Consortium could e.g. again take place on Mallorca this summer. In addition, our research clusters, (1) Data Science and AI, (2) Process Science, (3) Knowledge and Learning, (4) Smart Manufacturing, and (5) Digital Public Services, which were developed and established in 2021, started working. The clusters were established to enhance the cooperation in the respective research areas and first steps were taken during the last months. Let’s see, where this new structure leads us!

Furthermore, we also had several changes – and bad in the network in 2022: First, as most of you already know, Stanisław Wryczak, our colleague from the University of Gdańsk, passed away in January 2022. Stanisław was an ERCIS member of the first hour (since 2004) and was always an active partner and valued colleague. Jacek Maslankowski will continue in his place as contact person at the University of Gdańsk. Second, Paolo Spagnoletti from LUISS in Rome approached us because he felt that he could not contribute the ERCIS network as much as he would like to. He proposed that the institutional membership in Italy would move from LUISS to the University of Tuscia and, this, to Alessio Braccini. Alessio has been a very active personal member for several years now and, in my opinion, this is a great solution! Thanks, Paolo, for your commitment in the last years and thanks, Alessio, for continuing and strengthening your ties with the ERCIS network!

Third, we welcome four new personal members: Isabella Seber from the Grenoble École de Management, Andre Coners from the South Westphalian University of Applied Sciences, Christian Jänesch from the TU Dortmund, and Pascal Kerschke from the Technical University of Dresden. Additionally, Eucon and adesso extend our Advisory Board. Great to have you on board!

This year, we were also able to hand over the first ERCIS Master Thesis Award! This award was initially an idea of the students in the ERCIS board, it is fantastic to see how this idea finally came to life, and we now have our first awardee: Congratulations to Leonor Ribeiro from the University of Minho for her Master thesis on the GDPR Toolkit! The award was the attendance to the ERCIS conference (right, accommodation and attendance is covered by the Master Thesis Award) in Romania this year, where the award was officially handed over to Leonor during the traditional ERCIS@ECIS meeting, this first after two pandemic years.

Apart from the pandemic, which still affects our daily life, also the war in the Ukraine influences all our lives, be it our private or our academic life. As a conclusion, the ERCIS network decided to stop all cooperation with our former Russian partner universities and institutions. We know that this step also creates injustices. We are aware that numerous scientists and students reject the war against Ukraine sincerely and are committed to peaceful and constitutional conditions. Nonetheless, this step is essential. The attack on the sovereignty of an independent state in violation of international law is irreconcilable with the principles of peace, democracy and human rights. As researchers, we have the obligation and we are given many opportunities! – to strive for this. Challenges as big as the ones we currently face are difficult to approach alone – let us work together to overcome them!

All the best,

Jörg Becker

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# TABLE OF CONTENTS

## ERCIS NETWORK
- **Preface**
- 13th Annual ERCIS Workshop
- Short News

## Research Cluster
- Data Science and Artificial Intelligence
- Digital Public Services
- Knowledge and Learning
- Process Science
- Principalities of Liechtenstein– Vaduz

## University of Münster – Germany (Headquarters)
- Chair for IS and Information Management
- Digital Innovation and Public Sector (DIPS)
- Chair for IS and Supply Chain Management
- Institute for Information, Telecommunication and Media Law (ITM) – Civil Law Department
- Cyber Security
- Chair for IS and Interorganisational Systems
- Chair of Practical Computer Science
- Data Science: Statistics and Optimization
- Institute of Medical Informatics
- DBIS Group

## International Partner Institutions
- **Australia – Brisbane**
- Queensland University of Technology
- **Austria – Vienna**
- Vienna University of Economics and Business
- **Brazil – São Paulo**
- University of São Paulo (USP)
- **Czech Republic – Prague**
- Charles University in Prague
- **Estonia – Tallinn**
- University of Tartu
- **Finland – Turku**
- University of Turku
- **France – Bordeaux**
- Kedge Business School
- **Italy – Viterbo**
- University of Tuscia
- **Principalities of Liechtenstein – Vaduz**
- University of Liechtenstein
- **Spain – Madrid**
- IE Business School
- **Spain – Sevilla**
- Universidad de Sevilla
- **Switzerland – St. Gallen**
- University of St. Gallen
- **The Netherlands – Eindhoven**
- University of Twente
- **The Netherlands – Leiden**
- Leiden University
- **Ukraine – Kharkiv**
- Simon Kuznets Kharkiv National University of Economics

## Personal Members
- Daniel Beverungen
- André Coners
- Patrick Delfmann
- Marco De Marco
- Martin Dupas
- Sara Hofmann
- Pascal Kerschke
- Jan Mending
- Christian Meske
- Oliver Muller
- Jens Poppelaß
- Stefan Stieglitz
- Stefano Za

## Competence Centers
- Conceptual Modeling
- Crisis Management (C³M)
- Digital Transformation in SMEs
- E-Government
- Service Science
- Smarter Work
- Social Media Analytics (C²SMA)

## Collaborations
- Network Research Activities
- Teaching@ERCIS
- Events in the ERCIS Network

## Outlook for 2023

## Advisory Board
- adesso
- CLAAS
- cronos
- DMI Archivierung
- Eucom
- Hilti
- LVM
- PICTURE GmbH
- Provinzial Group
- SAP
- Schwarz IT
- viadee Unternehmensberatung AG
- Westfalen Group
- zeb
In 2022, the ERCIS Annual Workshop could finally take place in site, this year at the Headquarters in Münster, Germany. 42 participants from 26 institutions attended the meeting, that ran parallel to the workshops of the 20th International Conference on Business Process Management (BPM 2022), which was also organized by the ERCIS Network. Because the ERCIS Annual Workshop was hosted in Germany, for the first time a large amount of Advisory Board members participated, which lead to a fruitful academia-practice exchange.

As the Workshop was limited to this one day only, most of the time was used to recap the events of the last year, which again, despite the pandemic, were a lot. In all areas – the headquarters, the partners, the competence centers, and the research clusters – the network members advanced the various areas of Information Systems Research and Practice.

We were also happy to welcoming the CLAIRE Rising Researchers Network for a presentation of the opportunities the "Confederation of Laboratories for Artificial Intelligence Research in Europe" provides to our young researchers. At least a joint PhD seminar is in the making for the upcoming years.

After the workshop, the Research Clusters used the opportunity to have in-group meetings, discussing the strategy for the upcoming year, and driving further the activities started in 2022.

After having joined the BPM Welcome Reception at Schlossgarten, the participants concluded the day during a dinner at the "Mimigernaford", named after the ancient name of the host city, Münster.

For next year’s workshop, it has been a long journey, but we will finally make it to Wrocław, Poland! The meeting in this beautiful city has been postponed several times, but next September we will definitely meet there, thanks to our hosts Ngoc-Tanhd Nguyen and Dariusz Krol!
A variety of activities happen within the network every year: Books are published, organizational changes happen, kids are being born… This section informs about everything going on – not only within the network, but also beyond.
IN MEMORIAM PROF. DR. HAB. STANISLAWS WRYCZA

It is with great sorrow that we have learned of the passing of our member, Prof. Dr. hab. Stanisław Wyrzyca, of the University of Gdańsk. Stanisław Wyrzyca, together with his group, was a very active member from the very beginning of the network. We remember him as a very dedicated researcher, colleague, and strong supporter of joint international research. We will keep him in highest regards. Prof. Wyrzyca passed away on January 13th, 2022.

STEPHANO ZA
VISITS IE BUSINESS SCHOOL

In June 2022, IE Business School received the visit of Prof. Stefano Za, member of ERCIS, to discuss computational social sciences with PhD students. He also presented a research talk titled “Enhancing workplace competence acquisition through a persuasive system”.

IE BUSINESS SCHOOL HOSTED
SCECR 2022

IE hosted SCECR 2022, the 18th Symposium on Statistical Challenges in Electronic Commerce Research. SCECR is a leading workshop attracting researchers throughout the world in the areas of information systems, quantitative marketing, economics, statistics, machine learning, and computer science.

DATA ANALYTICS FOR BUSINESS

This September 2022, KEDGE BS opened a new MSc programme entitled “Data Analytics for Business” – https://student.kedge.edu/programmes/msc-in-data-analytics-for-business – based on three pillars that are key to the success of companies’ digital transformation: modelling to allow companies to improve their operational excellence and develop new business models; understanding of IT and the infrastructure to implement the models; knowledge of the company’s business activities and major functions to ultimately use the applications. We welcome the first cohort of 21 students, coming from 15 different countries with a variety of backgrounds, ranging from management to computer science.

Contact: olivier.dupouet@kedgebs.com

SHORT NEWS

UNIVERSITY OF TURKU ORGANIZED 9th WELL-BEING IN THE INFORMATION SOCIETY CONFERENCE

The “Well-Being in the Information Society Conference”, the ninth in its series, took place 25–26. August in Turku, Finland. The conference was run in a hybrid form, and was freely accessible for all interested. Conference proceedings are published in Springer series Communications in Computer and Information Science: https://link.springer.com/book/10.1007/978-3-031-14653-3

ERCIS IS IN SOLIDARITY WITH THE UKRAINE

As community of academics, and as a European research network, we feel deeply connected to Europe and its democratic values.

At the ERCIS Headquarters, and as ERCIS network, we are profoundly shocked by Russia’s unwarranted attack on the Ukraine and deeply concerned for the lives and well-being of our friends and colleagues, as well as all people in the Ukraine. Our solidarity goes to the entire Ukrainian population, and we are proud that so many of our partners offered support to our colleagues from the Ukraine.

The ERCIS Headquarters has stopped cooperation with former Russian partner institutions.

ERCIS WELCOMES NEW MEMBERS!

The ERCIS Network continues growing! With Isabella Seeber (Grenoble École de Management), Pascal Kerschke (TU Dresden), André Coners (Fachhochschule Südwestfalen), and Christian Janiesch (TU Dortmund), we are happy to welcome four academics as Personal Members. All of them have a long history with the Headquarters, and we are looking forward to their contributions!

The Network is also happy to welcome Pietro Za, who will extend the group at the University of Chieti-Pescara, Pescara, Italy! We wish the family all the best!
Together with partners from Mozarteum University Salzburg and Anhalt University of Applied Sciences, the University of Liechtenstein has initiated a project dealing with the digital transformation in the cultural sector, namely choral music. While the experiences from the pandemic show that online rehearsals basically work, many limitations remain. This project aims to develop solutions and concepts that enable choirs to overcome existing limitations of online rehearsals and to better exploit the possibilities of technology.

The solutions developed in the project are to be tested and evaluated in an online laboratory choir. The project team is currently looking for interested choirs as well as enthusiastic singers who would like to support this activity. If you are interested in participating in the lab choir or would like to share your experiences with online choir rehearsals, please contact the project leader, Dr. Janine Hacker (janine.hacker@uni.li), Assistant Professor at the Hilti Chair for Business Process Management at the University of Liechtenstein.

In May 2022, Jos van Hillegersberg handed out a honorary doctorate to his royal highness Prince Constantijn of the Netherlands, for his sustainable efforts as special envoy of TechLeap.nl, supporting the entrepreneurial and start-up scene.

In 2022–2023, positions are again available 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.

Information systems group is expanding and we have welcomed several new faculties in Information systems research at our university: Dr. Joschka Hülmann and Dr. Marcos Machado in 2022.

In May 2022, Jos van Hillegersberg visited the University of Liechtenstein.

While the experiences from the pandemic have contributed, such as improving customer experience using process mining at Shinhan Bank, attracted attention in the enterprise software market, has visited South Korea. Will van der Aalst, a professor at RWTH Aachen University in Germany, who leads the Process Mining (PADS) group, delivered a keynote speech at the Process Mining Workshop held at COEX on April 21st, 2022. In the keynote, he introduced the process mining concept and its recent innovations. Then, starting with the opening session of Prof. Minseok Song at POSTECH, several industrial case studies have been introduced, such as improving customer experience using process mining at Shinhan Bank, process analysis in semiconductor FAB at Samsung Electronics, and process mining in several manufacturing industries at LG CNS. About 400 people from industry and academia participated in this workshop.

Dr. Viola Henke of our Advisory Board co-edited a book on the implementation of digital strategies in hospitals, containing practical examples from differently structured hospitals. The book has been published by Springer in German. Building data literacy and designing, launching, and implementing a digital strategy in a compliant manner often pose major challenges for hospitals. This book supports the stakeholders involved in fulfilling this demanding task. It presents the essential design elements of digital strategies as well as methods and tools for their implementation. Furthermore, the work describes the measurement of implementation success based on maturity models and offers recommendations for ensuring compliance and data competence based on the digital strategy fields of action.

The co-authors of the book are experts and practitioners from the healthcare industry, including our director, Prof. Dr. Julian Varghese. https://link.springer.com/book/10.1007/978-3-658-36226-3
In 2021, the ERCIS network defined five network clusters that serve as umbrella for its members to join forces. They span from method-orientation to domain-orientation, providing homes to the members’ various research interests. They serve as incubators for project proposals, joint research and teaching activities, and joint policy-making in the respective areas.
In our networked world, data is collected in ways never seen before. Extracting knowledge from this data and leveraging it to build intelligent systems will transform the way business, government, and science are carried out. Many people believe that data science and AI will bring forth changes that will be much more profound than any other technological revolution in human history.

Digital services can adapt to individual humans and situations due to the abundance of data and the improved capabilities to learn from this data. Big steps are made in many scientific areas these times, notably in natural language processing, image recognition, and in finding complex synthesis ways, e.g., for novel drugs and materials.

However, there are also risks associated with algorithmic decision making and autonomous AI systems. They may be used for steering very complex hacking activities, or autonomous weapon systems, or simply decide wrongly according to unknown biases in the data.

In Information Systems, humans and their interaction with technology are traditionally an important topic, and this angle is of specific relevance for enabling real-world use of Data Science and Artificial Intelligence methods, beyond pure algorithmic research. Especially when security aspects or ethical problems of these methods are under consideration, this viewpoint is highly significant.

The mission of the ERCIS “Data Science & AI” cluster is to advance research, education, and practice on human-centered data science and AI in order to augment human capabilities and improve societal well-being. We explicitly take a socio-technical perspective on data science & AI, focusing at the intersection of technologies, humans, and tasks.
**Digital Public Service Cluster**

In year 2022, the Digital Public Services Cluster organized the Well-Being in the Information Society Conference, the ninth in its series, 25.–26. August in Turku, Finland. Main organizer was University of Turku, partnered with Tampere University, Åbo Akademi University and Turku University of Applied Sciences, all in Finland. Special focus this time was on mental health, with the subtitle “When the Mind Breaks”.

Professor Harri Oinas-Kukkonen from University of Oulu, Finland, delivered a keynote speech on the topic “Supporting Health Behavior Change through Digital Interventions: Persuasive Systems Design”.

Reima Suomi was the general chair of the conference, with professor Robert Krimmer and Ph.D Jukka Kärkkäinen being program co-chairs.

The conference was run in a hybrid form, and was freely accessible for all interested. Conference proceedings are published in Springer series Communications in Computer and Information Science: https://link.springer.com/book/10.1007/978-3-031-14832-3

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**Knowledge and Learning Cluster**

The ERCIS Cluster in Knowledge and Learning (K&L) encompasses a broad range of academic interests. It has been presented as comprising “everything related to Knowledge Management, Teaching, Learning, Education, and the likes”. For this reason, when clusters were initially presented, the K&L cluster was “put in between the other four clusters”. For similar reasons, when ERCIS “members” were asked to assign their research interests to clusters, every single member included the K&L cluster.

The K&L cluster is, therefore, a special case among ERCIS clusters. It can be a challenge to find a way for the K&L cluster to create value to the ERCIS community. Considering that the role of clusters is open to definition, to differentiation and to evolution, it makes sense to start with caution. This means avoiding defining a vision for the cluster that is too strict or that is biased towards particular perspectives of what knowledge and learning means to the ERCIS community.

So, the initial vision for the K&L cluster is to serve as a “rose of the winds” for those that navigate in the knowledge and learning ocean. With knowledge and learning in its centre, the “rose of the winds” will indicate the different directions where the academic exploration of those topics can lead to.

Furthermore, the vision of this cluster is to become a knowledge-sharing space where participants come together to learn from one another face-to-face and/or virtually. We see the clusters as a promoter of informal undertakings that demand some coordination, facilitation, cultivation, and nurturing. Members in the cluster will decide on specific topics that are timely to address and which will relate to the research interests of the members.

**WHAT ACTIVITIES WOULD WE LIKE TO INITIATE IN OUR CLUSTER?**

- Mapping of research interests
  
  The first activity of the K&M cluster will involve the creation of a map of academic interests anchored in knowledge and learning. This map will depict the wide range of possible academic interests that, somehow, are related to knowledge and learning. The creation of the map will be carried out collaboratively, involving as much as possible the ERCIS community. The endeavour will involve activities that promote creativity in a collaborative way such as a knowledge café.

- Expanding knowledge
  
  We would like to encourage cluster members to organize mini tracks in selected conferences focusing on topics related to K&L that can contribute to the establishment of an encompassing view of K&L in information systems research.

- Connecting to other ERCIS clusters
  
  Activities that aim at creating links between the other ERCIS clusters. Members act as knowledge brokers and aim to stimulate boundary-crossing activities with clusters that explore common interests.

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The Interdisciplinary Study of Continuous Change

Three reasons lead to the establishment of Process Science. First, processes are increasingly growing out of existing containers, and processes constitute a phenomenon of interest themselves, specifically going beyond established units of analysis, such as application systems or organizations. Secondly, the world is increasingly changing and the study of processes helps to understand change, to deal with change and also to actively shape change. Third, the ubiquitous availability of data, combined with advanced data analytics capabilities, offers new opportunities to study processes using multiple data sources, such as digital trace data, social media data, body data and other quantitative and qualitative data.

The following figure depicts a core summary of Process Science. At the core of Process Science is the study of processes (focus). It aims to describe, explain and understand processes. To be inclusive, process science follows a broad understanding of processes that is agnostic to single extant disciplines. We define processes as a coherent series of changes going beyond established units of analysis, such as application systems or organizations.

Recent publications


Smart Manufacturing Cluster

In 2022, we’ve organized three online meetings and one personal meeting in Münster as part of the ERCIS Annual Meeting in which we intensively discussed our research topics covering smart products and Industry 4.0, data analytics in supply chains, as well as new smart service value propositions and business models. We are looking forward to joint research and publication projects on smart manufacturing topics (e.g., on digital platforms in industrial settings). Future activities will also include the exploration of funding opportunities for joint research projects, the organization of conference tracks and journal special issues as well as the exchange of PhD students within the ERCIS network.

Please contact Alessio Maria Braccini or Jens Poepelbuss if you want to join this cluster.

Recent publications


Please also check out the keynotes and presentations and join the community on: https://process-science.net

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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.
The research group analyses challenges and opportunities, and develops instruments so that digital medium-sized cities can evolve, preserving the identity of and identification with the city and region. Due to their manageable size and medium complexity, medium-sized cities are particularly suitable as experimental fields and real laboratories for research and development.

From the chair, Prof. Becker, Dr. Distel, and Dr. Scholta are involved in this project. More information: https://www.digitale-mittelstadt-der-zukunft.de/

The Chair for Information Systems and Information Management at the University of Münster, directed by Prof. Dr. Dr. h.c. Jörg Becker, currently comprises eight post-docs and seven research assistants. The courses offered by the Chair for BSc and MSc in Information Systems study programs include Application Systems, Information Modelling, and Workflow Management (Process Modelling field), as well as Data Management and Management Information Systems and Warehousing (Data Modelling field). Moreover, the courses Retail and Production Planning and Control cover both Process Modelling and Data Modelling in their respective domains. See our courses here: http://www.erc.is/go/cis_pub

Members of the Chair are involved in research projects funded nationally and internationally. For an overview, have a look at http://www.erc.is/go/cis_proj. They publish results of their work in journals like BISE (Business & Information Systems Engineering), BPM (Business Process Management Journal), Electronic Markets, EMISA (Enterprise Modeling and Information Systems Architectures), ISeB (Information Systems and e-Business Management), and GIQ (Government Information Quarterly), as well as in conference proceedings like ICIS (International Conference on Information Systems), ECIS (European Conference on Information Systems), ER (International Conference on Conceptual Modelling), and HiCSS (Hawaii International Conference on System Sciences). For more information see http://www.erc.is/go/cis_pub

RESEARCH TOPICS

Conceptual modelling has become a mainstream method for describing, designing, and reorganizing Information Systems in the last decade. Many large companies use conceptual models for tasks like business process reengineering, software introduction, and compliance management.

Conceptual modelling, when being transformed into practice, supports the creation of business value for companies and governmental organizations. Retail is an area of research that is focused on organizations and application systems in the respective domain including wholesale, stationary retail, and e-commerce. Focal topics to account for interdependencies between an organization and an application system involve process management and conceptual modelling in retail, as well as Enterprise Resource Planning (ERP) systems.

E-Government deals with the aspects of 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.

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

• Digital Medium-Sized City of the Future
  The DFG research group “Digital Medium-Sized City of the Future” (DFR 5932) investigates how medium-sized cities meet the challenges of digitalization and develops digital tools to strengthen their liveability. This research group focuses on four central structural areas of a medium-sized city: civil society & social services, government & administration, economy & energy, and education & culture.

• AI-Bility
  We observe the abundance of smart toys, adaptive learning applications, and digital assistants for schoolchildren on the market. These products are artificial intelligence (AI) based conversational agents that can communicate using natural language. The current pandemic challenge probably plays an important role in promoting their adoption. The truth is, however inconvenient, that we still do not know much about how schoolchildren harness these AI-based conversational agents for their benefits. Because of the way they are designed (i.e., real touchable physique versus digital character), schoolchildren may have different kinds of interaction and experience with them. Moreover, they may be perceived differently because of their appearances (i.e., pet-like and human-like characteristics). This project addresses a discussion that is likely to become more glaring in the next years, due to the increasing adoption of AI-based conversational agents for learning and leisure activities. We focus on 11 to 13 years old schoolchildren in Liechtenstein, Germany, and France. In this age group, they begin to learn abstract reasoning (Jean Piaget’s concrete and formal operational stage) and develop belief in their own ability to solve tasks together with a sense of identity in relation to their social others.

From the chair, Dr. Bergener and Dr. Stein are involved in the project. More information: https://ai-bility.eu


The Digital Innovation and the Public Sector (DIPS) group was established in July 2021 after Prof. Dr. Tobias Brandt, who was previously with the Rotterdam School of Management, joined the University of Münster. At DIPS, we focus on the impact of the digital transformation at the intersection of the public and private sectors with the civic society. Being closely affiliated with the university’s start-up center REACH, we put a particular emphasis on the role of innovation and entrepreneurship in this context. In addition to research and teaching, we support students and staff at the department seeking to pursue entrepreneurial ideas and link them to the REACH ecosystem.

Our research activities focus on three main themes. The first theme, Smart Cities and Regions, explores how digital technologies improve urban service delivery, change how we live with each other and participate in the public discourse, and support the connection between urban hubs and the surrounding areas. In the second theme, the Digital Transformation of Public Sector Organizations, we investigate how public organizations, such as government agencies and schools, respond to the increasing prevalence of digital technologies, particularly in the aftermath of the Covid-19 pandemic. The third theme, Digital Innovation and Entrepreneurship, focuses on innovative digital ventures at the confluence of the public and private sectors and the civic society.

RESEARCH PROJECTS
In August 2022, we launched the project Digital Innovation for Sustainable Development (INNO4S), which is supported by the Ministry of Culture and Science of North Rhine-Westphalia. Within this project, we will explore how digital innovation can be a critical driver for achieving the United Nation’s Sustainable Development Goals as well as obstacles and threats associated with this process. A key outcome of INNO4S will be six extensive teaching cases that will be provided as Open Educational Resources. They can be used within educational programs around the globe to raise students’ awareness of the opportunities and challenges associated with digital innovation in the context of sustainable development. From a research perspective, we will investigate how such resources should be designed to offer an engaging experience to students as well as a high flexibility to be used in a variety of educational settings. INNO4S is a partnership between DIPS and colleagues at the universities in Cologne and Paderborn.

The research project The Coronavirus Pandemic as a Driver of Innovation funded by the National Competence Center for E-Government (NEGZ) explores the power of crises to jumpstart digital transformation processes within the public sector. Focusing on the context of the Covid-19 pandemic, we first investigate processes and work patterns that were digitalized ad hoc due to the external pressure induced by the pandemic. We particularly delve into the obstacles that existed before the pandemic and whether they were removed or simply ignored in its wake. Second, we explore the future of these processes and work patterns, i.e. whether they will remain digitalized, rolled back, or fine-tuned, and the underlying reasoning and dynamics driving these decisions.

In addition to these externally supported projects, we have launched several internal research streams tackling a variety of topics at the intersection of digital innovation and public sector domains. By accompanying several early-stage startup companies focused on elderly care over the coming years, we seek to delve into the dynamics that drive the emergence of digital platforms and ecosystems within the health sector. We complement this research by a parallel stream that explores research opportunities related to the utilization of digital footprints from mobile and wearable devices to improve health outcomes and personal wellbeing. In addition, we expand on our previous research related to smart cities and urban analytics, with current projects exploring the resilience of urban populations in face of adverse events and the integration of micromobility services into the urban transportation mix.

SELECTED PUBLICATIONS
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 Villum Foundation and the Data+ program of the University of Copenhagen.

**SELECTED PUBLICATIONS**


Deep Learning for Accurate Quantification of Carbon Stocks (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 Villum Foundation and the Data+ program of the University of Copenhagen.

**SELECTED PUBLICATIONS**


• The third research area Supply Chain Security and Crisis Management addresses challenges in uncertain and unsteady environments exposed to disruptive events. Our research activities are dedicated to understanding the use of IS to ensure a rigorous and relevant solution design and evaluation. The goal is to provide reference models and procedures to assess current and future scenarios by means of modelling, visualisation, analysis, and simulation. Current research topics encompass blood supply chain management, decision support systems for epidemics, prevention and response, and the design and evaluation of humanitarian IS.

• Within the BMBF-funded BISKIT project, we created a simulation-based optimization toolkit to improve the resilience and performance of blood supply chains. Additionally, we applied an enterprise architecture management approach for collaborative blood supply chain IS. The developed solutions are tested with our practitioner partners in South Africa, Ghana, and Nigeria.

• The chair intensified its research in response to the COVID-19 pandemic. Within the H2020-funded STAMINA project, we provided methodological support to practitioners from twelve European countries to trial potentially innovative solutions for pandemic outbreaks. Further, the BMBF-funded EpiPredict and CoPredict resulted in a testbed for understanding non-phenomenological interventions in infection dynamics. This year, three new projects are launched to carry on this domain track: The DFG-funded Spacelimit extends the testbed using real-time spatial, mobility, and behavioural data. OptimAgent aims to develop a full-scale micro-simulation system of infections in the German population. PROGNOSIS targets a simulation-based decision support system for resilient hospital resource management and allocation. Both projects are funded by BMBF.

• The newly kicked-off DigCBA project, led by our ERCIS partners at the University of Agder, Norway, targets the design, development, and evaluation of evidence-based frameworks to support the selection of the most suitable digital technology for delivering cash-based assistance to refugees.

• Within the DAAD- and CAPES-funded PROBRAL project, the group of Supply Chain Integration addressed diverse issues for a theoretical understanding and practical implementation guidance of S&O, e.g., by integrating data analytics, sustainability, and risk management. We closely collaborated with researchers from the Pontifical Catholic University of PUC in Rio de Janeiro. Our results have been published in peer-reviewed academic journals and presented at international conferences.

• In collaboration with different companies, the Supply Chain Digitalisation group is developing a maturity model for measuring the degree of digitalisation in supply chains (DSCM²). The maturity model is structured in five levels, from no digitalisation to optimised digitalisation, along a business, organisational, process & method, and technological dimension extended by 8 subdimensions. The model is continuously evaluated by practitioners and researchers.

• Events

  • In early July, the 29th EUROMA conference was held in Berlin under the title "Bri-lance in resilience: operations and supply chain management’s role in achieving a sustainable future". The chair shared current research in the areas of designing S&O for uncertain environments, data analytics-driven SC performance measurement systems, as well as evaluation of digital SC maturity models.

  • Every year, the chair organises project seminars in close collaboration with partners from the industry to foster theoretical and practical insights. This year’s seminars covered topics such as retail data management and analysis with Volkswagen, data-driven insights into transport planning with Hellmann, and data analytics for SC performance measurement with Thyssenkrupp.

### Selected Publications


### Dissertations


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**IS & SCM**
Information Systems & Supply Chain Management

**University of Münster**
Chair for Information Systems and Supply Chain Management

www.wi.uni-muenster.de/scm
The ITM is the leading Institute for Information, Telecommunication Law and Media Law for North Rhine-Westphalia. It emphasizes the importance of interdisciplinary work since a proper understanding of technological or economic backgrounds is a prerequisite for successful regulation. Many activities are carried out in close cooperation with the Faculty of Economics of the University of Münster. In 2002, the ITM was appointed the Competence Centre in Information, Telecommunication and Media Law for North Rhine-Westphalia.

Dr. Thomas Hoeren is a professor of civil law at the University of Münster and has been the director of the ITM since 1997. Due to international projects such as TIM-MADE, the ITM has formed a cooperation with the Faculty of Economics of the University of Stellenbosch. This cooperation has resulted in the establishment of an art law clinic in Stellenbosch.

Dr. Irene Schmelzer is a professor of private law at the University of Münster and has been the director of the ITM since 1997. Due to international projects such as TIM-MADE, the ITM has formed a cooperation with the Faculty of Economics of the University of Stellenbosch. This cooperation has resulted in the establishment of an art law clinic in Stellenbosch.

Our research focuses on Information Law, Telecommunication Law and Media Law as well as related areas such as Copyright, Platform Regulation or E-Commerce and Consumer Protection Law. Our current projects address the emerging subjects of Artificial Intelligence Law and Algorithms, Data Protection Law or the Future of Legal Professions and Institutions. Since Information, Telecommunication and Media Law is characterised as a cross-sectional matter, it cannot be fully covered by any of the traditional legal disciplines by itself. The ITM, therefore, strives for interdisciplinary research and teaching activities.

CURRENT RESEARCH PROJECTS
Currently, the ITM is involved in several EU-funded and national projects:

- **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. The project ended in 2022 with the publication of the book: “Künstliche Intelligenz – Ethik und Recht” by Thomas Hoeren and Stefan Pinelli.

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

- **Art Law Clinic**: is a project in cooperation with the Academy of Fine Arts Münster. Its basic idea is: “Law students for art students”. Art students can seek help of legal 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. Due to the success of the project in Germany, a cooperation with the University of Stellenbosch was formed in 2021 to establish an art law clinic in Stellenbosch.

- **Matters of Law in the German Research Network (DFIt)**: The German Research Network (Deutsches Forschungsnetz / 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.

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The ubiquity of digital systems in our world is growing every day. Cyber attacks and emerging activities and threats, both emerging and evolving every day. Cyber attacks and exploiting targeted at data and information are a significant risk, especially to the privacy of users in modern systems. Understanding these threats, empowering users for their own security, and developing strategies and countermeasures for cyber security issues are the main drivers for our research. For this purpose, we utilize methods of systems security, network security, and machine learning.

**GDPR**
The EU General Data Protection Regulation has made a great impact on the design and use of information systems. Clicking cookie banners and consent pop-ups are the for users annoying end of this change as well as reading and understanding the privacy policies of used services. But the GDPR creates a legally clear framework for the design of modern systems and the processing of personal data which must be protected against threats and exploitation. We investigate two main research questions in this area: How can privacy policies be automatically processed and analyzed, e.g. to present it in a more understandable form to users, and how can we technically assure that a service provider only takes actions declared in its privacy policy as well as declares every action it takes?

**Security Strategies**
Additional to technical research improving protocols and algorithms for security and privacy, it takes the right strategy and preparation for a successful IT security of information systems. Depending on the industry, there exist numerous best practices, e.g. for countermeasure deployment or incident reporting, and strategic approaches for the establishment of security. In our research, we strive to learn from these practices and therefore combine experts’ knowledge with means of security measurement to abstract and anticipate future scenarios of cyber incidents. We develop approaches for attack simulations to assess their impact on specific systems and educate strategies for security orchestration automation and responses (SOAR).

**SELECTED CURRENT RESEARCH PROJECTS**
- **Digital Towns of the Future**
The DFG-funded research unit ”Digital Towns of the Future” investigates how medium-sized cities meet the challenges of digitalization, and develops digital instruments to strengthen their liveability, considering the necessary capabilities in the areas of civil society & social services, administration & politics, economy & energy, and education & culture. Digitalization is understood as part of a social process that leads to a fundamental transformation of existing structures in cities. The ever-increasing networking of information and processes affects the thinking and actions of individuals and organizations, so that digitization in this sense should not be understood solely as the conversion of analog values into digital data formats but as the sum of all the resulting consequences for a society and the actors and institutions that support it. In a total of six sub-projects, we look at the perspectives of information systems, economics, education, political science, and sociology on working on the vision of the digital medium-sized city of the future.
- **MedMax: Preparing Hospital Environments for Future Cyber Incidents**
As a part of the graduate school “North-Rhine Westphalian Experts in Research on Digitalization” (NED), we run the project ”MedMax: Preparing Hospital Environments for Future Cyber Incidents”, together with FH Münster and the Ruhr-University Bochum. Medical institutions usually operate with scarce resources and therefore require exact planning of medical operation systems. We strive to develop a digital twin of the whole environment with its processes and resources, to simulate cyber attacks, investigate their effects, and learn how to brace for them.
- **KeyPwned**
Passwords as an authentication mechanism are at risk of leakage. Several times, large password dumps have been published on the Internet, immensely exposing user credentials for websites and services. A widely used alternative to password-based authentication is public key authentication, enabling remote login with a generated key pair consisting of a private key and a public key. Like passwords, private keys are required to remain confidential to prevent unauthorized access to resources. But just like passwords, these secret keys can become subject to theft or publicly exposed unintentionally by the key’s owner which makes it necessary to revoke and abandon the compromised key pair. Unfortunately, it is rarely possible for users to know whether their secret keys have been researched from the perspectives of information systems, economics, education, political science, and sociology on working on the vision of the digital medium-sized city of the future.
- **Automated Search for Leaked Private Keys**
In this project, we focus on the online accountability of services for their own keys’ fingerprinting, enabling users to check whether they might need to revoke and renew their authentication keys. We offer KeyPwned as a service for every key pair owner to check our continuously updated database for their own keys’ fingerprinting, enabling users to check whether they might need to revoke and renew their authentication keys. Check your own keys for leakage at [https://keypwned.uni-muenster.de](https://keypwned.uni-muenster.de)

**SELECTED PUBLICATIONS**
- "Twin of the whole environment with its processes and resources, to simulate cyber attacks, investigate their effects, and learn how to brace for them."
ABOUT THE INSTITUTION

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

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

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

CURRENT RESEARCH PROJECTS

• Transformation of higher education during and after COVID-19 (Prof. M. B. Watson Manheim, Prof. S. Klein)
• Strategy-Making in Times of Uncertainty: An Organizational Improvisation Perspective (Dr. J. Stockhinger, M. Werner)
• How Small- and Medium-Sized IT Consulting Firms and IT/IS Departments Manage Ambidexterity (M. Werner, Dr. J. Stockhinger)
• How Small- and Medium-Sized IT Consulting Firms and IT/IS Departments Manage Ambidexterity (M. Werner, Dr. J. Stockhinger)
• Industry Research on Strategic IT/IS Management and Digitalization (Apl. Prof. Dr. A. Teubner)
• Making Sense of Leadership Practices in Self-Organizing Teams (Dr. R. Thapa)
• Information Privacy Decision-Making: Explaining and Enabling Individual Privacy Management Through Social and Contextual Norms. (Dr. K. Dassel)

Privacy is a difficult topic. The need for privacy is a facet of the human condition, it is a human right protected in many countries by law, but it is also ambivalent, reflecting a fluid boundary of entrusting others with private information and protecting one’s privacy. Digitalization has profoundly and irrevocably changed the privacy landscape. Privacy behavior and specifically privacy decision making poses intriguing intellectual, conceptual and practical riddles. The thesis explores privacy decision making in three different domains: information systems use: setting passwords, selecting communication tools, and sharing information in the context of a health care platform.

• Strategy-Making in Times of Uncertainty: An Organizational Improvisation Perspective (Dr. J. Stockhinger, M. Werner)

In crafting strategy, companies often struggle to cope with volatility as the combination of fast-paced technological advancements and global crises we have witnessed recently have spawned an uncertain and volatile business environment for many firms. Since no business can plan for every eventuality in times of uncertainty, the project examines the role of organizational improvisation in strategic decision-making processes. In particular, we are interested in exploring how organizations can develop “improvisational capabilities” that allow sensing and responding to unexpected events with speed and creativity.

• Making Sense of Leadership Practices in Self-Organizing Teams (Dr. R. Thapa)
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SELECTED PUBLICATIONS


Our research in multimedia systems explored emerging standards for ingesting live media streams. We further started work around new approaches for video processing and delivery control systems. Our work will be practically evaluated and applied in educast, a new video platform for higher educational institutes in the state of North Rhine-Westphalia.

Finally, we are working on testing so-called process-driven applications (PDA), i.e., (typically BPMN-based) executable process models with nested (e.g., Java) applications. After having developed an approach for the semi-automated creation of test cases for PDAs, we have now extended this approach in such a way that existing test cases can be semi-automatically updated after changes in the process model have occurred.

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Copyright © 2022. All rights reserved.
Heike Trautmann is head of the Data Science: Statistics and Optimization group as well as a director of ERCIS. Together with Christian Grimme she leads the ERCIS Competence Center “Social Media Analytics”. Since 2021, she is also Adjunct Professor of Data Science in the Data Management & Biometrics Group at the University of Twente, The Netherlands. Her team contributes to the research areas of data science, artificial intelligence, social media analytics, (multi-objective) optimization, evolutionary computation as well as algorithm selection and configuration in international and industrial collaborations.

**RESEARCH TOPICS**

Some of the most challenging real-world problems involve the systematic and simultaneous optimization of multiple conflicting objectives. As most of those Multi-Objective Optimization problems cannot be solved exactly, we apply optimization techniques from Evolutionary Computation to approximate optimal compromises with special focus on multimodality.

In the context of Algorithm Benchmarking, the group evaluates the performance of nature-inspired techniques and contributes to algorithm design from an empirical as well as a theoretical perspective. Algorithm Selection deals with the selection of the best-suited algorithm for a given problem in an automated fashion. Methodologically, identified problem properties are matched to known algorithms’ performance on advancing the field of Trustworthy Artificial Intelligence, specifically regarding robustness of ML and optimization techniques as well as the AI & Law domain.

**CURRENT RESEARCH PROJECTS**

- **Hybrid – Real-time detection of disinformation campaigns on online media** (https://algorithmization.org/?p=661), 2021-2024: The aim of the BMBF-funded joint project is to develop methods and tools, which enable experts to better assess disinformation campaigns. The partners from computer science, social science, journalism, and practice combine computational analysis with human expertise to detect, analyze, and classify disinformation campaigns.

- **DemoRESILdigital** (www.demos resil digital.uni-muenster.de): “Democratic resilience in times of online-propaganda, fake news, fear- and hate speech”. This junior research group is supported by the Digital Society research program funded by the Ministry of Culture and Science of the German State of North Rhine-Westphalia. It is associated with the Department of Communication at WWU Münster and the Data Science: Statistics and Optimization Group.

Moreover, the group is highly interested in Data Stream Mining. Specifically, textual streaming data is analyzed by Janina Pohl, Lena Clever, Moritz Seiler and Christian Grimme with the aim of propaganda and disinformation campaign detection in online media (Projects DemoRESILdigital, ERCIS Competence Center Social Media Analytics, Topical Program Algorithmization and Social Interaction).

Since recently, the group also contributes on advancing the field of Trustworthy Artificial Intelligence, specifically regarding robustness of ML and optimization techniques as well as the AI & Law domain.

- **WWU Topical Program “Algorithmization and Social Interaction”** (www.algorithmization.org): The topical program is an interdisciplinary and international collaboration of researchers in computer science, information systems, management, economics, social and political sciences, law and communication science. It specifically investigates how algorithmization affects individuals and society at large. A special focus currently is on “Social Influence Analysis” in online media.

- **ERCIS Annual Workshop**, co-located with BPM conference, September 2022, Münster, Germany.

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

- **Theme Development Workshop on AI: Mitigating Bias & Disinformation jointly organized by CLAIRE, ERCIS and other European AI initiatives**, May 2022

- **16th International AAAI Conference on Web and Social Media**, June 2022, Atlanta, US. Janina Pohl presented her work on Artificial Social Media Campaign creation at the NEATClass Workshop.

- **Genetic and Evolutionary Computation Conference (GECCO)**, July 2022, Boston, US. Heike Trautmann served as tutorial chair and the group presented current research results.

- **Parallel Problem Solving from Nature (PPSN)**, September 2022, Dortmund, Germany. Heike Trautmann and Christian Grimme served as Tutorial and Workshop Chairs. The group presented several research papers and was involved in tutorial and workshop organization.

- **Means of Exploratory Landscape Analysis. PPSN XVII Conference, Dortmund, Germany**


Pohl, J., Assenmacher, D., Seiler, M. V., Trautmann, H., & Grimme, C. (2022): “Algorithmization: Grants and Social Interaction” (www.algorithmization.org). The topical program is an interdisciplinary and international collaboration of researchers in computer science, information systems, management, economics, social and political sciences, law and communication science. It specifically investigates how algorithmization affects individuals and society at large. A special focus currently is on “Social Influence Analysis” in online media.


Assemacher, B., & Trautmann, H. (2022). Textual One-Pass Stream Clustering with Automated Distance Threshold Adaption. ACMID Conference, Ho Chi Minh City, Vietnam


**SELECTED PUBLICATIONS**

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**THE OBJECTIVE THAT FREED ME: A BOOK BY HEIKE TRAUTMANN**

**WIRTSCHAFTS INFORMATIK & STATISTIK**

**UNIVERSITY OF MÜNSTER**

**DATA SCIENCE: STATISTICS AND OPTIMIZATION**

**CLAIRE - CONFEDERATION OF LABORATORIES FOR ARTIFICIAL INTELLIGENCE RESEARCH IN EUROPE**

**20th Conference on Business Process Management**

**SELCTED PUBLICATIONS**


The institute consists of three working groups: Medical Data Integration, Digital Health and Biomedical Informatics. Due to the digital revolution, the relevance of informatics within all fields of medicine is constantly rising. There is a wide scope of applications, ranging from molecular biology over clinical medicine to public health and methods from medical information systems, Machine Learning in medical data and bioinformatics in high through-put data.

To foster clinical data integration of routine primary hospital systems, the IMI is part of the nationwide Medical Informatics Initiative and established the Medical Data Integration Centre (MeDIC) of the University of Münster. To promote interoperability of different systems the Institute applies and researches data standards, meta data standards with utilization of medical terminologies and ontologies. The newly established professorship for the working group Digital Health focusses on Clinical Data analyses with Machine Learning and several Deep Learning methods in a broad spectrum of medical data types, including structured clinical data, free-text, imaging and genomic sequencing data.

The IMI participates in the DFG clinical research group “Male Germ Cells: from Genes to Function” (CRU 326), taking care of all GIMIC’s data analyses. The project studies male infertility by means of genomics and transcriptomics analyses, including humans as well as model organisms like zebrafish or marmoset. The project is currently applying for a promising DFG CRC (Sonderforschungsbereich).

Current research projects
- Digital Health & AI in Medicine
  The Smart Device System (https://smart-devices.uni-muenster.de/) utilizes smart-watches, smartphones, tablets and advanced AI-algorithms for time-series analyses for digital neurological examination of Movement Disorders. The study has been finished and final evaluation is on the way to assess classification accuracy of our implemented AI algorithms. In addition, new clinical use cases are being implemented with our clinical partners in cardiology (EGG-based identification of arrhythmias), radiology (linescans of mice).

- IT-Infrastruktur in Medicine
  IMI and its MeDIC is part of the HiGHmed-Consortium (www.highmed.org), which is funded by the Federal Ministry of Education and Research. As of September 2022 we are delighted that this infrastructure is going to receive continuous funding in 2023 as part of Network of Medicine (NUM) in Germany, which shows how important this research infrastructure is for sustained cross-site medical research.

- New Use Cases within the Medical Informatics Initiative
  The IMI will participate in several use cases to show scientific and/or clinical impact by the activity of the MeDIC research work. These include cardiovascular diseases, involvement of patient reported outcomes, cancer research, annotation for natural language processing, medical device consultation or an own coordinated use case – called EyeMatics – which will focus on eye disease research that will combine clinical and imaging data and novel imaging sources such as OCT-scans to unravel new biomarkers of retinal diseases.

- Biomedical Informatics
  The IMI is well-established focus of the institute and its MeDIC is part of the HiGHmed-Informatics Initiative (www.highmed.org) for its quality management system and received the external surveillance audit of 2021 in order to develop software systems for clinical decision support, genomic analyses and medical data integration.

- New USe Cases within the Medical Informatics Initiative
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Our researcher Leonard Greulich has built a team, which received funding for their start up openEDC that will be hosted, mentored and later spun off from our institute. The team develops a novel easy-to-use electronic data capture system for clinical researchers.

AWARDS

Prof. Julian Varghese, together with Prof. Dugas: Best national working group of the German Association for Medical Informatics, Biometry and Epidemiology. For their work and impact on teaching medical informatics and digital competences in medicine.

EVENTS
The IMI has been certified by the TÜV SÜD for its quality management system and passed the external surveillance audit of 2021 in order to develop software systems for clinical decision support, genomic analyses and medical data integration.

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Dissertation
“Fundamental Data Mining Techniques for Declarative Process Mining”
Process mining is a technology at the intersection of Business Process Management (BPM) and Data Mining. The basic idea is to use traces of process executions supported by information systems for process analysis. Thus, it represents a reverse approach compared to process modeling and the as-is analysis of a process is based on factual event data. Nearly all academic and commercial process mining tools (https://www.processmining-software.com/) use process models in form of graphs like BPMN or Petri nets. This thesis has studied the declarative paradigm where a process is described through constraints and conditions it has to meet and all other behaviour that is not touched by any constraint is allowed. Declarative modeling is especially useful for complex and loosely structured processes with many variants whose process graph representations may be large and confusing. Suitable notations like Declare already exist. Nico Grommann’s work deals with the application of fundamental data mining techniques like association rule and sequential pattern mining to process event data for declarative process discovery.

Project Seminar
“Samadaay – Community Sharing Platform for Private Planes”
During winter semester 2021/2, six students of the master IS programme did their project seminar in cooperation with Ximea GmbH in Münster. The goal was to develop a prototype of the platform “Samadaay” which provides a trusted community to share or pair private planes for a benefit, such that their utilization is maximized. The interest in using private planes for individual transportation has risen considerably during Corona times, mainly for the obvious reason that regular air traffic was reduced considerably and, if available, became unpopular due to infection risks. In Samadaay, users, who can register by invitation or recommendation only, can book an “event” (i.e., a flight). In order to amortize the typically high cost of such an event, users can then publish it to the closed community and hence look for other people who want to join and share the cost.

The following figure shows details for three events:

There are various features of an event that the interested parties can negotiate on, and ultimately payment is processed via an encrypted currency. The project work involved various user interviews, interface design, platform programming and documentation, all in close connection with Ximea GmbH which plans to launch the platform in the not-too-distant future.

For the development of this business model, the project seminar worked on topics such as business development, development of data models and the programming of an app. The result is shown in the presented images. It achieves the goal of the seminar by providing a fully functional payment process using points via QR codes. The app has been developed using the popular cross-platform development framework React Native as a hybrid for both Android and iOS phones. The secure payment processes were executed using the Microsoft Azure platform. This way, the students learned current best practices in app and web development. Apart from programming and conceptual development, soft skills such as communication, feedback and self-reflection were trained effectively. The students were supervised by Simon Schimpe and Philipp Kafer from the young company Springboard as well as Prof. Dr. Gottfried Vossen and Andreas Banger from Janus Innovation.

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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.
1. Robust Enterprise

The Centre for Future Enterprise (CFE) is one of QUT’s 32 tier 1 research centres consolidating research expertise across five faculties. CFE is investing its research capacity into the purpose of providing capabilities that matter for future enterprises. The focus is on those emerging attributes of organisations, and their leaders, that have not seen sufficient professionalisation. 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 works closely with industry partners across various sectors.

CFE research inspires, informs and enables navigation in a fast-emerging new world, differentiating essential requirements from distracting noise. Based on the fundamental hypothesis that an increasingly differentiating essential requirements and other forms of disruption. Headed by a multi-disciplinary team of CFE researchers consolidates and examines various mechanisms for dealing with conflicting aims.

2. Algorithmic Enterprise

CFE’s research capability is bundled in the Lab which builds scientific and research management capacities for CFE members to conduct not just rigorous, real-world research, but also to build the mindsets, skillsets and toolsets for effective and efficient research processes. The Hub is CFE’s industry engagement centre. Called Innovation Central Brisbane (ICB) and headed by Prof. Marek Kowalkiewicz, ICB is an open innovation hub that connects students, researchers and industry with global technology giants with a purpose to accelerate digital transformation and skills through rapid prototyping projects. Embedded in Cisco’s National Industry Innovation Network and is CFE’s one-stop engagement point. A key value proposition is the engagement of multidisciplinary coursework students in industry-funded projects providing development capacity which meaningfully extends CFE’s research.

3. Trusted Enterprise

As our societies and economies are becoming more trust-intensive, the conscious design, management and measurement of trust-aware products, services and business processes is of increasing importance. In our research, we break down trust into the management of uncertainty, vulnerability, confidence and benevolence, and develop operational, validated practices and principles for these. The newly appointed Cisco Chair in Trusted Retail is exploring how technologies can facilitate new, trusted solutions and with this unlock previously unseen sources of competitive advantage. The Brisbane Trust Alliance, headed by Prof. Marek Kowalkiewicz, makes research from this theme accessible to current and future leaders.

CFE cultivates an ambitious, proactive, global research community, characterised by mutual support and collective curiosity, nurturing young talent, valuing diversity and connecting researchers with competitive grant funding and reputable industry partners from leading enterprises, charities and governments.

CFE’s research capacity is bundled in the Lab which builds scientific and research management capacities for CFE members to conduct not just rigorous, real-world research, but also to build the mindsets, skillsets and toolsets for effective and efficient research processes. The Hub is CFE’s industry engagement centre. Called Innovation Central Brisbane (ICB) and headed by Prof. Marek Kowalkiewicz, ICB is an open innovation hub that connects students, researchers and industry with global technology giants with a purpose to accelerate digital transformation and skills through rapid prototyping projects. Embedded in Cisco’s National Industry Innovation Network and is CFE’s one-stop engagement point. A key value proposition is the engagement of multidisciplinary coursework students in industry-funded projects providing development capacity which meaningfully extends CFE’s research.

SELECTED CURRENT RESEARCH PROJECTS

• Digital Industrial Platforms

This project studies digital industrial platforms in the context of manufacturing and industry 4.0. These platforms facilitate transactions and innovation by leveraging industrial asset data fuelled by industrial IoT, cloud computing, edge computing, data analytics, and artificial intelligence. While digital platforms have been a prominent research topic, their use for industrial, B2B applications is quite distinct. This requires new theoretical and empirical insights. As such this project targets developing the research agenda and conducting case studies of digital industrial platforms.

This project is a collaboration between Prof. Erwin Fielt, Senior Lecturer at QUT’s School of Information Systems and member of the Centre for Future Enterprise, and Prof. Dr. Martin Matzner, Chair of Digital Industrial Service Systems at the Friedrich-Alexander University Erlangen-Nürnberg. It is part of the ERCIS Research Cluster on Smart Manufacturing. Prof. Erwin Fielt presented his research on Business Model Innovation for Manufacturing in 2022 as part of a Cluster meeting.

The Co-Leader of the ERCIS Smart Manufacturing Cluster, Prof. Dr. Jens Poppelbush visited QUT’s CFE Centre for Future Enterprise in two weeks in October 2022 and presented on Multi-Actor Smart Service Innovation. A comprehensive set of executive courses, also as part of QUT’s Digital MBA, makes research from this theme accessible to current and future leaders.

SELECTED PUBLICATIONS


• Innovation Systems

The transformational performance of organisations in the context of innovation tends to be under-developed. Whereas transactional information systems have matured, innovation systems are at infancy. CFE’s related research is dedicated to the design of systemic approaches for innovation. This includes patterns for explorative process design, ideation frameworks and the role of abductive approaches driven by a sense of ambition (as opposed to sense or urgency).

SELECTED PUBLICATIONS


NEW LEARNING ECONOMY

The current model of learning has three deficiencies. First, knowledge depreciates faster making ongoing learning more relevant than ever. Second, experience increasingly is becoming counter-productive. Third, there is no consciousness for one’s state of educational well-being. Studying the business models of organisations such as Amazon, Google, Tesla and Spotify, led to six new strategic options (e.g., personalisation, scalability) for the New Learning Economy that we describe as options for leaders with a sense of ambition in our new book launched this year. As part of his visit to the BPM Conference in Münster in September 2022, Prof Dr Michael Rosemann discussed the idea of continuous educational well-being and upgradeable, subscription-based degrees as described in this book with representatives of the executive education department (‘Weiterbildung’) of the University of Münster.

The ISOM department contributes to WU’s solidification of know-how and reputation of conducting research and teaching with their endowed chair joining next year. Additionally, Jan Mendling rejoined the department as double affiliated professor at Humboldt-Universität zu Berlin and WU Vienna. Furthermore, several department members are actively contributing the following COMET K1-centres: Austrian Center for Digital Production (CDP), Austrian Blockchain Center (ABC) as well as SBA Research (Secure Business Austria).

SELECTED PUBLICATIONS

The Institute for Information Systems and New Media (Gustaf Neumann) emphasi-izes two major research areas: new media, especially computational media, active media, polymorphic media, and informa-tion systems, in particular highly flexible systems and application engineering.

The Institute for Information Systems and Society (Sarah Speikermann) aims to be a think tank for business as well as society and to contribute to the development and design of sustainable information technol-ogy.

The Institute for Production Management (Gerald Reiner, Alfred Taudes) is focusing on research in the area of supply-chain management. Miriam Wilhelm joined the institute as chair for Sustainable Supply Chain Management, which was estab-lished in October 2022. Her main aim is to provide novel research insights on how global supply chains can be made more sustainable, both from an environmental and social perspective.

A SELECTION OF CURRENT RESEARCH PROJECTS
KnowGraphs – Knowledge Graphs at Scale (lead: Kirrane, S.; 2019–23; EU Horizon 2020): This project investigates how citizens can be enabled to protect their privacy and to make informed decisions considering opportunities and risks.
HOnEST – Human-centric Ontology Evalu-ation (lead: Sabou, M.; 2020–24; FWF Elsie Richter Grant): This project is investigat-ing Human Computer methods for the evaluation of knowledge structures, such as ontologies and knowledge graphs. Fur-ther, the project aims to make important contributions towards creating trustable and unbiased AI Systems.
APPETITE – AI-driven collaborative sup-ply and demand matching platform for food waste reduction in the perishable food supply chain (lead: Reiner, G.; 2022–25; FFG). This project’s overall goal is to reduce food waste by 10% by 2030, achieved by collaboration and the use of advanced data-driven technologies by integrating AI-driven forecasting and logistics optimization methods.

The Institute of Digital Ecosystems (Verena Donner) is focusing on the digitaliza-tion of decision making in different ecosys-tems as well as developing algorithms and systems to support decision makers.

The Institute for Distributed Ledgers and Token Economy (Davor Svetinovic) was newly founded in January 2022, with a re-search focus on the cutting-edge research in the fundamentals of blockchain technol-o-gy and its applications to economics, law, business, and social sciences.

The Institute for Information Manage-ment and Control’s (Edward Bernreuder) focus is on the needs of organizations and societies in regard to managing and con-trolling digital transformation, especially considering opportunities and risks.

The Institute of Data, Process and Knowledge Management (Axel Polleres) conducts research in the area of business- and technology-driven innovations with a specific focus on data management and knowledge management. In March 2022, Morte Sabou filled the vacant chair for Information Systems and Business Engineering at the institute. She is focusing on information systems based on artificial intelligence techniques, in particular neu-ron-symbolic systems that combine both semantic technologies and machine learn-ing. She investigates novel applications of these systems, the business models they enable as well as their socio-technical as-pects.

The interdisciplin ary Master’s Program in Digital Economy (launched in 2021) equips students with the expertise and methodo-logical skills they need to help steer the path of digitalization, so they will be able to distinguish themselves in creating and maintaining digital ecosystems, designing new digital business areas in companies, and contributing to digitalization-driven social change.

The high quality of our well-established and prestigious transdisciplinary Master’s Program in Supply Chain Management is also confirmed by the SCM specific QS ranking, which ranks it 2nd for the second time in a row as 1st in Europe and 2nd in the world.

The Ins
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 campuses 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 at USP that brings together 11 undergraduate and 11 graduate programs in different areas of knowledge. Of these, we act in the Bachelor’s in Information Systems undergraduate program, with nearly 40 faculty members, and in the Master of Science and PhD in Information Systems graduate program, with nearly 25 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 Caetano, with nearly 50 faculty members, and the School of Philosophy, Science and Literature (FFCLRP) 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 organizations is of utmost importance in achieving the organization’s strategic goals. This project aims to explore key machine learning and computational intelligence techniques to discover advanced process knowledge for process and organizational improvement. Specific works under development currently involves process discovery, concept drift, legal compliance, legal process mining, educational process mining, interpretability and explainability with visualization, trace clustering, iterative clustering.

- **Social Robots**
  Social robots can assist human beings in different activities through social interactions. They can be used, for example, to aid older adults by diagnosing depression and anxiety in their homes and proposing activities to reduce these states, providing a better quality of life. This project aims to investigate social robots in assisting groups of individuals with specific needs in particular contexts of development and social interaction, such as lonely older people, children with autism spectrum disorder, and patients isolated in hospitals.

**PUBLICATIONS**


**CONTACT DETAILS**

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The natural sciences have been a part of the Faculty of Mathematics and Physics since its founding in 1348. The faculty celebrates its 70th anniversary this year. Now, it is composed from three schools: School of Physics, School of Mathematics, and School of Computer Science.

The School of Computer Science includes eight prestigious teaching and scientific workplaces. Members of the School of Computer Science achieve outstanding scientific results based on discrete mathematics, especially graph theory and its applications. Its members work on areas including building large software systems. Research is conducted within national and European basic research, applied and contract research projects. The department provides courses for undergraduate and graduate students in software and data engineering programs.

**RESEARCH TOPICS**

- **Multimedia Retrieval**
  - It includes meeting multimedia data in social media applications, video streaming services, digital libraries as well as in specialized medical or industrial fields. As multimedia data are produced using sensors, their primary representation is semantically unstructured. Hence, recognition of what is inside a particular multimedia document and subsequent retrieval is a hard task that requires advanced techniques for feature extraction, object detection, similarity modelling, etc. Many of these techniques are based on machine-learning models.

- **Data on the Web**
  - Working with data on the Web is difficult due to numerous issues which an interested data consumer can come across, the main ones being data interoperability issues on various levels of abstraction. To support the ecosystem of data exchange on the Web, the research is focused on a set of techniques and tools for proper publishing and consumption of data on the Web, which include data cataloguing, transformation, querying and visualization tools.

- **Multi-model databases**
  - Relatively recently emerged NoSQL and other modern DBMS allows to deploy data bases based on other logical models than just the traditional relational ones. Unfortunately, the number of available models, formats, implementations, and query languages the existing systems exploit, often proprietary, is not sustainable from a long-term perspective. Therefore, the research is focused on various aspects of efficient and unified management of multi-model data, including conceptual modelling, schema inference, unified querying, or evolution management.

- **Bioinformatics**
  - The research in bioinformatics focuses on the development of software tools applicable mainly in the domain of structural bioinformatics and visualization. These include tools for protein binding site detection, with the application in computational drug discovery, or tools for visualization of the structure of macromolecules. All our methods are implemented as software solutions used by thousands of users all over the world.

- **Compilers**
  - Our research activities include specialized code generators for performance-critical code, compiler support for dynamic languages, languages for Big Data processing, and translation between domain-specific languages.

- **High performance computing (HPC)**
  - HPC research activities and topics of interest include multi-core CPUs and NUMA servers, many-core GPUs and GPGPU computing, emerging parallel architectures, distributed computing on tightly coupled clusters, parallel data processing and currency in database systems, as well as languages (and compilers) for parallel processing.

- **Research Software Engineering (RSE)**
  - RSE helps scientists improve and speed up their work by up to several orders of magnitude, making it possible to process much larger volumes of data in the same amount of time. As a result, many new findings can be found and produced that would have been unattainable without RSE.

**CURRENT RESEARCH PROJECTS**

The department members are involved in several research projects funded by the Czech Science Foundation and the Technology Agency of the Czech Republic. For example, bioinformatics group is focused mainly on the development of structural bioinformatics software solutions in the projects:

- **PD-WebKB consortium** (D. Hoksza, R. Krivak, P. Skoda): PD-WebKB: collaborative framework which enables to define various browsing configurations tailored to domain specific of given source data.

- **LinkedPipes ETL** – an open-source extract-transform-load tool focused on publication and consumption of data on the Web, including linked data. It is already deployed in multiple organizations worldwide, and we have plenty of ideas of how to improve it further.

**PUBLICATIONS**


90 countries

The University of Tartu (UT), founded in 1632, is one of the oldest universities in Northern and Eastern Europe. The UT belongs to the top 1.2% of the world’s best universities by ranking 296th in the QS World University Rankings 2023 and within the 201-250 range in the Times Higher Education (THE) World University Rankings 2023. It is placed 4th in the QS EECA University Rankings 2022. Our research contributes to solving the most pressing long-term challenges for Eastern Europe, as well as to achieving the UN’s Sustainable Development Goals.

The University of Tartu, in collaboration with the University of Konstanz, Harvard University, Erasmus University Rotterdam and KU Leuven. Our visiting professor ‘Governance in the Digital Age’ Vincent Homburg was also among the teaching staff. Vincent will play a more active role in the teaching and supervision work at the Skytte Institute in the current academic year.

• ECEPS ERA-Chair will also host the 24th Annual International Conference on Digital Government Research – DG O 2023 ‘Building Safe and Secure Digital Public Services’ in June, 2023, in Tartu. The call for papers is to be launched in October 2022 and colleagues are most welcome to join.

The roots for the Institute for Information Science were established in year 1971. Nowadays the Institute is a part of the University of Turku. The institution runs a rich portfolio of current research projects (2020–2022) in responsible artificial intelligence. In research, the Institute focuses on education even at the whole university level, running three international master programs.

CURRENT RESEARCH PROJECTS
The institution runs a rich portfolio of projects in different areas. The AIGA project (2020–2022) explores how to execute responsible artificial intelligence (AI) in practice. The Digireactor project (2021–2023) supports the digitalisation of small businesses by developing competences for digital product development together with designing regional operating models. The main sponsor of the project is the European Social Fund.

The following doctoral thesis was published in year 2022:
Kaisa Juntunen
Determining the Cost of Business Continuity Management – A Case Study of IT Service Continuity Management Activity Cost Analysis

PUBLICATIONS


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 15,002 students (including 25% international), 207 professors (43% coming from abroad), 275 international academic partners, 350 company partners and more than 75,000 alumni around the world. KEDGE Business School is AACSB, EQUIS and AMBA-accredited, and is a member of the Conference des Grandes Ecoles. It is also recognised by the French government, with labelled EESPIG label. KEDGE’s Master in Management was ranked 48 worldwide, the Executive MBA 59th worldwide and 15th in Europe by the Financial Times and. KEDGE Business School is ranked 2nd among all business schools in Shanghai ranking.

Kedge Business School offers a variety of degree programs including Undergraduates, Short-Term, Exchange, PhD, and Post-graduate programs performed by its core faculty of five departments: Management, Operations management and information system, 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 support 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 includes multiple disciplines, given in the following: IS in operations management, purchasing and IS, innovation capacity, 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 the four Centres of Excellence of Kedge Business School: Excellence in Supply Chain, Excellence for Sustainable Marketing and New consumption, Food, Wine and Hospitality Management as well as with the three Centres of Expertise on Innovation & Health Management, on Finance Reconsidered, and Creative Industries & Culture expertise.

CURRENT RESEARCH PROJECTS
1) Establishing a trustworthy AI
With the university of Bordeaux, Kedge Business School participate to the creation of a chair entitled “Trustworthy AI”. This chair brings together researchers from computer science and mathematics, researchers from social sciences to reflect on the concept of trust associated with artificial intelligence and several companies developing projects in artificial intelligence. Trust is a versatile word and can be understood as something “objective” that can be established via mathematical proofs (we can prove that the algorithm does what it says and says what it does). It can also be understood as something “subjective” arising from the multiple interactions between humans as well as machines. In that case, the nature of interactions and the exchange of signals will be critical to the establishment of trust. The chair is now live and about to launch its first research projects. Contact: Olivier Dupouet
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2) ReconfiDurable – design and management of sustainable and reconfigurable production systems
Funded by the French National Research Agency (ANR) in 2022 this research project aims on the design of sustainable reconfi gurable manufacturing systems. The goal of this project is to develop efﬁcient tools for decision-making support for the design, reconfiguration and real-time control while considering uncertainties. The techniques used will be based on multi-scale modeling, process modeling, combinatorial optimization and robust optimization as well as on stability analysis of the obtained solutions, discrete events simulation, and machine learning techniques.
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3) SMART CITY LOGISTICS – in partnership with group LA POSTE – Tomorrow’s urban logistics
Conception of new logistics decision-making models, inspired by hyperconnected scenarios, allows to achieve ecological and operational efficiency in line with the service level expected in the future. This project is three-folded and studies: Hyperconnected city delivery (inspired by the Physical Internet combining the combination of digital transportation networks that are deploying to replace actual road networks) to assess and evaluate the impact of recent technological innovations, new logistic solutions for city networks Collaborative and shared organization of logistics with an objective to assess and evaluate the impact and the benefits of this new complex logistics systems in a city Sustainable supply chain and green logistic flow with an objective to assess the environmental impact of a parcel from a drop to final delivery
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4) Innovation oriented clusters in knowledge intensive industries: an example from wine region.
We explore how hub-firms in a regional industrial cluster orchestrate resources to enhance the innovation capabilities of member firms. The clusters can drive the collaboration process, support the development of member capabilities and achieve desired outcomes. We use exploratory case studies within an innovation cluster, where a hub-firm brings together different players for specific innovation projects and analyze several project cases to reveal the shifting roles and activities related to structuring, bundling and leveraging different resources for innovation capabilities particularly associated with improved quality and reputation for the firms and region.
We focus on a wine industry though there are implications for the success orchestration of other regional industrial clusters. Also, the lack of hub-firm interaction during the project process provides an opportunity to consider mechanisms for better guidance of the project team. Policymakers can benefit from this research as the required practices for stimulating innovation capabilities and economic development are discussed.
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PUBLICATIONS

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The Department of Economics Engineering Society and Business Organisations (DEIm) comprises six departments spanning the disciplinary areas of economics, finance, management, statistics and mathematics, engineering, physics, forestry, natural resources, agricultural economy, biology, chemistry, cultural heritage, political sciences, arts and humanities, and law. The University has a long-standing tradition of applied interdisciplinary research.

ABOUT THE INSTITUTION

Located in the northern part of the Lazio Region (centre of Italy), the University of Tuscia is a medium-sized public university that currently enrols about 8,000 students. The University offers 22 bachelor’s degrees, 24 master’s degrees, and 8 PhD courses. The University of Tuscia comprises six departments: the Department of Economics Engineering Society and Business Organisations (DEIm), the Department of Computer Science and Mathematics, the Department of Chemistry, the Department of Biology, the Department of Agricultural Sciences, and the Department of Social and Management Sciences.

Teaching and research in digital transformation engage an interdisciplinary group of professors and researchers covering computer science and management disciplines. Professor Alessio Maria Braccini coordinates the group. It comprises one full professor, three assistant professors, and three PhD students.

CURRENT RESEARCH PROJECTS

Among the many research projects run by the department, the following ones primarily focus on digital technologies and digital transformation.

• BePrepared: “SMEs: Be Prepared for supply chain risks!” (funding agency: Erasmus+). The project is coordinated by the Tallinn University of Technology (TallTech, Estonia) and partnered by the University of Graz (Austria), Rhein-Main University of Applied Sciences (Germany), University of Minho (Portugal), Institute of Entrepreneurship Development (Greece), COTEC (Portugal), and University of Tuscia (Italy). The project’s main objective is to develop a VET measure to prepare SMEs for identifying and handling supply chain risks.

• Giustizia Agile (funding agency: Italian Ministry of Justice). The project is coordinated by the University of Tuscia and partnered by the University of Firenze, University of Perugia, University of Rome La Sapienza, University of Rome Tor Vergata, University of Cassino, University of Roma Tre, University of Siena, University of Pisa, Scuola Superiore Sant’Anna di Pisa, and Scuola IMT L’Ateneo di Lucca. The project’s main objective is to develop an AI-based system that could support judges in better managing their workflows.

• Cybersch: Cybersecurity hardening for AI solutions (funding agency: National Competence Center Cyber 4.0). The project is coordinated by a private company named 3rdPlace, Datix AI solutions Group with one research unit of the University of Tuscia. The project’s main aim is to design, develop, and validate a software solution to contrast Artificial Intelligence Attacks to automate the hardening of AI-based systems.

• Cyber 4.0: National Competence Center Cyber 4.0 (funding agency: Italian Ministry of Economic Development). The competence centre is a non-profit organisation partnered by 43 entities, including eight universities (among which the University of Tuscia and the LUISS Guido Carli University) and several SMEs. The competence centre delivers capacity building, research, and innovation actions in cybersecurity in aerospace, automotive and e-health.

RESEARCH TOPICS

In the DEIm department, the group does research on the following topics:

• The role of social media in communication, coordination, and decision-making processes in collective action.

• The exploration of the impact of Industry 4.0 technologies on manufacturing organisations.

• The exploration of the impact of Industry 4.0 technologies in smart agriculture.

• The investigation of citizen science applications in the domain of hydrology.

• The study of cybersecurity aspects of artificial intelligence-based systems.

• The exploration of cybersecurity aspects of digital transformation.

• The exploration of cybersecurity aspects of digital technologies.

• The exploration of cybersecurity aspects of digital technology applications in the domain of hydrology.

• The study of cybersecurity aspects of artificial intelligence-based systems.

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• BePrepared: “SMEs: Be Prepared for supply chain risks!” (funding agency: Erasmus+). The project is coordinated by the Tallinn University of Technology (TallTech, Estonia) and partnered by the University of Graz (Austria), Rhein-Main University of Applied Sciences (Germany), University of Minho (Portugal), Institute of Entrepreneurship Development (Greece), COTEC (Portugal), and University of Tuscia (Italy). The project’s main objective is to develop a VET measure to prepare SMEs for identifying and handling supply chain risks.

• Giustizia Agile (funding agency: Italian Ministry of Justice). The project is coordinated by the University of Tuscia and partnered by the University of Firenze, University of Perugia, University of Rome La Sapienza, University of Rome Tor Vergata, University of Cassino, University of Roma Tre, University of Siena, University of Pisa, Scuola Superiore Sant’Anna di Pisa, and Scuola IMT L’Ateneo di Lucca. The project’s main objective is to develop an AI-based system that could support judges in better managing their workflows.

• Cybersch: Cybersecurity hardening for AI solutions (funding agency: National Competence Center Cyber 4.0). The project is coordinated by a private company named 3rdPlace, Datix AI solutions Group with one research unit of the University of Tuscia. The project’s main aim is to design, develop, and validate a software solution to contrast Artificial Intelligence Attacks to automate the hardening of AI-based systems.

• Cyber 4.0: National Competence Center Cyber 4.0 (funding agency: Italian Ministry of Economic Development). The competence centre is a non-profit organisation partnered by 43 entities, including eight universities (among which the University of Tuscia and the LUISS Guido Carli University) and several SMEs. The competence centre delivers capacity building, research, and innovation actions in cybersecurity in aerospace, automotive and e-health.

EVENTS

The 2022 edition of the annual chapter of AIS (OAHs) took place in Catanzerro on October 14 – 15, hosted by the University of Magna Grecia. This edition was co-located with the Mediterranean Conference on Information Systems (MCIS) and preceded by a junior faculty doctoral consortium. Several ERCIS members participated in the edition of the conference and specifically: Álvaro Arenas (IE Business School, Spain), Øystein Sæbø (University of Agder, Norway), and Polynexi Vassilakopoulou (University of Agder, Norway), and Robert Winter (University of Sankt Gallen).


About the Institute
The Institute of Information Systems at the University of Liechtenstein was founded in the early 1990s and has grown continuously ever since. It is represented by the Hilti Chair of Business Process Management, held by Prof. Dr. Jan vom Brocke. The institute hosts two further chairs, the Hilti Chair for Data and Application Security, held by Prof. Dr. Pavel Laskov as well as the Chair for Technology and Innovation, held by Prof. Dr. Stefan Seidel.

Members of the institute have published in leading information systems journals, including MISQ, ISR, AIS, JIM, JET, EIS, ISJ, AIS. Communications of the ACM, MIT Sloan Management Review, and Management Science. The institute offers a master’s degree in Information Systems with three subject areas (Business Process Management, Data Science, and Data and Application Security), a Ph.D. program in Information and Process Management, and a bachelor’s degree in Business Administration majoring in Information Management & Information Technology. The current three years (2019-2021) AIS Research Performance Ranking lists the institute #8 in the DACH region (Germany, Austria, Switzerland), #26 in Europe, and #128 worldwide.

The institute is also a co-founder of the Hilti Chair of Business Process Management.

University of Liechtenstein
Institute of Information Systems – Hilti Chair of Business Process Management

Research Topics
Our research addresses information systems from four complementary perspectives (in alphabetical order):

- Data: Data science focuses on capabilities to harvest and analyze 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 organizations. In 2021, the cluster Process Science, i.e., the interdisciplinary study of processes, has been initiated together with many ERCIS partners.
- Security: Data and application security focuses on the development of reactive and proactive security mechanisms.

Current Research Projects

- Erasmus+ Project: Developing Process Mining Capabilities at the Enterprise Level
- Together with the University of Bayreuth, and the Vienna University of Economics and Business, the University of Liechtenstein is working together on the Erasmus+ funded project on process mining. The outcomes of this project intend to support practitioners, and future students, in understanding, estimating, and managing the implications of process mining.

- Erasmus+ Project: AI-ility: Cultivating AI Awareness in Schoolchildren
- Together with partners from the University of Minster and Grenoble Ecole de Management, the University of Liechtenstein conducts a project dealing with school-children's perception and use of AI. The project pursues two main objectives: 1. To explore and understand how school-children interact with different types of AI-based conversational agents and how they perceive these conversational agents compared to their existing social others (such as family, friends, and teachers). 2. To equip schoolchildren as digital natives and their caregivers with hands-on knowledge in dealing with the rapid advancement of smart technologies.

Awards

- AIS Outstanding Chapter Award 2021
- In 2021, the Liechtenstein chapter of the AIS (LCAIS) received the AIS Outstanding Chapter Award 2021 for achievements in research, teaching, and knowledge transfer. The LCAIS is among the 36 AIS Communities to earn the designation of Outstanding SIG, College or Chapter for 2021.

- Scholler Senior Fellowship 2022
- Prof. Dr. Jan vom Brocke was named Scholler Senior Fellow by the Dr. Thea and Friedl Scholler Research Center for Business and Society at the Friedrich-Alexander-Universität Erlangen-Nürnberg in February 2022. The fellowship is associated with a research grant to further establish processing science as a new field of science to study continuous change.

- Liechtenstein Prize for early career researchers
- Dr. Janine Hacker and Dr. Joshua Handali were awarded the Liechtenstein Prize for early career researchers of the University of Liechtenstein for the publication „Virtually in this together-how web-conferencing systems enabled a new virtual togetherness during the COVID-19 crisis“ (co-authored with Jan vom Brocke, Johannes Schneider, and Markus Otto).

Publications


Dissertations

Christopher J. Frick: “The Role of the State in Digital Transformation: Value Creation with Emergent Technology. Liechtenstein’s ‘To- ken Economy Case’” (Supervisor: Jan vom Brocke, Axel Winkelmann, Julius Maximilian University of Würzburg)

Joshua Peter Handali: “Human and Artificial Intelligence Systems. Transfer of Knowledge” (Supervisor: Jan vom Brocke, Michalsk Vlachos, NEC Lausanne)

Rene Abraham: “Conceptualization and Application of a Framework for Data Governance” (Supervisor: Jan vom Brocke, Axel Winkelmann, Julius Maximilian University of Würzburg)

Valentin Holzwarth: “Extended Reality in Industrial Processes” (Supervisor: Jan vom Brocke, Andreas Kunze, ETH Zürich)
The Department of Information Systems at the Kaunas University of Technology (KTU) was founded in 1993 as a result of more than 20 years of research in the field of information systems (IS). Since then, we have grown to become one of the leading departments in the KTU Faculty of Informatics. In 2011, the Department’s Laboratory of Information Systems and Databases Design was restructured into the Centre of Information Systems Design Technologies (headed since by prof. Rimantas Butleris). In 2014, the Center has been expanded as part of the move to the newly established Integrated Science, Studies and Business Valley “Santaka”. As of autumn 2022, the Department has over 30 researchers and teachers. Over the years, we established good 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. It is worth noting that in 2022, the second cycle study programme we are curating was renamed keeping it in “Digital Transformation and System Architectures”. For the 2022–2023 study year, 29 new students were admitted to the Bachelor study programme “Information System”, and 13 – to the aforementioned Master’s. There were also 8 PhD students in the Department.

The Centre has been expanding its activities from research and development projects to the reorganization and development of the Information Systems user interface and usability, Machine learning, and Blockchain technologies. The Centre has been contributing to national and international projects, for example, “Smart FDI”, project coordinator – JSC “Information Systems”, and 13 – to the aforementioned research topics.

RESEARCH TOPICS
The KTU Department of Information Systems/Centre of IS Design Technologies specialize in 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 technologies

SELECTED RESEARCH AND DEVELOPMENT PROJECTS
- Development of Measures to Increase Efficiency of the Public Sector Buildings Life-Cycle by Applying Building Information Modelling – BIM-LT (2019–2022). Funded by 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.
- Smart homes and intelligent agents for improved physical and mental well-being (SOAR) (2020–2022). Funded by the European Regional Development Fund. Coordinated by the Cherniers University of Technology and carried out in partnership with Halmstad University and University of Oslo.

EVENTS
The 28th International Conference on Information and Software Technologies took place on October 13–15, 2022, in Kaunas, Lithuania. ICIST is organized annually by the Faculty of Informatics of Kaunas University of Technology and is chaired by professor Audrius Lopata of the Department of Information Systems.

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PUBLICATIONS
The Department of Information Systems is one of four departments within the centres:

- The Faculty of Social Sciences at the University of Agder (UiA) focuses on technology-based solutions that contribute to prevention, curation, information sharing for situational emergency responders, in the areas of health issues. The centre conducts interdisciplinary, multidisciplinary, and inter-disciplinary approaches and draws on a wide range of theories from social science.

- The Faculty of Information Technology in Disaster Risk Reduction (ITDRR) conducts research in collaboration with organizations, and individuals. CITRDRR applies disciplinary, multidisciplinary, and inter-disciplinary approaches and draws on a wide range of theories from social science.

- The Faculty of eHealth focuses on digital solutions that contribute to prevention, health promotion and coping in relation to health issues. The centre conducts interdisciplinary, user-oriented, and practical research and development studies. New digital solutions are developed through collaboration between users, the health service, business partners and academia.

- The Faculty of Integrated Emergency Management (CIEM) focuses on technology-based innovation for societal resilience. CIEM conducts research in collaboration with emergency responders, in the areas of community resilience and crisis communication, information sharing for situational awareness, technological advancements to support humanitarian aid, cybersecurity, and new technologies for emergency management operations (e.g., drones, robotics and augmented reality).

### Current Research Projects

- The 7th IFIP WG 5.15 2022 Conference on Information Technology in Disaster Risk Reduction (ITDRR-2022) was hosted by CIEM, UiA in October 2022. The conference is especially focused on the various IT aspects and challenges of coping with disaster risk reduction.

- Nakobit 2022 is a national conference in information science and information systems in Norway and was hosted by UiA in November 2022. It focuses on topics related to development, implementation, and use of ICT in organizations, including sustainability and societal issues.

### Publications


### Contact Details

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**Dissertations**

The Department of Business Informatics is an institution of a higher education in Poland. It offers the opportunity to study in 89 different fields of studies with more than 270 specializations. The Department of Business Informatics (BI) of the University of Gdansk is involved in research and teaching in the field of Business Informatics on the Bachelor, Master, Post-Diploma and Doctoral levels. For 20 years, the Department of Business Informatics has been running the Pomera- 

ite technology. The Department is the associate partner of the European Research Center for Information Systems (ERCIS) consortium, from 2004.

In years 2013-2017, Department of Business Informatics of University of Gdansk participated in the World IT Project (S. Wrycza and D. Gojda), regarding ITDC – Occupational Culture of IT in various civilization areas, coordinated by University of North Carolina, USA. In 2019 the summarizing publication 552 pages 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 and research initiatives:

- Polish Chapter of Association for Information Systems – PL AIS was awarded five times by AIS as the outstanding chapter – in 2014, 2016, 2017, 2018 and 2019. Polish Chapter of AIS – PL AIS was established in 2006 as the joint initiative of Prof. Claudia Loebebecke, University of Cologne, Germany, former President of AIS and Prof. Stanislaw Wrycza, University of Gdansk, Poland. PL AIS co-organizes 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 wins in 2015-2020, successively at: University of Alabama (2015), Indiana University (2016), Bingham 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 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.
- He was author and co-author of over 200 scientific publications, including over 40 books. Member of over 100 pro-
- NIE Student Chapter. Each yearly Student Competition is connected with the advanced Annual AIS Student Chapter Leadership Conference.
- The areas of research interest at Department of Business Informatics cover the following theme:
  - Agility
  - Big Data
  - Business Informatics
  - Business Processes and Business Models
  - Digital Transformation
  - ERP, CRM, SCM, WFM, BI Systems
  - Information Systems Development
  - ICT Global Development
  - IT Acceptance Research
  - SCRUM
  - Social Media Analytics
  - UML and SysML
  - Information Systems, pp.1-5, Article number:1671, ISBN 978-1-59820-00-1

Communications:


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Wrocław University of Science and Technology
DEPARTMENT OF APPLIED INFORMATICS

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), understood as an AI sub-field dealing with soft computing methods that enable making group decisions or processing knowledge among autonomous units acting in distributed environments. Web-based systems, complex networks and multi-agent systems very often need such tools for working out consistent knowledge states, resolving conflicts and making decisions.

• Knowledge Management Systems, referred to any kind of ISs from cluster (3) that store and retrieve knowledge, improve collaboration, locate knowledge sources, mine repositories for hidden knowledge, capture and use ubiquitous knowledge.

• Semantic Information Retrieval range from link structure analysis to using social network relationship semantics and come up in cluster (3). We use and research paradigms and technologies like Semantic Web, linked data, Web ontologies, and Web data aggregation.

• Multimedia Information Processing covering clusters (1), (3) with the following aspects: audio signal processing, image recognition and video clustering, loss and lossless compression.

• System Performance Analysis merges clusters (2), (4), and (5) with content caching techniques, usability testing, content indexing algorithms, and Web-based optimization techniques.

• E-Learning Methodologies focused on applications from cluster (2) of online collaboration paradigms, like wiki and video conferencing, Learning Management Systems and Learning Content Management Systems, digital documentation techniques.

CURRENT RESEARCH PROJECTS

The Department of Applied Informatics, as in the previous year, was involved in two international projects.

1) Joint Polish-Vietnamese research agreement led by the Ho Chi Minh City International University and the Department of Applied Informatics at the Wrocław University of Science and Technology. Duration: 2020–2022.

Contact: Prof. Ngoc Thanh Nguyen (Ngoc.Thanh.Nguyen@pwr.edu.pl)

2) Polish-Norwegian research project on "Highly accurate and autonomous programable platform for providing data services on air pollution to drivers and public entities" (HAPADS) funded by the National Center for Research and Development. Duration: 2020–2023.

Contact: Dr. Krystian Wojtkiewicz (Krystian.Wojtkiewicz@pwr.edu.pl)

AWARDS

• Graduate From Our Faculty Becomes World Champion in Public Speaking. Yuriy Gravino for Applied Computer Science – 15 candiates per place, is the most popular fields of study in the recruitment in 2022 for first-cycle studies at Wrocław University of Science and Technology.

• Applied Computer Science – 15 candidates per place, is the most popular fields of study in the recruitment in 2022 for first-cycle studies at Wrocław University of Science and Technology.

• Dr. Adrianna Kozierekiewicz was promoted to the position of Professor of WUST by the Rector of the Wrocław University of Science and Technology.

• Prof. Dariusz Krol received the Polish Medal of the Commission of National Education for outstanding services to school and education.

PUBLICATIONS


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The research done by the Department’s researchers (faculty and fellows) is integrated into a B&I unit – ALGORITMI. ALGORITMI encompasses research activities in various areas, including information systems, computer science, computer networks and pervasive computing, industrial electronics, industrial engineering, and optimization.

The research done by the Department’s researchers (faculty and fellows) is integrated into a B&I unit – ALGORITMI. ALGORITMI encompasses research activities in various areas, including information systems, computer science, computer networks and pervasive computing, industrial electronics, industrial engineering, and optimization.

The Department of Information Systems promotes academic work that focuses on themes at the intersection of information technology, information, and human and social endeavors. Particular importance is given to design activities addressing phenomena that embrace that intersection to solve enterprise problems or seize opportunities where information technology plays a central role. Research activities combine engineering and technology research methods with those used in organizational studies, management, economics, and social sciences. Therefore, within the departments’ research projects, it is possible to find interpretive, positivist and design science perspectives and a wide range of research methods and techniques appropriate to the study of the particular Information Systems phenomena being addressed.

RESEARCH TOPICS
The research performed by the Department’s faculty is consolidated in the IST (Information Systems and Technologies) research group of ALGORITMI. This stream includes three leading research labs:

- **Intelligent Data Systems** that deals with technologies, tools and methodologies related to Data Mining and Data Warehousing Systems. The main objective is the research in knowledge areas such as Adaptive Business Intelligence, Intelligent Decision Support Systems, Data Mining, Intelligent Data Analysis, Data Warehouse and OLAP.

- **Information Systems and Technology for the Transformation of Organizations and Society.** The researchers in this lab adopt interdisciplinary approaches and research methods originated in the social sciences and engineering. The main research focus is on understanding the adoption, use and exploration of Information Technology (IT) in organizational/social contexts and on developing grounded design knowledge (e.g., methods, techniques, tools) for the activities of Information Systems and Technologies (IST) professionals, namely designers of human activity systems and managers of IT-related resources. The final goal is to ensure that IT resources contribute to the well-being of the embracing human activity systems.

- **Software Engineering and Management group** is devoted to the develop state-of-the-art of software-based information systems. This group focuses on both 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 AT UMINHO
In 2022, the IST research was funded by new projects, including:

- **Literacy for the digital transformation of family farming.** Development of a digital literacy plan for family farmers (specific objectives: understand family farmers’ digital asymmetries; develop family farmers’ digital literacy, especially that of disadvantaged groups; develop a data collection tool using crowdsourcing techniques; promote the use of technological tools to make family farmers’ work more efficient). Lead by João Eduardo Quintela Alves Sousa Varação.

- **Be Neutral.** The Neutral Agenda aims to accelerate the development and industrialization of a new generation of zero carbon mobility products and services from Portugal (zero carbon buses, B2L4Us light vehicles, modular 2-wheeled vehicle). connected with data and connectivity platforms and energy systems. Lead by Ricardo Jorge Silveira Magalhães Machado.

- **Collaborative development of AI capabilities in SMEs (CoDeAI) – ERASMUS+ KA220-HED – Cooperation partnerships in higher education.** The project aims to build upon the VDI platform, by proposing further development and providing added value to SMEs. The existing VDI platform will be extended by a training package for AI in SMEs providing the basic knowledge of AI. Based on an AI deployment study in SMEs using recent productivity tools, which are designed to increase human productivity, like AutoML, use cases and success stories will be provided. Based on these use cases and the success stories a benchlearning framework taking the AI capabilities into account will be developed. An innovation environment supporting the collaboration between HEIs, SMEs, and LEs will be established, taking (among the technologies from VDI) also the specific needs of AI into account. Lead by Isabel Ramos.

- **CRISiS - Competences for Resilient Smart Cities’ Staff** – RAiMSUS+ KA220-HED – Cooperation partnerships in higher education – 2021-1-EL01-KA220-HED-000032557. The project aims to develop a new job profile for Smart City Resilient Officers (SCRDOs) and deliver a pilot training program to certify the first cohort of SCRDOs. The project is coordinated by University of Thessaly (Greece) and includes a partners from different European countries. Lead by Isabel Ramos.

PUBLICATIONS


The Faculty of Organizational Sciences is a research-driven faculty with a history spanning over 20,000 graduates. The research area of the Faculty focuses on the investigation of complex dynamic organizational systems, covering various aspects from human resources, information systems, business processes and general management. Research is organized in several laboratories and the eCenter. All of them are involved in research projects, prototyping, consulting, education and training at national and international levels. The majority of the research and development activities are carried out within the LivingLab approach, with strong involvement of business and government organizations, IT providers and universities. The results of the LivingLab is the Slovenian founding member of the European Network of Living Labs (ENeLL).

The research area of the Faculty of Organizational Sciences is focused on the investigation of complex dynamic organizational systems, covering various aspects from human resources, information systems, business processes and general management. The significant focus is on the digital transformation of organizations and society. In particular, we investigate the implementation of the newest ICT and their impact on the evolvement and design of digital business models achieving sustainable performance from an economic, social and environmental perspective.

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
- Organizational learning
- Quality and asset management
- Enterprise sustainability and sustainable development

CURRENT RESEARCH PROJECTS
- European Universities and SMEs fostering the creation of sustainable business ventures by pairing innovators from academia with industry players (ENVISION-Alliances) (Erasmus +)
- Business Informatics Programme Reengineering (Erasmus +)
- Impact of the COVID-19 pandemic on the digital transformation of SMEs (Bilateral project)
- Development of a cyber-physical system for stress control for individuals and groups at risk – (Bilateral project)
- Bee with Apex – Better Employability for Everyone with APEX (Erasmus +)
- Building next-generation competencies for logistics and supply chain managers
- Hospitals and faculties together for prosperous and scientific-based healthcare (ProCore), Erasmus +
- Remote working management skills for HR professionals

National Research Programme:
- Decision support systems in digital business, Research programme, Py0018
- Impact of management, organizational learning and knowledge management in modern organizations, Research programme, Py 0364-0256

EVENTS
35th Bled eConference – Digital Restructuring and Human (Re)action, June 26 – 29, 2022, Bled, Slovenia and online (hybrid event) https://bledconference.org
41st International Conference on Organizational Science Development – Society’s Challenges for Organizational Opportunities, 23rd – 25th March 2022, Portorož, Slovenia https://konferenca.fov.um.si/en/homepage/
Education in Information Society, October 14, 2021, Institut [Zden Stefan, Užbljana https://wied.bvl.fov.uni.mbs/

SELECTED PUBLICATIONS
- Kričač ANDRASČEK, Eva, SENEGACIČ, Mar- jan, URM, Benjamin, KERN, Tomaz. Imple- mentation of the digital sales channel in the coatings industry. Processes, ISSN 2227-9717.

DISSERTATIONS/HABILITATIONS
- Dissertations in progress:
  - Aljaž Ferencek: Development of open government data impact areas taxonomy using machine learning method
  - Aleš Levstek: Development of a flexible model for strategic IT management in me-

ABOUT THE INSTITUTION
The Faculty of Organizational Sciences is a founding member of the University of Maribor and has more than 60 years of tradition in the field of organizational and information systems science. The Faculty provides three main study programs related to the management of information systems, human resources and educational systems, and business and work systems. During this period, the Faculty provided more than 20,000 graduates. The research area of the Faculty covers complex dynamic management systems, covering aspects of human resources, information systems, business processes and general management. Research is organized in several laboratories and the eCenter. All of them are involved in research projects, prototyping, consulting, education and training at national and international levels. Their activities have been organized and are run following the LivingLab approach, with strong involvement of business and government organizations, IT providers and universities. The resulting LivingLab is the Slovenian founding member of the European Network of Living Labs (ENeLL). 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.

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Hrška Rok: Development of maturity model for evaluation of readiness of public ad- ministration for co-creation of public services
Blaž Kavčič: Strategic alignment maturity between information technology and busi- ness – modeling with cellular automaton
Aljaž Ferencek: Development of open government data impact areas taxonomy using machine learning method
The mission of the Department of Industrial and Management Engineering is to cultivate creative leaders in the era of the information industry, and to create new values that significantly contribute to the socioeconomic value by attracting companies and startups to foster their growth through collaboration with the University's advanced research infrastructures.

**CURRENT RESEARCH PROJECTS**

- Basic Research Lab for Smart Signal System Operation in the Era of Transition to Autonomous Vehicle (National Research Foundation of Korea, Jun. 2022 – May 2025)
- Development of AI-based Recommendation System for Curated Retailing Services (Samsung C&T, Jun. 2022 – Nov. 2022)

**RESEARCH TOPICS**

There are three research groups and two research centers at the department. The Business Analytics research group studies quantitative analysis techniques based on statistical techniques and optimization techniques to support corporate decision making and strategy formulation. BA research group extracts information from data and uses it to derive knowledge and finally wisdom. BA research group’s main research topics are (1) data mining and graphical modeling techniques, (2) process mining and social network analysis techniques, and (3) large-scale sustainable system analysis.

The Smart Service System Research Group studies technologies that optimize the architecture, processes, and operations of the service system to meet the needs and context of stakeholders. Examples of smart service systems include smart home and smart health care, Smart transportation system, and smart factory. Smart Service System research group’s main research topics are (1) Human-centered system UI / UK design, (2) Smart healthcare service system, and (3) Smart transportation / energy / information network system.

The SRM Research Group conducts research on systemic risk management that takes into account the interdependencies of risk factors, from a more diverse perspective on risks at the national, social, and enterprise levels that may arise in modern society. SRM Research Group’s major research topics include (1) management of future forecast responses and disaster responses to various crisis situations at the national level, (2) enterprise-wide risk management measures, and (3) desirable financial systems for the aging society.

**Future City Open Innovation Center (FOIC) and Open Innovation Big Data Center (OIBDC)**

FOIC focuses on the development of innovative future and smart city technologies, including retrofitting existing infrastructures with the latest technological advancements for the efficient establishment and proliferation of a smart city. OIBDC 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.

**SELECTED PUBLICATIONS**


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.

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 DIGYous 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 DIGYous 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

SELECTED PUBLICATIONS


Rello, L. (2022, April). The story behind Dys- tective: how we brought research results on dyslexia and accessibility to spanish public schools. In Proceedings of the 59th International Web for All Conference (pp. 1–3).


ABOUT THE INSTITUTION
The Universidad de Sevilla (US) was established in 1959 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 the South of Europe. More than 10,000 students are following postgraduate courses, enrolled into 86 master programs and 532 doctoral programs. US holds academic partnerships with 850 institutions throughout the world.

US is also devoted to research and innovation; therefore, in addition to its 4,300 academic staff, there are 1,600 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 the environment. Research is carried out within academic departments, in 8 research centers and 9 university research institutes.

The Smart Computer Systems Research and Engineering Lab (SCORE) at US is led by Antonio Ruiz-Cortés and composed of 21 members. Its research is focused on the development and operation of intelligent systems applied to a wide variety of domains. Currently, it spans four major research areas, namely: Natural Computing, Neuromorphic Engineering, Software and Systems Engineering, and Information Systems. The research on Information Systems is led by Manuel Resinas, and it occupies 5 lab members, 4 collaborators, and 4 PhD students.

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 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.

CURRENT RESEARCH PROJECTS
• MEMENTO. Software tools for the collaboration and decision-making in knowledge-intensive processes. US-1318595. Funded by University of Seville and Andalusian Government (FEDER 2020), 01/01/2021 – 31/05/2023. 90,000€. The aim of MEMENTO is to develop new models and techniques that enable the design and development of software tools to improve the management of people, their collaboration, and the decisions they make.

• ORCHID. Digital Transformation of the Public Administration Driven by Intelligent Contracts. TED2021-130328-B. Funded by Spanish Government, 01/12/22 – 30/11/24. 206,656€. Part of project LOTUS. ORCHID seeks to contribute to the digital transformation of the public administration by improving the efficiency and tamper-proof monitoring of digital services regulated by intelligent contracts (i-contracts).

• BUBO. Bots and human collaboration for improving the development and operation of digital services. PID2021-126227NB. Funded by Spanish Government. 03/09/22 – 30/08/25. 599,905€. Composed of sub-projects PERSIO and ATENEA. Our goal at BUBO is to develop techniques, models, and tools to increase the level of automation in the development and operation of digital services while supporting human interaction as a key part of their functioning. 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.

SELECTED PUBLICATIONS


The Chair of Prof. Jung investigates IT-enabled means of organisation and information shaping the Portfolio of Control structures. The research team strives to improve the capability of corporate IT and to reduce costs and risks in innovation projects. Further information: http://iwi.unisg.ch/

• Agile Transformation: The Competence Center Agile Transformation offers a unique mix of exchange, collaboration, academic expertise, and advisory services to support the agile transformation of companies. Further information: https://agile.iwi.unisg.ch/

• Ambidextrous Digital Platforms: This project is expected to provide a thorough description of the dynamics, determinants, and design configurations through which platform owners simultaneously manage and legitimate a balanced co-existence of top-down control and bottom-up emergence. Further information: https://www.alessandria.unisg.ch/id/project/247718

• Cognitive Automation: The Competence Center Cognitive Automation combines academic insights from the forefront of cognitive automation research and advisory expertise in a platform of exchange and collaboration for practitioners. Members are enabled to seize the vast potential of cognitive automation to improve operational efficiency and effectiveness. 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, introduction as well as usage of crowdsourcing approaches for digital work and IT-based innovations. Further information: http://crowdsourcing.iwi.unisg.ch

• Data Management & Analytics Communities: The Data Management & Analytics Community (DMAC) establishes networking between data & analytics leaders from large financial institutions for discussing current issues and workable solutions. Further information: https://iwi.unisg.ch/en/projects/dmac

• 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: https://dtsg.com/

• Digital Service Innovation: Research conducted in the context of the CC Digital Service Innovation revolves around service and business innovation. It also seeks to understand the acceptance and usage of digital services by individuals and enhance their user experience through digital nudging. Further information:

  https://iwi.unisg.ch/projects/dienstleistungssysteme/

• Digital Strategy and Transformation: The CC Digital Strategy and Transformation is developing management instruments and tools for strategy work in the digital age. A next focus area for relevant research is intrapreneurship methods. Further information:


PUBLICATIONS

The following list is a limited extract of the IWI-HSG publication list in 2021 and 2022. A complete list of publications with full texts of many papers is available at:

http://www.iwi.unisg.ch/publikationen


ERCIS COOPERATION

Our long-term cooperation with our neighboring ERCIS partner in Liechtenstein was successfully continued. Jan vom Brocke is lecturing in two courses of the HSG Doctoral Programme in Business Innovation together with IWI-HSG professors. Together with Robert Winter, Jan vom Brocke also continued to offer the “Design Science” Doctoral Seminar in the VHB ProDok international Doctoral Programme. Another highlight in the past year was Prof. Winter’s visit at Korea’s ERCIS partner Pohang University of Science and Technology in September.
The University of Twente is a multicultural community of talented, ambitious people;

- An innovative and vibrant campus with world-class facilities for crossing bound-
aries and solving complex problems — including state-of-the-art facilities
- An engineering approach to societal challenges, merging fundamental tech-
nological and social science research with systematic solution designing.
- Core technologies, among the world’s best, in fields such as IT, robotics and geo-information science.
- Highly personal education, applying stu-
dent-driven learning and project-based teamwork.
- An outstanding track record in value cre-
ation, starting up and spinning off new businesses (with some 1,000 successful ventures to date)

The UT has ICT and Information Systems Research among its focus areas. At the
Digital Society Institute, we strive to en-

 creating Intelligent Manufacturing Systems
Smart innovations in manufacturing are key to securing the welfare and wellbe-

 ing of society. Smart industry is the way forward for industry. Using Smart Industry
means personalized and smart products, optimizing human-machine interaction, yielding faster, cheaper, and more sustain-
able production.

Improving Healthcare with E-Health
It becomes more and more evident that the current approach to healthcare is not sus-
tainable, especially when considering the increasing volume and demands of chronic diseases, requiring a rethinking of strate-
gies towards innovative solutions.

More information on the centers can be found via

CURRENT RESEARCH PROJECTS
DSI is active in dozens of research projects
financed at the national and European lev-
el and directly by industry. Departments
directly related to ERIKS research themes are the IEBIS (Industrial Engineering and Business Information Systems) group and the SCS (Services, Cybersecurity and Safe-
ty research group).

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

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

SELECTED RESEARCH PROJECTS INCLUDE:
Control Tower for Construction Logistics
– This consortium project is aimed at de-
signing a Data driven architecture for coor-
dinating construction activities in mainte-
nance and renewal of historical cities.

Autonomous Logistics Miners – This pro-
ject investigates the application of AI to
autonomous logistics

Circular Performance Management – This project was completed in spring 2022.
Dennis Vegeter, PhD researcher in the pro-
ject, could contribute results related to
circular business processes and circular
performance management in a SCOR work-
group. We are proud to have contrib-
uted to the new version of the SCOR model
through this project.

AWARDS
- The Dutch Science Foundation (N.W.O)
- funded several projects for PhD and post-
doc positions in the IEBIS department.
- In October 2022, our bachelor and mas-
ter programme Industrial Engineering and Management (IEM) have been awarded a
medal for being ‘Best Programme’ in the Netherlands by Elsevier.

EVENTS
- In August 2022, the financecom2022.nl,
International Conference took place in
Twente organized by the IEBIS department.
- The conference run over three days and
hosted keynotes and paper presentations
discussing Advancements in Information
and Communication Technologies in
the financial industry. The sessions addressed
new business models, markets, networks,
services and players in the financial ser-
tices industry (www.financecom2022.nl).

DISSEMINATION
- Fostering practical wisdom in executive education in a business school setting,
Amann, W. C., 25 Jun 2022, 1 ed. Enschede: University of Twente. 380 p., PhD Thesis

Realizing Traceability between the Enter-
prise Architecture and Business Value,
Engelsman, W., 20 Jan 2022, 256 p., PhD Thesis

An Industry Platform for Data-driven Lo-
gistics in Small and Medium-sized Enter-
prises, Piester, J. P. S., 3 Jun 2022, Enschede: University of Twente. 244 p., Pd Eng Thesis

Publications are available at
doc.utwente.nl
The Leiden Institute of Advanced Computer Science (LIACS) is a major institute in education for computer science. Our collaborations include partners such as Honda Research, Münster, Thomas Bäck, Anna Kononova, and Leiden University. Since 2019 it aims at consolidating and stimulating activities on benchmarking and iterative optimization heuristics, and now has around 40 members from all over the world. The network has organized a well attended LarenZoom workshop (https://www.larenzcenter.nl/benchmarking-optimization-meets-machine-learning-2022.html) on benchmarking in the context of machine learning and optimization from May 30 to June 3.
The Information Systems Department has about the institution of Economics (KhNUE) State Administration.

The purpose of the research is the development of basic research in the field of ecological and information computer technologies in various spheres of human activity.


The University has experience in managing EU-sponsored projects (TEMPUS, Erasmus+ KA 107, Horizon 2020, AUF, DAAD).

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 modelling in logistic and marketing
- Information security
- Distributed data warehouses
- Knowledge base and artificial intelligence
- Innovative computer technologies in higher education
- Program support of economic analysis

CURRENT RESEARCH PROJECTS
- ERASMUS 2022 AFID – Providing of Academic Freedom and Inclusion through Digitalization. Project AFID aims to build an inclusive environment for students and teachers using an inclusive virtual campus, which will be accessible to a wide range of consumers of educational services through digital tools.
- The project “Ukraine Digital: Ensuring Academic Success in Times of Crisis” supports Ukrainian universities in maintaining, implementing and offering their digital courses so that students in Ukraine have the prospect of completing their studies despite the restrictions caused by the war.
- 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 ecological and information computer technologies in various spheres of human activity.

EVENTS

PUBLICATIONS
- Gryzun L. Computer modeling of the tour- nament of game algorithms in the process of learning of basics of algorithmization and programming by pre-service IT-specialists / Liudmyla E. Gryzun, Oleksandr V. Shcherbakov, Svitlana H. Lytvynova // CTE 2021: 9th Workshop on Cloud Technologies in Education, December 17, 2021, Kryvyi Rih, Ukraine

ABOUT THE INSTITUTION

Simon Kuznets Kharkiv National University of Economics (KhNUE) is the biggest education center in the city of Kharkiv and one of the leading higher education institutions of Eastern Ukraine. It provides a full range of educational services, carrying out multistage training, retraining and raising the level of experts’ skills in 22 specialties, such as Economics and Entrepreneurship, Management and Administration, Informatics and Computer Engineering, Publishing and Printing Business, Service and State Administration.

The Information Systems Department has 33 professors, more than 300 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 Lumière 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 Eastern Ukraine. It provides a full range of educational services, carrying out multistage training, retraining and raising the level of experts’ skills in 22 specialties, such as Economics and Entrepreneurship, Management and Administration, Informatics and Computer Engineering, Publishing and Printing Business, Service and State Administration.

KhNUE has developed a new innovative model of behaviour. It trains highly skilled specialists familiar with modern information technologies and innovative model of behavior.

The University has experience in managing EU-sponsored projects (TEMPUS, Erasmus+ CBHE – 5 projects, Erasmus + KA 107, Horizon 2020, AUF, DAAD).

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 modelling in logistic and marketing
- Information security
- Distributed data warehouses
- Knowledge base and artificial intelligence
- Innovative computer technologies in higher education
- Program support of economic analysis


CONTACT DETAILS

PROF. IYNA ZILOTARYOVA
Rector’s Assistant in international Projects
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Member of the Ukrainian Higher Education Reform Experts Team
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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 is designing information systems that enable innovative service-oriented business models. I am an academic head of the Service Science Competence Center at ERCIS and the spokesman of the Software Innovation Campus Paderborn (SICP). Besides other editorial roles, I serve as a conference and program chair for the WI conference 2023, hosted in Paderborn.

SELEcTED PUBLICATIONS

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ABOUT ME
Patrick Delfmann is a full professor of Information Systems and head of the Research Group 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 Business Process Management Technologies and covers Process Mining, Predictive Process Analytics, Business Rules Management, Process Query, Conceptual Modeling, Ontologies, and Compliance. Currently, he supervises the three research projects “Supporting Business Process Modeling with Pattern-oriented Recommender Systems” “Social Process Mining” and “Context-aware Predictive Process Analytics”, all 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

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ABOUT ME
Marco De Marco is full professor of Organization and Information Systems at Università Telematica Internazionale UNINETTU 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 organizations and e-government. 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 officer of the major conference on Information Systems ICIS, ECIS, MCIS and he was cofounder of the Italian chapter of the AIS. At ICIS 2010 he was awarded the AIS Fellow Prize for his contribution to the IS discipline. In 2020, he has been serving as Program Chair at POMS conference. Recently, he is focused on smart working as well as on the digital learning research field.

SELEcTED PUBLICATIONS
https://doi.org/10.1108/JABS-10-2020-0093

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ABOUT ME
I am a Professor of Management Accounting and Process Management and Head of the Research Group “Laboratory for Experimental Process and ERP Research” at the University of Applied Sciences South Westphalia in Hagen. I am also a certified Lean Six Sigma Master Black Belt. My research is focused on the use of modern methods and technologies like RPA or Process Mining in different industries like the public and healthcare sectors to automate processes and analyze large data sets. Additionally , I am interested in research on topics like Open Science and Platform Economy. Within this research area, we started a project supported by the German Rectors ‘ Conference and concentrates on data-driven analysis of the course structures of German universities for benchmarking of content and competence orientation of university teaching. To date, we are additionally working on the project “KEBAP,” which is funded by the German Federal Ministry of Education and Research until 2026. This project concentrates on the reuse of automation solutions and building blocks (e.g., Robotic Process Automation, Artificial Intelligence) in different organizations.

SELEcTED PUBLICATIONS

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ABOUT ME
Since May 2021, I have been director of the Institute of Medical Informatics at Heidelberg University Hospital. From 2009 to 2021 I headed the Medical Informatics team at the ERCIS headquarter in Münster. My research and teaching focuses on informatics for personalized medicine, specifically information systems in healthcare regarding electronic health records (EHRs).

There is a wide scope of applications, ranging from molecular biology over clinical medicine to public health. My specific field of interest is data modelling in medicine. I’m the principal investigator of the MDM portal also supporting model-driven software development for medical databases. These data models are available in 20 download formats, in particular CDISC ODM and HL7 FHIR. Due to the COVID-19 pandemic, several projects in the past year addressed SARS-CoV-2 related topics. In 2021 a multi-center study regarding the role of OC43 infections in COVID-19 was published. Personalized medicine is built upon clinical and molecular data. Therefore I’m interested in data mining and pattern recognition techniques for genomic data, in particular regarding tumour diseases.

SELECTED PUBLICATIONS

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ABOUT ME
In March 2021, I moved to the "Friedrich List" Faculty of Transport and Traffic Sciences at TU Dresden, Germany, to establish a new professorship for Big Data Analytics in Transportation (within the Institute of Transport and Economics). Shortly after, I also joined the Center for Scalable Data Analytics and Artificial Intelligence "ScalSaLi" Dresden-Leipzig (one of Germany’s six national centers of excellence for AI research), as well as the Boysen-TU Dresden-Research Training Group.

My team currently consists of four Ph.D. candidates and our research focuses on various topics in the context of (big) data analytics, statistical and machine learning, and optimization. For instance, we conduct methodological research on automated algorithm selection and configuration, benchmarking, evolutionary computation, single- and multi-objective continuous optimization, as well as route optimization. In addition, we apply AI methods to applications and problems from practical domains such as transportation and traffic sciences or the energy sector.

SELECTED PUBLICATIONS

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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. I am currently working on two projects in collaboration with the Norwegian Welfare and Labour Organisation (NAV) where we analyse what public services are actually suitable for digitalisation and what services should rather be offered offline.

SELECTED PUBLICATIONS

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ABOUT ME
Jan Mendling is the Einstein-Professor of Process Science with the Department of Computer Science at Humboldt-Universität zu Berlin, Germany. His research interests include various topics in the area of business process management and information systems. He has published more than 500 research papers and articles, among others in Management Information Systems Quarterly, ACM Transactions on Software Engineering and Methodology, IEEE Transactions on Software Engineering, Journal of the Association of Information Systems and Decision Support Systems. He is a department editor for Business and Information Systems Engineering, member of the board of the Austrian Society for Process Management, one of the founders of the Berlin BPM Community of Practice, organizer of several academic events on process management, and a member of the IEEE Task Force on Process Mining. He is co-author of the textbooks Fundamentals of Business Process Management, Second Edition, and Wirtschaftsinformatik, 12th Edition, which are extensively used in information systems education. These books have been translated to German, Greek, Indonesian, Persian, Spanish (BPM) and Dutch (Wirtschaftsinformatik). BPM translations to French, Japanese, Italian, Polish, and Ukrainian are making, and.

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My research is focused on the design and management of innovative information systems and communication technology (ICT), including artificial intelligence-based decision support systems and conversational agents, and their impact on individuals as well as organizations. In that context, I examine the role of explainability in AI-systems and its influence, for instance, on users’ (calibrated) trust or skill formation. Further topics refer to design and management of digital twins, the future of work and digital nudging.

**SELECTED PUBLICATIONS:**


**ABOUT ME**
I am head of the Chair of Industrial Sales and Service Engineering in the Mechnical Engineering Department at the Ruhr-Universität Bochum. My main research interests are in the area of digital servitization in manufacturing. For instance, I am interested in how enterprises innovate with product-service systems and smart services. Together with the ERCIS Personal Member Stefan Stiegitz and my colleagues Federik Ahlemann, Reinhard Schütte, and Manuel Wiesche, we conducted the second run of our joint PhD Course on Research Methods in Information Systems in the Ruhr area in 2022. This year, we also launched our Ruhr School of Design Thinking (www.ruhrschooldesign.de) and officially opened our new Research Centre for the Engineering of Smart Product Service Systems (ZESS; https://www.zess.ruhr-uni-bochum.de/en/). In Bochum, Alessio Maria Braccini and I lead the ERCIS Cluster Smart Manufacturing.

**SELECTED PUBLICATIONS:**


ABOUT ME
I’m Associate Professor at University “G. d’Annunzio” Chieti-Pescara (Italy), where I teach “Digital Business Organization” and “Digital Transformation”. I am member of the board of advisors of the PhD program in “Accounting, Management and Business Economics”. I am the President of the Italian chapter of Association for Information Systems (AIS) (http://www.itais.org).

My research is focused on digital and business transformation affecting people and organizations. Currently I am also interested in the use of machine learning approaches and social network analysis technics applied to bibliometric data for performing literature analysis.

SELECTED PUBLICATIONS


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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.
CLAAS

ABOUT THE COMPANY

What started in 1913 with the manufacture of powerful straw binders has become one of the world leaders in the production of agricultural technology. The company is well-known for its highest quality standards, leading technologies as well as their market leaderships in combines and self-propelled harvesters. 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.

At CLAAS, we are striving to digitize all traditional customer touchpoints for each and every farmer. Our online and offline world is emerging into one Omni-channel customer experience. CLAAS is heavily investing in its digital future. In addition to the development center for electronics on the machines in Dissen, massive investments are being made in the customer and dealer systems. As an example CLAAS connects, as the holistic digital touchpoint, dealers and customers systems. This modern IT landscape also enables us to generate new solutions for internal processes and our customers based on data and with the use of AI. These are intended to support us in improving our products and increasing availability. Our data analytics team works closely with all departments to find new opportunities for the use of AI.

TOPICS OF INTEREST
- Connected machines
- Omni-channel customer experience
- Precision Farming
- Data Management
- Big data & AI/ML Engineering

Today the harvest chain is seeing many innovations coming through, especially in drive technology, machine intelligence and networking. “Efficient Agriculture Systems”, abbreviated as “EASY”, is the CLAAS collective term, which encompasses machine control and performance optimization, steering systems, precision farming and monitoring, software solutions and services. However, digital transformation has changed much more than just the technology of our machines. New product features, different license models and data driven business models require our business unit for sales and service to reinvent our traditional way of doing business.

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 will face the challenging task of continuously improving harvesting performance through innovative technology.

About the company CLAAS

Founded in 1913 at the heart of the Ruhr area, adesso SE is one of the leading IT providers in the German-speaking market. With more than 6,800 employees on 57 sites within the adesso group, we strive to fulfill one simple mission: to help our customers make the most out of their business and the newest technologies. To optimize their core business processes by combining technological competence with sector-specific know-how. Our work is based on strong customer orientation, flexibility and proven methods when implementing software projects. adesso work from diverse fields of expertise in interdisciplinary teams – and they do it with heart and soul in an open, employee-oriented company culture.

We help shape tomorrow’s solutions through our research activities. We deal with the latest technologies on behalf of and with our customers, covering the entire value chain. To do so, we rely on various forms of cooperation in terms of technology, science and research. Our research results benefit both us and our customers.

For further information, please visit www.adesso.de
ABOUT THE COMPANY

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. We have longstanding 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 GSA. Our success is the result of a well-balanced team 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
• 3000+ successful projects
• 30 years of experience
• SAP Partner Energy of the year 2020, 2021 and 2022
• UiPath Diamond Partner
• Celonis Gold Partner

TOPICS OF INTEREST

• software engineering
• project management
• portals
• app development
• SAP HANA
• process automation
• CRM
• SAP Customer Experience
• analytics
• online marketing
• HTML5, JAVA
• SAP BTP
• SAP Fiori
• Machine Learning
• strategy consulting
• AI
• SAP UI5
• Celonis Process Mining
• Robotic Process Automation

ABOUT THE COMPANY

DMI is not your typical medium-sized company: it is an owner-managed organization of roughly 1,000 highly motivated staff and a flat hierarchy. Its approach is long-term and sustainable, with continuing education of employees as a key ingredient. With a focus on the German healthcare market and additional activities in banking, insurance, general business, and the public domain, DMI offers high-value services.

Job opportunities

Are you up to this challenge? DMI’s team members are committed to achieving results for customers in a dynamic ecosystem of evolving technologies and continuously changing customer demands. A multitude of benefits make DMI an attractive employer.

• Selected open positions in Germany for professionals (senior) software developers for applications, information systems specialists, experts for IT infrastructures and networks.

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www.dmi.de

DMI takes responsibility for the digital archiving of patient records and provision in client software systems. Since 1966, the specialising 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 with all data management HIS architectures, DMI enables the consolidation of digitised paper-based patient records with electronic documents and data, as well as medical image documentation, in audit-proof long-term archives. Interoperability (the ability of systems to interact with one another), including 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.

Job opportunities

Think outside the box – especially in IT! Driven by innovative and creative young people, digitization accelerates the development of new technologies and challenges. Granting young professionals the freedom to explore ideas and 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 systems jumpstart a career in IT development and consulting.

WE ARE LOOKING FOR TALENTS

• Junior IT consultant
• Junior RPA developer
• 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

TOPICS OF INTEREST

• Digitalising and consolidating medical records including electronic and digitized documents
• Certified service portfolio "Archivar 4.0"
• Over 1,400 clients, approx. 1,000 employees at 3 locations in Germany
• Interoperable IT architectures based on current standards
• Audit-proof digital archiving for compliance
• Deep integration of archived documents into administrative and clinical workflows for enabling effective clinical processes for best patient outcomes
• The link between medical informatics and medical research as well as routine practice in healthcare

DMI AS AN EMPLOYER

DMI is your typical medium-sized company: it is an owner-managed organization of roughly 1,000 highly motivated staff and a flat hierarchy. Its approach is long-term and sustainable, with continuing education of employees as a key ingredient. With a focus on the German healthcare market and additional activities in banking, insurance, general business, and the public domain, DMI offers high-value services.

• 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.

Company headquarters are situated in the pulsating university city of Münster in North Rhine-Westphalia (NRW); service centers are located in the castle town of Leisnig near Leipzig (Saaroy) and Essen (the “Green Capital”, NRW).
Always one step ahead and keeping an eye on innovative technologies – that was the guiding principle of the founding team 25 years ago. This gave rise to the initial idea for what is known today as Eucon, the digital trailblazer for data and process intelligence. At the time, the project involved creating the first electronic auto parts database, which four years later was already in use in 12,500 workshops across Germany: a pioneering achievement for data-driven automation.

Eucon owes today’s extended focus on the insurance and real estate industries to its visionary founders, who believed that in addition to the automotive sector, their product could also be of interest to other industries. And so Eucon began to diversify, focusing on modern technologies such as human-machine collaboration in augmented intelligence and AI solutions, as well as robotic process automation. Eucon uses intelligent solutions to analyze, automate, and accelerate the entire claims process for insurance companies: from claims reporting to AI-supported control and checking with optimized black box processing to case-by-case final negotiation. For Real Estate companies, Eucon delivers substantial process acceleration thanks to a platform for data-driven property management, thus creating added value by moving towards a digital twin of the building. This is particularly relevant with regard to ESG aspects. With its recently launched SmartSustain software solution, Eucon supports real estate companies as they move into professional sustainability management. We also mentor bachelor’s and master’s theses in various areas and are regularly looking for interns and working students.

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 revolutionizing our industry. As a company whose livelihood 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 really have an impact on the shape of things to come.

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 Piano 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 and meet the challenges of a global multinational company using latest technologies.

We have been recognized as one of best workplaces on the 2022 Fortune 100 Best Companies to Work For® list and 2019 Best Place to Work by Glassdoor, and were ranked among the top employers by the Great Place to Work® Institute multiple times. Furthermore, 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.

If you are keen on further developing your talents and becoming a digital trailblazer, Eucon is the right choice for you, whether you are a student, graduate or expert! We would like to get to know you and look forward to your application or a casual first contact. Feel free to get in touch with Jens Brunk or Teresa Weber directly.

For more information, visit us at https://www.eucon.com/jobs/ or follow us on https://www.linkedin.com/company/eucon-group/.
ABOUT THE COMPANY
LVM Versicherung is one of the top 20 insurance groups and one of the top five car insurance companies in Germany. The group has a product range for private and commercial customers and together with cooperation partners it offers other insurance and financial services products. The products are offered exclusively through about 2,330 agents, whose agencies and their about 4,400 employees are spread throughout Germany. Together with the about 3,900 employees at the headquarters in Münster, the primary goal is to achieve a high level of customer satisfaction through personal and fast service, which is made tangible for the customer by a service unit consisting of office and field staff.

This service promise is supported in the daily work by an own IT system, the “LVM-Agentsystem”. The central mapping of all relevant business data and processes ensures efficient and reliable work. This system is operated and further developed by about 650 IT employees at the Münster site. It is part of the corporate strategy with corresponding importance. It is divided among three departments with a wide variety of activities ranging from Java, web or full-stack development to the company’s own infrastructure with its own data centers.

LVM is regularly awarded as a great-place-to-work (e.g. kununu). Among other things, also due to the strong corporate culture and high security through a corporate form that focuses on all LVM customers and LVM employees instead of short-term profit realization or profit maximization.

For more information, visit www.lvm.de

TOPOICS OF INTEREST
• Software Development
• Software / Cloud Architecture
• BPM and Process Automation
• IT Security and Governance
• Enterprise Architecture
• Digital Transformation and Innovation
• BI / Data Science

JOB OPPORTUNITIES
With over 6,900 colleagues, IT@LVM is making our company fit for the digital future. In doing so, we consistently rely on self-developed solutions, the latest technologies and intensive teamwork. The future is created together: Be part of it from the very beginning when something new is created and implemented. We also offer Internships, Working Student Activities and support Bachelor and Master Theses.

For more information, visit karriere.lvm.de/it

ABOUT THE COMPANY
We combine a methodical approach, technical support and considerable process expertise with new ideas. This integrated approach helps to achieve success in process management. The PICTURE GmbH is a spin-off of the University of Münster, founded in 2007 by Lars Algermissen and Thorsten Falk. In the ERCIS network we stay connected with the university and still benefit from a transfer of knowledge. The core business segment of the PICTURE GmbH is process consulting, process analysis and organizational design. The PICTURE GmbH is a consulting firm as well as a software company with consultants and developers specialized in process consulting. The company is well-known for the PICTURE method and the PICTURE platform, which in combination allow describing, analyzing and optimizing business processes within organizations.

THE PICTURE METHOD – easy, effective, efficient

Based upon 24 semantic building blocks the allows the construction of BPMN 2.0 process models for administrative processes in a quick and easily understood way.

This method of process modelling lays the foundation for extensive business process reengineering, as it offers a target-oriented and efficient way to analyze the elements of a company’s organizational structure and business procedures.

The following bullet points give a brief overview about the PICTURE method:

Self-Explanatory
Simplified process modelling due to easy-to-use and intuitive components.

Standardized Process Description
Increased comparability and analyzability due to a formal and contextual standardization 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 personalized according to the individual requirements of organizations.

Efficient Process Modelling and Activity Analysis
The 24 building blocks enable to filter essential information for further analysis.

THE PICTURE PLATFORM
The PICTURE method is embedded in the web-based PICTURE platform. This platform serves to support process management within organizations as well as between different levels of the state. The PICTURE platform is tailored to the special needs of organizations and aims to provide a vivid, precise and easily understood methodology to improve through customized processes.

Visit our webiste www.picture-gmbh.de

JOB OPPORTUNITIES
Job Opportunities at the PICTURE GmbH:
• (Junior) Consultant
• (Senior) Consultant
• Software Developer

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 Budget Consolidation
• Implementation of Document Management
• Reorganisation

Visit our website www.picture-gmbh.de
ABOUT THE COMPANY
The Provinzial Group is the second largest public insurance group in Germany and belongs to the Savings Banks Finance Group – Germany’s leading and most successful financial network. We insure what is dear to our customers: their belongings, their home, their vehicle, their working power, their leisure activities, partly their health and even their lives. We are also happy to help with retirement planning.

For more than 300 years, we are where our customers are. Today, more than five million private and corporate customers place their trust in us. What makes us special is our regionality and proximity. Our advisors are at most a few minutes away from our customers and can be reached through our many digital channels at any time.

Headquartered in Münster, the Provinzial Holding AG comprises four regional indemnity and casualty insurers as well as two life insurers with locations in Münster, Düsseldorf, Kiel, Hamburg and Düsseldorf.

OUR IT DEPARTMENT
Within the IT department, our almost 1,000 colleagues ensure that all systems in our 1,700 agencies are running. Based on process automation and machine learning, we know faster what our customers want and are able to react appropriately. We currently process more than 40,000 individual documents per day, record more than 2,500,000 automated processes per week and execute around 35,000,000 decisions within these processes.

Our cross-functional teams range from the Baltic Sea to the Rheinland and drive our IT with agility and experience. As a financial service provider, we fulfill the highest security requirements for IT security and infrastructure according to the KRITIS standard, the critical infrastructure of the Federal Office for Information Security. With our corporate start-ups such as Aproto (www.apato.de) or andsafe (www.andsafe.de) we take innovative paths and use data analytics to develop new innovative solutions for our customers.

SELECTED ACTIVITIES
Start-up ideas @ #gamechanger Ladies’ Dinner
An evening full of inspiration, fun and energy. Many strong women came together at the #gamechanger Ladies’ Dinner as part of Startup Week Düsseldorf. Female founders, entrepreneurs and Provinzial colleagues met to exchange ideas and enjoyed an exciting event with a guest talk by Kati Ernst, founder of ooia, as a great example of #femaleempowerment.

TOPICS OF INTEREST
Our IT department is a full-service provider for the Provinzial Group. We focus on:
- Business Process Management and Automation
- Data Analytics and Artificial Intelligence
- IT Security and Governance
- Enterprise Architecture
- Software Engineering
- Digital Transformation and Innovation
- Insurance and Financial Services
- Risk Management

JOB AND COOPERATION OPPORTUNITIES
We search regularly Java developers, business analysts, IT architects and IT infrastructure specialists. We offer direct entries, trainee programs, internships as well as working student activities. You can also write your Bachelor or Master thesis with us, and we are open for research and development cooperations, co-creation, guest lectures or joint courses. Just get in contact with us.

CONTACT
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Get more information: www.provinzial-konzern.de
www.provinzial-konzern.de/content/karriere
or follow us on

SAP’S purpose is to help the world run better and improve people’s lives with sustainability at the core.

ABOUT THE COMPANY
SAP’s strategy is to help every business run as an intelligent, sustainable enterprise. As a market leader in enterprise application software, we help companies of all sizes and in all industries run at their best: SAP customers generate 87% of total global commerce. 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 companies so they can consume our software the way they want – without disruption. Our end-to-end suite of applications and services enables business and public customers across 25 industries globally to operate profitably, adapt continuously, and make a difference. With a global network of customers, partners, employees, and thought leaders, 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
- Industrie 4.0 / IoT
- Employee Experience Management
- Sustainability Footprint Management

JOB OPPORTUNITIES
At SAP, we grow, we lead, we innovate. As colleagues, we support, challenge, and inspire one another every day. Whether connecting global industries, people, or platforms, we help ensure every challenge gets the solution it deserves. We build breakthroughs, together.

For more information, visit jobs.sap.com
The guiding principles of the Schwarz IT are enthusiasm for innovation, proximity to people and understanding the business. As a leading technology partner, the Schwarz IT is the digital heartbeat of the Schwarz Group: efficient, fast and flexible.

Goals: The Schwarz Group is among the top retailers worldwide with annual sales of over 133.6 billion euros. The digitization 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.

The Schwarz IT secures the diverse, global daily business of the Schwarz Group. Through the forward-looking development of innovative solutions, the Schwarz IT enables new business ideas to be put into practice.

Become part of Schwarz IT, the powerful technology partner of Schwarz Group. The Schwarz IT offers a variety of opportunities from internships to permanent positions for go-getters, who want to become part of the digital heartbeat.

Schwarz IT — more IT than you might think! Find out about attractive job offers at the Schwarz Group.

www.it.schwarz
www.xing.com/companies/schwarzitkg
www.linkedin.com/company/schwarz-it-kg
www.kununu.com/de/schwarz-it
www.viadee.de/karriere
www.kununu.com/de/schwarz-it

viadee®
IT-Unternehmensberatung

About the company
viadee Unternehmensberatung AG is a German IT-Company with more than 190 employees including our interns. Our company culture is dedicated to caring for each one individually, maximizing our potential. Applying this principle, we have come a long way since 1999 to offer great individual solutions to our customers.

viadee currently has an office in Munich, as well as an office in Cologne and Dortmund. We focus a regional customer base in North-Rhine Westphalia. 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. This contributes to our flexibility, family lives as well as to our CO₂ footprints.

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

Areas of expertise and consulting products, such as these, are invented and supported like Quarkus and Micronaut or Spring Boot, or established practices like WSDL or REST. Java and SAS have accompanied us through almost all our company history and with most customers. However, we emphasize our 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 several other research institutions.

Test automation is great to ensure software quality. We feel it is even greater with a tool developed here called mateo, the viadee test automation and integration tests, be it web-based, or on the level of an operating system.

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.

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www.viadee.de
Westfalen

The Westfalen Group is an expert in gases, heating and refrigeration and sustainable mobility. For almost 100 years, the family-owned company, founded in 1923, has been ensuring the safe use of gaseous and liquid hazardous substances for its customers. Westfalen’s products and services support customers on the road to sustainable progress. Headquartered in Münster, Germany, the company has more than 20 production sites and numerous subsidiaries and affiliates throughout Europe. Its business areas are Industrial Gases & Services, Energy Solutions and Mobility. With around 1,800 employees, the Westfalen Group generated a turnover of around €1.9 billion in fiscal year 2021.

Industrial Gases & Services

The Westfalen Group produces and distributes approximately 300 technical gases and gas mixtures for almost every application in industry and trade, food production, laboratories, pharmaceuticals, medicine and homecare.

Energy Solutions

Under its Westfalengas brand, the Westfalen Group is one of Germany’s leading liquid gas supply companies. There are more than 2,000 possible applications for Westfalengas: off-grid thermal energy for heating factories and agricultural buildings, for thermal processes in industry and commerce, or as an environmentally friendly propellant for passenger cars or forklift trucks.

A family owned company

The Fritsch-Albert family ensures continuity of the family company: Since July 2018, Wolfgang Fritsch-Albert has been Chairman of the Supervisory Board at the Westfalen Group. Prior to this, he led the company as CEO from 1977 to 2018. Renate Fritsch-Albert joined the Supervisory Board in April 2017. She was previously a member of the Executive Board.

Mobility

With around 260 stations, the Westfalen Group has the largest branded-independent filling station network in Germany, primarily in North-Rhine Westphalia and Lower Saxony. In addition to conventional fuels, Westfalen and Markant stations also offer the alternative energies of LPG, charging current and hydrogen.

Systematic energy and environmental management

The Westfalen Group has, for many years, continued to pursue a rigorous energy and environmental management system. In 2018 the effectiveness of this system was proven once again by the company’s successful certification to internationally recognized standards DIN EN ISO 14001 (Environmental Management Systems) and DIN EN ISO 50001 (Energy Management Systems). In addition, more than 700,000 kilowatt hours of electricity have been saved over the past three years.

TOPICS OF INTEREST

• Industry 4.0
• IoT in Logistics
• Data Analytics and Machine Learning
• Mobile Solutions
• Business Process Excellence
• Digital business models

Westfalen is constantly looking for new business fields and technologies in order to develop new markets and products. By strengthening entrepreneurship, the first start-up ideas have been put into practice, including the mobile payment app fillibili and the sustainability platform Sustainy.

JOB OPPORTUNITIES

If you are interested in working with great people at the Westfalen Group, take a look at our website:

https://westfalen.com/de/de/karriere/

Climate protection with hydrogen

The Westfalen Group supports regional and nationwide environmental protection initiatives. In 2018, for example, it entered into a cooperation with Stadttellauto Car-Sharing Münster GmbH. Both companies offer an emission-free hydrogen vehicle to rent. In October 2021, the Westfalen Group presented the mobile hydrogen filling station, a future technology that it intends to bring to the German market together with its cooperation partner NanoSun.

Shape your professional future with us.

Stay and grow

“Stay and grow” is our motto. zeb promotes long-term careers—with a focus on your personal career path. We are looking for people with an excellent university education and team spirit. Our principle at zeb: reasoning beats hierarchy. This means that your opinion matters. Get involved in the dialog that gives rise to something new. Listening well is just as important as arguing convincingly. Question the familiar and inspire others with your ideas. Create new solutions in a team and dive deep into the topic.

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—and we love to infuse others with our enthusiasm for doing so.

Thinking bigger, overcoming challenges, breaking molds. That’s your thing? Then zeb, the strategy and management consultancy for financial services, is the place for you. Join us in breaking old patterns and shaping change.

zeb.bachelor.welcome
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 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 said repositories in order to cope with inconsistencies, for instance. In our recent research project “Handling Inconsistencies in Business Process Modeling (HiBPM)”, which was 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.

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 1983/12-2), is to develop Process Mining algorithms that consider the special character of unstructured ESS processes and to apply them to large ESS log data to automatically detect typical collaboration scenarios in ESS.

Process Modeling Recommender Systems: Recommender Systems provide automatic support for process modelers by recommending next and/or previous process activities and annotation elements during the modeling process. The recommendation is made based on the information found in the process modeled so far and based on a repository of process models and/or process ontologies commonly used in the domain. To calculate recommendations we make use of ML methods that were transferred from the field of Predictive Process Monitoring (see above). To avoid ambiguities in the naming of process elements, we use terminological standardization based on Natural Language Processing (NLP). A corresponding research project “Supporting Business Process Modeling through Pattern-based Recommender Systems (ProPoneRe)”, which we currently work on, is funded for two years by the German Research Foundation (DFG, DE 1983/12-2).


We are very happy that we could offer our annual winter school, called the Ski Seminar, in January 2022 despite the pandemic. The seminar was offered for bachelor and master students, and it was organized by the University of Koblenz and the ERCIS headquarters. The winter school took place in the Austrian Alps, so we could offer skiing as a social event.

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University of Munster
ERCIS – Competence Center Conceptual Modeling
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Germany

Teaching Activities

We are very happy that we could offer our annual winter school, called the Ski Seminar, in January 2022 despite the pandemic. The seminar was offered for bachelor and master students, and it was organized by the University of Koblenz and the ERCIS headquarters. The winter school took place in the Austrian Alps, so we could offer skiing as a social event.

Selected Publications


The Competence Center for Crisis Management (C³M) integrates the research efforts of the ERCIS network in the domain of crisis management (C³M) and humanitarian logistics. Our main objective is to identify relevant challenges in practitioner realities and to design appropriate socio-technical solutions. C³M integrates a collaborating network of different practitioner and research organizations from the C³M and humanitarian logistics domain.

CURRENT RESEARCH PROJECTS
- Within this year the C³M team has intensified its research activities in response to the COVID-19 pandemic. In the two projects “EpiPredict: User-oriented Extension and Automation of Agent-based Software for Pathogen-specific Modelling of Epidemics” and “CoPredict: Covid-19 – Evaluation of prevention strategies by agent-based simulations”, both funded by the Federal Ministry of Education and Research, we developed a testbed to evaluate non-pharmaceutical intervention strategies for deeper understanding of infection dynamics. The received results certainly helped us to be granted with three new research projects in this application domain: Within the project Spacelimit, funded by the German Research Foundation, we are extending the Epi/CoPredict testbed using real-time high-resolution spatial, mobility, and behavioral data to better predict SARS-CoV-2 infection dynamics in Germany. Additionally, two inter-linked research projects, funded by the Federal Ministry of Education and Research, kicked off in May 2022: (i) the project OptimAgent aims at the development of a full-scale German population- and infectious disease micro-simulation system, supporting the ongoing public health decision-making as well as strengthening pandemic preparedness; (ii) the project PROGNOSIS targets a simulation-based hospital decision support system for an improved resource management and allocation. We are grateful for joining our IS forces with over 25 domain expert- and research organizations as well as policy makers.

• While the above-described projects develop and evaluate pandemic decision support systems on a national level, our H2020 funded demonstration project STAMINA: Demonstration of Intelligent Decision Support for Pandemic Crisis Prediction and Management within and across European Borders takes a European perspective into account. Here, the role of C³M is to support pandemic management practitioners from twelve European countries in the methodological design and analysis of so-called trials to assess a potential impact of different pandemic management innovations. This year, not only several on-site trials have been executed, but the C³M team has also represented Michael Middelhoff as co-host of the PREPARE cluster track at the first international Pandemic Management Summit in Valencia, Spain.

• Our project “BISKIT: Blood Information System for Crisis Intervention and Management”, funded by the Federal Ministry of Education and Research, is slowly entering its finalization state. We have developed a simulation-based optimisation toolkit to identify and analyse different strategies improving blood supply chain performance. Additionally, we applied an enterprise architecture management approach to design a collaborative information system for blood supply chains. Currently, we are testing the developed solutions with our practitioner organizations, mainly national blood services, in South Africa, Ghana, and Nigeria. Given our emphasis on resilience of blood supply chains during crisis events, we are happy to receive further interest on our solution approaches from German blood services to get prepared for high demand fluctuations or shortages in blood supplies.

• Last but not least, we are very excited about the kick-off of the project “DigEth: Responsible Use of Digital Cash Based Assistance”, funded by the Research Council of Norway, and led by our ERCIS partners at the University of Agder, Norway. The objective is to design, develop and evaluate evidence-based frameworks to support the selection and use of the most suitable digital technology for delivering cash-based assistance to refugees. The project objective is not only perfectly matching with our past and ongoing research on humanitarian logistics but is also a stronger integration of the C³M within the ERCIS network.

TEACHING AND OTHER ACTIVITIES
In the year 2022 C³M offered several recurring and new lectures and teaching activities. While the course “Logistics in Humanitarian Action” for 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), was once again offered in a hybrid mode, we were very happy to run the specialization course on “Quantitative Methods and Simulation in Humanitarian Logistics” to our Münster IS students in a physical setup. It was also a pleasure having Michael Middelhoff and Dennis Horstkemper in Berlin presenting our BISKIT project at the Innovation Forum for Civil Society of the Federal Ministry of Education and Research. Also, our epidemics modeling expert Johannes Ponge hosted a hands-on workshop on agent-based infectious disease modeling with the German Society for Epidemiology (DG Epidemi) and the German Society for Medical Informatics, Biometry and Epidemiology (gmds). Finally, we would like to emphasize our intensified collaboration with the Institute for Fire Services of North Rhine-Westphalia. Our BISKIT project is again presented at the Institute for Fire Services of NRW Blue Hour Talk at the Institute for Fire Services of NRW.

Selected Publications

More to come next year!

We are very thankful for all the exchanges and in particular the trust of our practitioners organizations in the contributions of C³M. We would like to thank our partners for all the different initiatives and interest in our work and are looking forward to the next endeavours.

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C³M in Norway, and led by our ERCIS partners at the University of Agder, Norway. The objective is to design, develop and evaluate evidence-based frameworks to support the selection and use of the most suitable digital technology for delivering cash-based assistance to refugees. The project objective is not only perfectly matching with our past and ongoing research on humanitarian logistics but is also a stronger integration of the C³M within the ERCIS network.
The Competence centre for Digital Transformation Management for SMEs (Digital- and Medium-sized Enterprises) aims to empower small and medium-sized enterprises (SMEs) to transform themselves digitally. This is especially crucial in Germany, where SMEs account for 60 to 70% of employees but often face challenges in managing digital transformation due to limited resources and expertise.

Digital transformation is a complex process that requires a comprehensive approach. The Competence centre, known as CCDT, offers a platform for collaboration and knowledge sharing among SMEs. It is open for all interested persons, with a focus on business, research, and innovation work.

Projects such as the Transformation and Co-creation Lab or the Summer School contribute to the centre’s vision and mission. Members wish to continue to contribute to the Business Process Transformation Management, which is supported by the EU’s Erasmus Plus program.

A central proposition is that SMEs may benefit from co-creating such knowledge, skills, and capabilities, with their business partners and customers. This collaboration is seen as essential for the development of the European economy.

Digital transformation is challenging for most firms, who struggle with effectively understanding the opportunities and consequences of digitalization. The Competence centre helps to bridge this gap by providing a platform for knowledge sharing, collaboration, and innovation.

Members of CCDT have roles as researchers, educators, and entrepreneurs. They work with one-another through business networks, and with academia and higher education.

In connection with the «Be prepared» project and following up the VOIL-platform’s Transformation and Co-creation Lab, members have also contributed to the Wiesbaden Business School – Research Summer School. In the summer school that was organized as a seminar, online and onsite, a case-study regarding an SME preparing for complying with the new supply chain transparency laws coming in Germany and several other European companies was disseminated.

In 2022 members from the network have joined the network, though «snowballing», many research and innovation work. Members of CCDT have had roles as organizers, chairs, written articles or in other ways contributed to the Business Process Management: 20th International Conference, BPM 2022, Munster, Germany, September 11-16, 2022.

Members of CCDT have also contributed to the Business Process Transformation Management: 20th International Conference, BPM 2022, Munster, Germany, September 11-16, 2022. CCDT now has a channel on ERCIS’s chat system, Mattermost, and contribute to the Business Digital Divide: A Systematic Literature Review.

The E-Government Competence Center brings together members in the ERCIS net- work working on digitalization in the public domain. Our research covers a broad range from individuals’ use of e-government technology to e-participation to process management.

Future Digital Towns

Pushed by colleagues from the Competence Centers headquarters, the application to establish a research group funded by the German Research Council (DFG) focusing on different aspects of digital towns was successful and we are more than happy to start in 2023 with our collaborative research. The research group Future Digital Towns will study how mid-sized cities, i.e., towns, meet the challenges of digitalisation and develop digital instruments to strengthen their liveability. The project focuses on the four central structural areas of a town: government & administration, economy, labour & energy, civil society & social services and, finally, education & culture.

The digital transformation as an ever-increasing networking of information and processes offers enormous potential for all areas of life and work. Many of today’s associated large pool of resources can be addressed through digitalisation, e.g. through the more sustainable use of existing resources. At the same time, digitalisation also poses regions, which have similar structural problems, the challenge of how to use the large pool of resources to meet the challenges of digitalisation, e.g. through the more sustainable use of existing resources.

Activities at Agder

Researchers from the University of Agder are currently working on several research projects in collaboration with the Norwegian Welfare and Labour Organisation (NAV). In their project “All Users”, Xenia Vassilakopoulou, Ilias Pappas, and their team contribute to the responsible use of AI for the digitalisation of public services. They analyse how to design AI intelligibility and accountability tools for non-experts to facilitate meaningful human control. In cooperation with researchers from Denmark, Sweden, and Norway, Sara Hofmann, Øystein Sæbø, and colleagues challenge the paradigm that all public services should be digitalised. Through broad empirical data collection with citizens and public sector employees, they identify what public services are actually suitable for digitalisation.

In February 2022, the University of Agder hosted the Scandinavian Workshop on E-Government with 25 participants. The aim of SWEG is to present work in progress and receive constructive feedback for the future development.

Master’s Program Public Sector

Innovation and E-Governance (PIONEER)

PIONEER is a joint master program organized by the KU Leuven, the University of Münster and TalTech University Tallinn providing the students with interdisciplinary expertise. The fifth cohort has attended the summer semester in Münster. After two years of virtual studies, we were more than happy to welcome the cohort also physically in Muenster. While the fifth cohort has moved to Tallinn now the sixth cohort with 19 students started in Leuven – and we are awaiting them in April 2023 in Münster. Furthermore, we were able to successfully apply for new ERASMUS funding so that PIONEER will be an ERASMUS Master again from 2023 on.

Three papers from students accepted at EGOV-Conference

In the winter semester of 2021/22, students of one of Muenster’s master seminars examined the European Commission’s current press digital program “European Digital Decade” from various perspectives and with different thematic focuses. The program provides comprehensive digitalization measures in all areas of life, and the seminar focused on topics related to the digitization of public administration.

The aim of the seminar was to approach the topic from a scientific perspective and to design and carry out research projects on digital change in Europe in small teams and subsequently prepare them in the form of a conference article and a scientific poster.

Five of the six participating groups submitted their papers to the IFIP EGOV conference. Three of the submissions were accepted as full papers!

The following papers were accepted:

• Simon Schimpf & Sophie Moiahafer: Design Principles for EU Cross-Border Services

• Nina Muratci & Maximilian Schulte: No-Stop Government: Expected Benefits and Concerns of Young Adult German Citizens

• Christian Gutowski & Jing-Heng Kao: Investigating Trust and Risk Perceptions in a Hybrid Citizen Journey

Federal Information Management

The Federal Information Management (FIM) aims to unify and standardize information on public services throughout Germany. In order to be able to successfully realize this endeavour, a clean and well-structured data management regarding the services offered and their underlying processes and data is a necessity. With the goal to improve the data management in FIM, the FIM@Dataport project was started. A team of the CC eGov analysed the current state of the services’ keys and created proposals for the adaptation of the key concept, addressing found irregularities.

SELECTED PUBLICATIONS


The mission of the ERCIS Service Science Competence Center is to foster excellence in the area of service science and facilitate value co-creation by service providers and customers. This is achieved through a network of excellent researchers in the ERCIS network. Our research is equally dedicated to understanding the nature of business solutions and software artefacts. The proliferation of the Service Economy has changed the way in which companies interact with their businesses in the service society. We strive to understand the nature of value co-creation by service providers and customers. Different value propositions offered to customers can lead to the need to adapt a process, causing workarounds. Our research shows how workarounds diffuse through an organization, changing the very nature of the underlying business process.

**Change Workaround: Using Workarounds for Adaptable Business Processes in Industry.**

In our new research project, ChangeWorkaround, we establish new methods and tools that industrial companies can use to translate workarounds into process innovation. The project consortium includes researchers and companies, some of which are part of the ERCIS network. We will document workarounds and their influence on three different industrial companies. Then, we will design new methods that process managers can use to identify, analyze, evaluate, and implement workarounds as regular process innovation. Our approach includes new Information Systems approaches and innovative personnel and change management methods that will enable workers and decision makers to innovate their processes based on workarounds. Our vision is to reduce the time required for implementing a workaround as a bottom-up process innovation from several years to several months, improving the agility and resilience of the companies involved.

**ACADEMIC ACTIVITIES**

- Martin Matzner and the Chair of Digital Industrial Service Systems at FAU co-organised the 14th Internationale Tagung Wirtschaftsinformatik in 2022 in Nuremberg. Starting from 2023, Martin is editor-in-chief of the Journal of Service Management Research.
- Daniel Beverungen is the spokesman of the Software Innovation Campus Paderborn (SICP). The SICP is a network of more than 27 professors and more than 25 companies that cooperate in designing software innovations for our digital society. Besides other editorial roles, he is a conference and program chair for the 18th Internationale Tagung Wirtschaftsinformatik in Paderborn. In 2022, Daniel edited a special issue on digital transformation for the journal Electronic Markets and co-chairs an AMCIS Track on Digital Platforms in 2023.
- Christian Bartelheimer is a postdoc at Paderborn University and serves as a treasurer and secretary for the AIS Special Interest Group on Services (SIGSVIC). He will co-organize a track on digital services for a human-centered society 5.0 at AMCIS 2023 and a workshop on intelligent software innovations for our digital society at ICIS 2023.

**SELECTED PUBLICATIONS**


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**Smart Work**
Modem organizations increasingly use digital technologies to perform and organize work, transforming workplaces in multiple ways. Digital technologies facilitate communication and collaboration among workers and, thus, enable work in distributed teams with flexible working hours and locations (i.e., virtual or hybrid work). Digital technologies can also help to manage and analyze work patterns using insights from data on people and processes (e.g., surveys, interviews, physiological data). Furthermore, technological developments in artificial intelligence allow to support and automate an increasing number of tasks and to establish collaboration between human workers and IT systems. These developments affect what, who, when, where, and how people work. Managing this transformation of work poses a major challenge for organizations. “Smart Work” describes an approach to designing these new ways of working with a strong emphasis on the well-being and productivity of all actors involved.

The Competence Center Smarter Work is a cooperation platform for researchers and practitioners who seek to investigate the transformation of work and to support organizations with the introduction, use, and management of digital technologies at the workplace. For this purpose, we build on years of experience with transformation processes and help exploit the potential of new working modes using conscious and coordinated use of technologies. We integrate individual and organizational perspectives in our research, characterized by pursuing long-term improvements. To this end, we seek a nuanced understanding of underlying organizational problems as a basis for actionable suggestions. We combine a broad repertoire of methods (e.g., surveys, interviews, physiological measurements, digital forensics) with traditional and innovative theories, enabled by our interdisciplinary team of scientists from business, computer science, psychology, and sociology, as well as practitioners from the IT industry.

**News from the Competence Center**

- With the beginning of the winter term 2022/23, Prof. Dr. Benedikt Berger has joined the competence center as academic director. Together with Prof. Dr. Stefan Klein, Benedikt Berger will lead the center. Benedikt Berger is Junior Professor for Digital Transformation and Society at the School of Business & Economics at the University of Münster.
- From January 2023 onwards, Prof. Dr. Julia Backmann will join the competence center as an academic member. Since August 2022, Julia Backmann holds the Chair for Transformation of Work at the School of Business & Economics at the University of Münster.

**Selected Research Projects**

- Enhancing Knowledge Management with Speech-Based Systems (B. Berger in cooperation with A. Koslow and T. Hess)
- Concentrated and interrupted individual work is crucial for the productivity of knowledge workers. Yet, finding sufficient time for individual work is becoming increasingly difficult, especially for knowledge workers simultaneously involved in several teams or projects. Building on the experience gained during the COVID-19 pandemic, we investigate how speech-based systems can help capturing and storing tacit knowledge. For this purpose, we design and evaluate a high-fidelity prototype that facilitates the creation of meeting protocols. The results shed light on how digital assistants, such as speech-based systems, change knowledge work.

- Adapting Voice Assistants’ Complexity to Their Users Cognitive Abilities (B. Berger in cooperation with C. Rzepka and T. Hess) Technological advancements in the domain of artificial intelligence have led to the proliferation of voice assistants, which can process speech inputs and provide spoken outputs. However, we know little about which tasks, users, and contexts could profit from speech interaction. In this research project, we examine whether users’ cognitive abilities affect speech interaction’s efficiency. Since voice assistants request and present information sequentially, we need to memorize the requested or presented information, which causes pressure on users’ cognitive resources. These resources decline with age, questioning the applicability of speech interaction for older users. Because older workers constitute an increasing share of the workforce in developed countries, we investigate whether older workers profit from an adapted speech interaction that eases cognitive pressure.

**Selected Publications**


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The Competence Center Social Media Analytics (CC SMA) continues – and since last year in close cooperation with the Topical Program on Algorithmization and Social Interaction (www.algorithmization.org) – to deal with challenges due to the rapid and often disruptive evolution of social media technology. 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.

Research, Networks, and Collaborations

In close cooperation with the BMBF-funded joint research project HybridOS, which focuses on the detection and classification of disinformation patterns in social media, the CC-SMA observed campaigning activities in social media platforms. Since the outbreak of the Russian war in Ukraine on February 24, 2022, disinformation campaigns and cyber activities accompanying this conflict have been a major focus of interest in the research field. Members of the CC-SMA were able to record and publish a rare Twitter streaming dataset of the conversation regarding the keywords “Russia” and “Ukraine” in a period from one week before to two weeks after the start of the Russian invasion of Ukraine. These data are also used as input for methodological development in the HybridOS project and for research collaborations within the CC-SMA.

In addition, members of CC-SMA in cooperation with a major developer and provider of a European content (text and images) generating model (MagMa by Aleph Alpha) were able to publish a paper showing perspectives of future automation and potentials of future social bot implementations. This follows other research activities by members of CC-SMA in the context of disinformation campaign detection, the use of social bots in the context of counter-speech, or network analysis.

With regard to networking and collaboration, two different network activities grew out of the context of the Competence Centers and the Topical Program “Algorithmization and Social Interaction” in 2022, which are closely related to the research of SMA: Members of the CC-SMA from Germany and the Netherlands played a leading role in founding the Social Influence Analytics (SIA) Network. This network is dedicated to researching various aspects of social influence from a methodological perspective. The established research focus (also in economic application) deals with the new and even more extensive meaning of influence in the context of social networks. The spread of disinformation and the manipulation of users’ thoughts and behavior are closely linked to the classic definition of social influence. The newly formed group looks in particular at approaches and methods for exploring social influence in social networks. The group focuses on methods and algorithmic approaches for the detection of influential campaigns (on the content level), the modeling of the effect of countermeasures against disinformation and hate, the consideration of optimization problems (e.g., the maximization of influence). Besides that, the modeling of dynamics in network structures (over time) and the definition of suitable measures for the determination of influence variables are at the center of the joint research efforts. Partner institutions of this network come from all over Europe: Germany, the Netherlands, Poland, and Italy.

During the first half of 2022 members of the CC-SMA were strongly involved in organizing the EU Theme Development Workshop “AI: Mitigating Bias & Disinformation” in collaboration with CLAIRE, AlqMedia and other European key players in the context of AI and social media research. The workshop was held virtually in May 2022 and the CC-SMA was involved in organizing and chairing two sessions on Automation in Online Media as well as on Abusive Language Detection and Comment Moderation.

Teaching Activities

As part of a DAAD-IVAC-funded Univer- sities of Münster, Twente and Leiden held a collaborative virtual Master & PhD-level course on the topic of “AI: Human Rights and Ethics”. The course covered the fields of Computer Science, Information Systems, and Law to provide a comprehensive view on many aspects of AI development and application. Over two terms, more than 60 Students actively participated in this course and discussed diverse topics, which will be published in an edited book soon. Additionally, the CC-SMA was active- ly involved in the organization of a lecture series on disinformation research related topics (same topics were social bots, psychological aspects of disinformation, conspiracy narratives, and dis- and misinformation in media) held during the summer term 2022 at the University of Münster.

For the first time MISDOOM was organized overseas in the US. The symposium still follows the initial idea of a multidisciplinary joint conference on disinformation research bringing together computer science, social science, political science, journalism, and public services. Again, the conference featured four highly interesting keynotes from different scientific domains and many parallel sessions in a packed two-day program during 11–12 October 2022.

Publications

Many members of the CC SMA have published multiple papers on disinformation identification, algorithmization as well as on methodological issues:


Activities

• The CC SMA organized the Workshop on Social Influence Analysis held as part of the newly established SIA Network at Uni- versity of Twente in February 2022.

• Guest Lecture at University of Twente by Christian Grimme: Disinformation via Social Media: Social Bots, Campaigns, and Computer Science Approaches to Foster Resilience.

• The CC SMA was part of the organizing committee of the EU Theme Development Workshop “AI: Mitigating Bias & Disinformation“ in May 2022 organized together with CLAIRE, DFKI, TAILOR, VISION, HUMAN AI NET, and the Topical Program on Algorithmization and Social Interaction.

• Members of the CC-SMA actively participated in the “Cyber (In)Securities: Online Desinformation and Cyber Propaganda and its Impacts on International Politics” Workshop, which was organized by the ODISCY project of Research Center Risk, Infrastructure, Security and Conflict held at the Bundeswehr Cyber Hub.

• The CC SMA supported the organization of the MISDOOM 2022 in Boise, ID, USA.
Collaborations

A network is, according to Miriam-Webster, “[...] a usually informally interconnected group or association of persons (such as friends or professional colleagues)”. Let this speak for itself. The ERCIS network was founded to work and research together in the wider field of Information Systems. The collaborations presented in this report provide an insight into what we do – as a network.
An abundance of smart toys, adaptive learning applications, and digital assistants for schoolchildren can be observed on the market. These products are artificial intelligence (AI)-based conversational agents that can communicate using natural language. While such products are increasingly adopted, little is known about how schoolchildren harness these AI-based conversational agents for their benefits. The project pursues two main objectives: 1. To explore and understand how schoolchildren interact with different types of AI-based conversational agents and how they perceive these conversational agents compared to their existing social others (such as family, friends, and teachers). 2. To equip schoolchildren as digital natives and their caregivers with hands-on knowledge in dealing with the rapid advancement of smart technologies. By understanding how schoolchildren perceive and interact with conversational agents, parents and teachers will know how to guide them in developing a more mindful and healthy interaction. Moreover, this project addresses a discussion that is likely to become more glaring in the next years, due to the increasing adoption of AI-based conversational agents for learning and leisure activities. Finally, this project embraces both the bright side and the dark side of technology.

Headed by Leona Chandra Kruse of the University of Liechtenstein, Isabella Seeber, personal member from the Grenoble École de Management, as well as Katrin Bergener and Amin Stein from the University of Münster work on this project.

During the ERCIS Annual Workshop, the AI-Bility researchers met with Alvara Arenas of the IE Business School, Madrid, to meet with the Digymatex (https://digymatex.eu/) EU project and discuss collaborations.

The collaboration between the Universities of Tuscia and the University of Minho continues along with the activities of the BePrepared projects. Researchers from both universities participated in the annual meeting in Wiesbaden (July 16 – 19, 2022) that saw the participation of the whole project consortium of the BePrepared project.

More information: BePrepared-project.eu/, https://www.voil.eu/

Terje Gjøsæter and several faculty members from the University of Agder, department of Information Systems, visited WWU Münster and Paderborn University in May 2022. The main purpose of the trip was to share knowledge and experiences related to different study programs, and in particular the bachelor programmes in information systems. The participants greatly benefited from the meeting, which gave new ideas for how the bachelor programmes could be organized with regard to teaching methods and content.

The ‘RISE_SMA’ project

The ‘RISE_SMA’ project (funded by the EU Horizon 2020 research and innovation program), coordinated by Stefan Stieglitz, aims at developing solutions for contemporary challenges for Social Media Analytics in the context of society and crisis communication. The international and interdisciplinary network involves partners from the University of Duisburg-Essen (Stefan Stieglitz), University of Agder (Tim A. Majchrzak), the Queensland University of Technology (Axel Bruns, Jean Burgess), University of Leiden (Michael Emmerich, Suzan Verberne, Frank Takes) and from the municipality of Kristiansand, Norway (Sigurd Paulsen). The COVID-19 pandemic posed a challenge for the project which thrives from sharing knowledge during research stays at the respective locations.

At the same time, the pandemic illustrated the relevance of understanding social media communication during crises as many used social media to share and receive information about the disease. With a special focus on investigating COVID-19-related misinformation on social media, an international focus group was initiated by Tim Majchrzak within the RISE_SMA network. Beginning of 2022 traveling was possible again in the project. Five students from University of Duisburg-Essen visited the Kommune Kristiansand as well as the ERCIS institution University of Agder.

The UoG initiated a partner cooperation with the SAP University Alliance. Furthermore, several virtual research talks were given by Professors from Slovenia and Latvia. Additionally, the department initiated co-operations with the Cisco Networking Academy Program to deliver the latest resources on Networking issues, including curricula. Finally, the DBI started co-operations with industry, in particular of practical applications of machine learning and big data repositories.

More information: Stefan Stieglitz (stefan.stieglitz@uni-duisburg-essen.de), Tim Majchrzak (tim.majchrzak@uis.no), Terje Gjøsæter (terje.gjosaeat@uis.no), Heike Trautmann (htrautmann@uni-due.de), and Øystein Sæbø (oystein.saebo@agder.no)
Together with the University of Bayreuth, and the Vienna University of Economics and Business, the University of Liechtenstein is working on the Erasmus+ funded project “Developing Process Mining Capabilities at the Enterprise Level”. Digital technologies affect all areas of contemporary work. They support, replace or augment human work, and they require special skills and competencies by those who use them. Process mining is a fast-growing technology concerned with managing and improving business processes. The potentials associated with process mining are vast and the market is estimated to grow tenfold over the next ten years. Yet, there is little knowledge about how to adopt, use and manage this digital technology.

This is important, however, because despite its potentials, it is often reported that process mining leads to misuse or discontinuance of use altogether. Hence, our work intends to support practitioners, and future students, in understanding, estimating, and managing the implications of process mining. We current conduct a qualitative-inductive interview study to explore how process mining can be leveraged in organizations. To this end, we systematically examine the needs and experiences of practitioners with process mining at different levels, including heads of process mining, process analysts, and data engineers.

Two research papers emerged from collaboration within the ERCIS competence center ‘Social Media Analytics’, specifically resulting from the Theme Development Workshop AI: Mitigating Bias and Disinformation, jointly organized by CLARI, ERCIS and other EU AI initiatives, and the special interest group on ‘Social Influence Analysis’ of the University of Münster Topical Program ‘Algorithmization and Social Interaction’. They have been published at the Multidisciplinary International Symposium on Disinformation in Open Online Media (MISDDOM), October 2022.

New Automation for Social Bots: From Trivial Behavior to AI-Powered Communication, Christian Grimm (University of Münster); Janina S Pohl (University of Münster); Stefano Cresci (Institute of Informatics and Telematics, IIT-CNR, Pisa); Ralf Lueling (Alph Alpha); Mike Preuss (LUMC, Universiteit Leiden)

Social Influence Analysis (SIA) in Online Social Networks, Agatha Leszkiewicz (University of Twente); Doina Bucur (University of Twente); Christian Grimm (University of Münster); Radosław Michalski (Wroclaw University of Science and Technology); Lena Clever (University of Münster); Janina S Pohl (University of Münster); Jeroen G. Roos (University of Twente); Jakob Bassek (RWTH Aachen); Mike Preuss (LUMC); Giovanni Squillero (Politecnico di Torino); Stefano Quer (Politecnico di Torino); Andrea Calabresse (Politecnico di Torino); Giovanni Iacca (University of Trento); Hatice Kizgin (University of Münster); Heike Trautmann (University of Münster)

In the recently completed Erasmus+ project, the partners from the University of Liechtenstein (Jan vom Brocke), University of Duisburg-Essen (Stefan Stieglitz), and University of Agder (Tim A. Majchražk) investigated the potential of virtual reality (VR) in higher education. During the final phase of the project, all three project partners implemented innovative VR applications in courses at their universities. For example, at the University of Duisburg-Essen, the VR app ‘Rec Room’ was first explored for internal research and social meetings within the research group. In teaching, the collaborative VR app ‘Special’ was used for a bachelor’s lecture which was designed as a flipped classroom and involved a lot of group work. The students in the VR group perceived more social interaction and achieved higher grades compared to a reference group of students using a video conference tool for the lecture. The partners already published several papers on the project and are continuing to work together.

Since the only constant in our today’s world, is change, the University of Liechtenstein proposed the establishment of process science, a field that studies processes. The partner universities are as follows: RWTH Aachen, Radboud University, Humboldt University, Michigan State University, University of Hamburg, University of Bayreuth, QUT Brisbane, University of St. Gallen. Process science is concerned with understanding and influencing change. It entails discovering and understanding processes as well as designing interventions to shape them into desired directions. Process science is based on four key principles; (1) puts processes at the center of attention, (2) investigates processes scientifically, (3) embraces perspectives of multiple disciplines, and (4) aims to create impact by actively shaping the unfolding of processes. The ubiquitous availability of digital trace data, combined with advanced data analytics capabilities, offer new and unprecedented opportunities to study processes through multiple data sources, which makes process science very timely.
ERCIS MASTER THESIS AWARD

2022 was the first time the ERCIS Master Thesis Award has been bestowed. The winner is being chosen from submitted Master Theses nominated by ERCIS Members. Each member institution is eligible to nominate one candidate per year.

The author of the thesis rated best in terms of (1) originality and depth of contribution, (2) methodological soundness, and (3) form and quality of presentation by the ERCIS Master Thesis Award Committee will be invited to the European Conference on Information Systems (ECIS) in the following year. Flight, accommodation, access to the conference, as well as participation in the ERCIS@ECIS network meeting are being covered.

We are happy to give the 1st ERCIS Master Thesis Award to Leonor Ribeiro of the Escola de Engenharia da Universidade do Minho, Portugal for the Master Thesis on "GDPR Toolkit"!

The dissertation describes the development and validation of a tool that freely supplies organizations with the necessary resources for achieving compliance in the process of protecting personal data, by building a greater awareness of the GDPR’s implications and benefits, as well as how implementation does not have to be experienced as a nightmare but, contrarily, as a business opportunity.

The availability of tools that enable enterprises, especially small and medium-sized enterprises (SME), to assure and verify GDPR compliance is of utmost importance as involves considerable resources and commitment. Considering that most European companies are SME, the dissertation can have significant impact in society.

The dissertation can also have impact to the UN Sustainable Development Goals 11 (Make cities and human settlements inclusive, safe, resilient and sustainable) and 16 (Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels).

The committee's laudation:

"The thesis represents a strong and ample scientific body of work. It is worth emphasizing the breadth of research covered (literature review, research design, analysis of interviews, toolkit validation, among other aspects), indicating a wide coverage and mature understanding of field. Additionally, the reader has access to a wealth of extra 500+ pages with technical details in the appendix."

ERCIS DOCTORAL CONSORTIUM

In 2022, the ERCIS finally organised a PhD consortium again in Pto. Pollensa, Spain. The rationale of this series is to intensively discuss the PhD endeavour of each participant, provide multi-perspective feedback, network them, and enjoy the time together in a nice environment. The PhD candidates had to submit an eight to ten pages dissertation paper, summarizing motivation, related work, problem statement/research gap, proposed research approach and time frame. Furthermore, each of the students had to conduct a peer review of one dissertation paper. At the venue, the candidates had to present their research for approximately 30 minutes without any means but a whiteboard and pens, leaving at least one additional hour for discussion. Furthermore, the students had to moderate the session of the paper they reviewed.

This gave eight students the opportunity to participate: Enrico Bunde, Ruhr-Universität Bochum, Germany; Chiara Cagnetti, Tuscia University, Italy; Fabio Ribeiro, University of Wroclaw, Poland; Francini Haik, University of Minho, Portugal; Maria Salas Urbano, University of Sevilla, Spain; Moritz Seiler, University of Münster, Germany; Nina Herrmann, University of Münster, Germany; Rodion Vladimirov, University of Liechtenstein, Liechtenstein. The faculty board consisted of Katrin Bergener, University of Münster; Alessio Maria Brancaccio, Università degli Studi della Tuscia; Leona Chandra Kruse, University of Liechtenstein; Isabella Seeber, Grenoble École de Management; Jens Pöppelbuss, Ruhr-Universität Bochum; Armin Stein, University of Münster.

Aside from discussing the research, the participants also used the chance to either learn sailing together, or to advance their nautical knowledge. This resulted in a great team spirit, leveraging the idea of the network to our junior scholars.

PROJECT SEMINAR WITH ADVISORY BOARD MEMBER LVM

In the summer semester of 2022, there was a premiere in teaching in the ERCIS network: For the first time, a project seminar took place between the new advisory board member LVM Landwirtschaftlicher Versicherungsverein Münster e.G. and the University of Münster.

A group of seven bachelor students of information systems dealt with the knowledge management system "LVM Portal", containing more than 14,000 articles for the approximately 500 employees. The current search revealed various areas of improvement, that were to be investigated during the project seminar. Search hits that did not match the content of the search terms, and missing recommendations for related articles. Methodologically, the students followed the CRISP-DM data mining strategy to process the provided data first exploratively and then in different evaluation steps. As a result, at the end of the semester, the students presented a search algorithm that used TF-IDF values to increase the relevance of search hits. In addition, a recommender system was developed, which recommends suitable documents to users based on the currently opened document. The results were presented in a final presentation at the university as well as internally at LVM during a technology exchange.

DDAD FUNDED MASTER / PHD LECTURE ON "AI, HUMAN RIGHTS AND ETHICS", IN COOPERATION WITH THE UNIVERSITY OF TWENTE, AND THE UNIVERSITY OF LEIDEN, THE NETHERLANDS

The course (https://algorithmization.org/?page_id=578) was offered virtually and investigates the role of AI from the perspectives of economy, ethics, computer science and law. Students from various disciplines, and coming from different countries, at the level of MA and PhD were invited to take part in this format.

VIRTUAL BPM WINTER SCHOOL 2022

In January 2022, information systems students from different European countries had the opportunity to attend a virtual version of the BPM Winter School. The event was open to students from ERCIS member institutions. Students had the opportunity to attend lectures on advanced and state-of-the-art BPM topics as well as guest lectures (e.g., by Hilt). The lecturers were of high quality. Prof. Dr. Jan vom Brocke gave a course and speech about “Process Science”, Prof. Dr. Daniel Beverungen talked about “Organizational Routinen”, Prof. Dr. Adela del Rio-Ortega and Prof. Dr. Manuel Resinas organized a session about “Process Performance”, Prof. Dr. Jan Mendling introduced “Process Complexity” and Dr. Katrin Bergener talked about “Ethics in Business Process Management”.

More information on the BPM Winter School: https://www.ercis.org/bpmsw
This eLearning seminar is a joint teaching common data elements in medicine.

The Department of Business Informatics successfully finalized a grant regarding cooperations between industry and academia in the form of the student trainee-ships. The IT firms are mostly international corporations.

In the summer semester 2022, nine students from our master's degree program of the Department of Information Systems in Münster collaborated in a project seminar to design and develop a visual search engine for satellite imagery. The student team, supervised by Prof. Gieske and his team, made use of deep learning techniques to process and analyze 30 terabytes of aerial images. The engine provides a simple and fast visual similarity search that helps users to discover regions of interest in a large-scale map, while enabling results to be sorted and filtered by geographical distance. This project is envisioned to create new opportunities for both researchers and practitioners in global-scale Earth observation tasks.

This eLearning seminar is a joint teaching module by the Institute of Medical Informatics and the Department of Information Systems in Münster. It is an online course with intense supervision including lectures, writing and presenting a scientific seminar thesis. It facilitates practical skills for semantic analyses of medical data models and the generation of common data elements in different disease domains. The module will cover the concepts of semantic interoperability, research data standards such as the Operational Data Model by the Clinical Data Interchange Standards Consortium (CDISC ODM), metadata standards such as the ISO 11179, based on the FAIR (Findable, Accessible, Interoperable, Reusable) guiding principles for scientific data management, the participants will be familiarized with a metadata platform for finding, accessing, creating interoperable and reusable medical data models to generate harmonized data elements.

Starting from October 2021, a new specialization has been released for Master's Students of Business Informatics: All courses are provided in English. Currently, in 2022 there was second enrollment. Mostly foreign students enrolled to this specialization, i.e., more than 80% of total number of students.

The Department of Business Informatics has developed a visual search engine for satellite imagery. The engine provides a simple and fast visual similarity search that helps users to discover regions of interest in a large-scale map, while enabling results to be sorted and filtered by geographical distance. This project is envisioned to create new opportunities for both researchers and practitioners in global-scale Earth observation tasks.

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. Because of the COVID-19 pandemic, the course syllabus was redesigned so as to be compatible with distance learning in 2020. The course is offered twice in 2022 and has attracted over 200 participants from over 20 countries (many of them from the ERCIS network).

The Hilti Fellowship offers excellent students the opportunity to be part of an international project team at Hilti while they attend lectures and seminars in the Master's program in Information Systems at the University of Liechtenstein. The Hilti Fellowship is primarily aimed at Master's students from fields like information systems, business, and management; however, doctoral students and Bachelor's students who will complete their studies in the near future and plan to pursue a Master's degree in the following semester can also apply. Because of the Hilti Fellowship provides a unique opportunity for students to work on real projects at Hilti three days a week and attend the Master's program in Information Systems on the other two days.

During the project seminar, the students were able to develop the prototype in a hands-on way. The testing of the developed AR application on real agricultural machines at CLAAS rounded off the project seminar.
This year the 20th Business Process Management conference was hosted by the ERCIS headquarter and organized by Armin Stein and Katrin Bergener in Münster from 11th to 15th September. With around 330 participants attending in presence, the conference was back to a number of attendees, which is comparable to pre-Covid BPM conferences.

The conference kicked off on 11th September with the Doctoral Consortium and continued on Monday, 12th with the workshop day, during which eight workshops were offered. The Monday concluded with a welcome reception at the Schlossgarten Café.

The main conference was then held from 13th–15th September in the castle in Münster and offered three keynote speeches, 5 tutorials, a demos and resources session, for the first time a Journal First track as well as many paper presentations within the three topical tracks.

On Tuesday evening, the attendees were invited to one of the iconic student pubs in Münster, the Cavete, and it was a great sight when entering the pub: It was full of joyful and relaxed BPM participants enjoying food and drinks, networking with colleagues.

The conference party on Wednesday evening took place in “Heaven”, a chilled club in Münster’s harbor section. After dinner, the award ceremony took place before giving place to the DJ, who opened the dance floor, which was really crowded until the end – a fun night with colleagues from the BPM community around the world that was very much needed after the pandemic.

https://konferencia.fov.um.si/en/home-page/

The International Conference on Organizational Science Development is the conference with the longest tradition at the University of Maribor. Every year in March, it attracts international participants, researchers and students in the broad field of organizational sciences. This year’s International Scientific Conference on the Development of Organisational Science 2022 was held under the overarching theme – Societal Challenges for Organisational Opportunities.

https://summerschool.fov.um.si/
The University of Liechtenstein has organized the Student Track at the 17th Internationale Tagung Wirtschaftsinformatik. The goal of the Student Track is to give students – especially from the ERCIS network – the opportunity to actively participate in this conference and submit research papers. The Student Track provides a platform through which students, researchers and practitioners can get to know each other in professional discourse.

This year the workshop series on Digitalization at the University of Liechtenstein again for the first time, as events were canceled and postponed during the COVID-19 pandemic. The series is designed for academics, practitioners, and stakeholders from public organizations who support the transformation of their organizations, the country, and beyond. The lecture series includes courses on fundamentals of digitalization, basic concepts of digital innovation, the explanation and benefits of artificial intelligence, transforming organizations through business process management, and cybersecurity, including aspects of cybercrime. Current plans are to further expand the range of continuing education courses and to develop a range of courses tailored to regional companies, particularly in the area of security. The new offerings are based on the university’s upcoming executive education strategy and are planned for spring 2023.

The 7th IFIP WG5.15 2022 Conference on Information Technology in Disaster Risk Reduction (ITDRR-2022) was held online on November 3rd and 5th, 2022. The conference is especially focused on the various IT aspects and challenges of coping with disaster risk reduction. One of the keynotes focused on strategic management of disaster risk mitigation, and the conference sessions focused among others on machine learning and risk assessment for decision making, community and organizational resilience, the measurement and facilitation of situational awareness in different emergency situations including cyber-security issues, and risk communication. One of the more technical sessions focused on sensors, telecommunication, and supply chains. Earthquake and climate forecasting were also accentuated. The conference received paper submissions from 17 countries.

In the 28th International Conference on Information and Software Technologies was organised by Kaunas University of Technology October 13–15, 2022, and is one of the longest running IT research conferences in Lithuania. The event accepts only ~30 papers, which means that no two sessions are taking place at the same time and participants can hear all presentations they may be interested in. Thematically, the 2022 iteration stayed on the track set up two years ago, with all of the accepted papers falling under one of the following four research areas:

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

On the last day of the event, an extensive closed session on the latest e-learning technologies, its advantages and disadvantages in education also took place. The proceedings of the event were published by Springer as a part of Communications in Computer and Information Science (CCIS) series.

The 22nd edition of the Portuguese Association of Information Systems Conference was held online on November 1st and 3rd, 2022, at the University of Santarém, in Cape Verde, in partnership with the Polytechnic Institute of Santarém, ISCTE – Instituto Universitário de Lisboa and the University of Évora. The conference’s main theme is “Information Systems: Innovation and Development in the Lusophone Space”. The proceedings are published in the eLibrary of AIS.

Organized by Kaunas University of Technology

https://icist.ktu.edu/

Events in the ERCIS Network

http://vivid.fou.uni-mb.si/

EVENTS IN THE ERCIS NETWORK

ERCISpecIS 2022

After the virtual years of the pandemic, the first ERCISpecIS meeting took place again in Timișoara, Romania in June 2022. 26 members from eleven partner institution joined a nice meet and greet at the Bega river, which was followed by the handing over of the ERCIS@ECIS 2022 call for papers.

The conference was held in Lisboa, Portugal, from 9 to 11 of November 2022, co-organized by the University of Minho. During this 3-day conference, under the leitmotiv "Project Management, academics, scientists, project managers and solution providers from all over the world will have the opportunity to share experiences, bring new ideas, debate issues, and introduce the latest developments in this largely multidisciplinary field.

The Bled eConference, organised annually by the Faculty of Organisational Sciences of the University of Maribor, in an international event with the longest tradition in the field of e-business research at the University of Maribor and in Europe, and one of the leading research and professional events in the world. This year, the 35th Bled eConference brought together many researchers, representatives of business, organisations, technology providers and decision makers from different countries around the world under the title “Digital Restructuring and human (re) action”. In addition to the overarching theme and general focus on digitisation and digital transformation, the conference highlighted the following topics: digital health and wellness, digital business models, artificial intelligence and data science, digital ethics, smart and sustainable cities and digital education.

https://bledconference.org

ROUND TABLE ABOUT "COVID-19 INDUCED ORGANISATIONAL CHANGE"

In the third roundtable about "COVID-19 induced organisational change", the Competence Center Smarter Work discussed the latest experiences and recommendations regarding hybrid work arrangements. With representatives from four ERCIS advisory board organisations, the discussion yielded interesting insights, among others, about the reorganisation of the offices or hybrid meetings. The office gets redesigned to allow for different forms of collaborative work, yet areas for uninterrupted individual work need to be included. Developing and maintaining a meeting etiquette is even more critical for hybrid meetings than for pure physical/virtual meetings. Overall, the reported experiences are positive, and the participants, in union, stressed the need to remain flexible and to enhance the current hybrid work arrangements transparently with all involved actors.

PROJMAN 2022 – INTERNATIONAL CONFERENCE ON PROJECT MANAGEMENT

The conference was held in Lisbon, Portugal, from 9 to 11 of November 2022, co-organized by the University of Minho. During this 3-day conference, under the leitmotiv of Project Management, academics, scientists, project managers and solution providers from all over the world will have the opportunity to share experiences, bring new ideas, debate issues, and introduce the latest developments in this largely multidisciplinary field.

The main track, covering the methodology and applications of CCI, included: knowledge engineering and Semantic Web, recommender systems, collective decision-making, data mining and machine learning, computer vision techniques, natural language processing, as well as Internet of Things, technologies and applications. The special sessions, covering some specific topics of particular interest, included: cooperative strategies for decision making and optimization, optimization approaches of production systems in Industries 4.0 and 5.0, collective intelligence in medical applications, IoT, deep learning and natural language processing, computational intelligence, artificial intelligence for multimedia understanding, machine learning for social data analytics, malware analytics in smart environment, big text mining searching and artificial intelligence.

We received over 420 papers submitted by authors coming from 46 countries around the world. Each paper was reviewed by at least three members of the international Program Committee (PC) of either the main track or one of the special sessions. Finally, we selected 64 papers for oral presentation and publication in one volume of the Lecture Notes in Artificial Intelligence series and 58 papers for oral presentation and publication in one volume of the Communications in Computer and Information Science series.

35th BLED ECONFERENCE: DIGITAL RESTRUCTURING AND HUMAN (RE) ACTION, JUNE 26–29, 2022, BLEDSLOVENIA

The 14th International Conference on Computational Collective Intelligence (ICCCI 2022), was held in Hammamet, Tunisia, between 28-30 September 2022. The conference was organised by the French SIGAPP Chapter (ACM Special Interest Group on Applied Computing), France and jointly organized by Wrocław University of Science and Technology, Poland in cooperation with IEEE SMC Technical Committee on Computational Collective Intelligence, European Research Center for Information Systems (ERCIS), Université de Pau et des Pays de l’Adour (France), Université de Jendouba (Tunisia), and International University-VNU-HCM (Vietnam). The conference is ranked Category B in the 2021 CORE conference rankings.

The ICCCI 2022 conference featured a number of keynote talks and oral presentations, closely aligned to the theme of the conference. The conference attracted a substantial number of researchers and practitioners from all over the world, who submitted their papers for the main track and eleven special sessions.

14th INTERNATIONAL CONFERENCE ON COMPUTATIONAL COLLECTIVE INTELLIGENCE (ICCCI 2022), 28–30 SEPTEMBER 2022, HAMMAMET, TUNISIA

The 14th International Conference on Service-Oriented Computing (ICSOC 2023) from November 29th to December 2nd.

This conference is the premier international forum for academics, industry researchers, developers, and practitioners to report and share groundbreaking work in service-oriented computing. ICSOC fosters cross-community scientific excellence by gathering experts from various disciplines, such as service science, data science, management science, business process management, distributed systems, wireless and mobile computing, cloud and edge computing, cyber-physical systems, Internet-of-Things (IoT), scientific workflows, artificial intelligence, machine learning, and services and software engineering.

Following on the ICSOC tradition, this edition features visionary keynote presentations about Quantum Service-Oriented Computing by Juan M. Muiru and Securing Data Pipelines along the Cloud Continuum by Ernesto Damiani, research and industry presentations, a vision track, workshops, tutorials, demos, and a PhD track.

20th INTERNATIONAL CONFERENCE ON SERVICE-ORIENTED COMPUTING IN SEVILLA

This year Pablo Fernández and Antonio Ruiz-Cortés, from Universidad de Sevilla, organized the 20th edition of the International Conference on Service-Oriented Computing (ICSOC 2023) from November 29th to December 2nd.

University of Agder hosted the national conference NOKOBIT 2022 on November 28th to December 1st, 2022. The conference focuses on topics related to development, implementation, and use of ICT in organizations, including sustainability and societal issues. The conference attracts researchers and practitioners mainly from Norway, but also from other Scandinavian countries and some international participants are usually present. This year the conference focuses on highly relevant topics including among others application of AI, cloud computing and IS, business process management, data science, IT and sustainability, information infrastructures and platform ecosystems, social IS and collaborative technologies, and information and knowledge governance.

OUTLOOK FOR 2023

**JANUARY 2023**


**MARCH 2023**


**45th INTERNATIONAL CONFERENCE ON ORGANIZATIONAL SCIENCE DEVELOPMENT**, Portorož, Slovenia. [https://konferenca.fov.um.si/en/homepage/](https://konferenca.fov.um.si/en/homepage/)

**APRIL 2023**

**DEADLINE FOR APPLICATION FOR THE HILTI FELLOWSHIP** (Winter term 2023/24), April 30th

**JUNE 2023**

**31st EUROPEAN CONFERENCE ON INFORMATION SYSTEMS (ECIS 2023)**, June 11-16, Kristiansand, Norway. [https://ecis2023.no/](https://ecis2023.no/)


**SEPTEMBER 2023**

**START AND KICK-OFF HILTI FELLOWSHIP PROGRAM** (Winter term 2023/24)

**14th ERCIS ANNUAL WORKSHOP**, Wrocław, Poland

**WIRTSCHAFTSINFORMATIK CONFERENCE 2023**, Paderborn, Germany, September 18-21. [https://wi2023.de](https://wi2023.de)

(incl. Student Track: [https://wi2023.de/student-track/](https://wi2023.de/student-track/))

**OCTOBER 2023**

**EDUCATION IN INFORMATION SOCIETY**, Ljubljana, Slovenia. [http://vivid.fov.uni-mb.si/](http://vivid.fov.uni-mb.si/)

**29th INTERNATIONAL CONFERENCE ON INFORMATION AND SOFTWARE TECHNOLOGIES (ICIST 2023)**, October 12–14, 2023, Kaunas, Lithuania. [https://icist.ktu.edu/](https://icist.ktu.edu/)

**21st PORTUGUESE ASSOCIATION FOR INFORMATION SYSTEMS CONFERENCE**

**DEADLINE FOR APPLICATION FOR THE HILTI FELLOWSHIP** (Summer term 2024), October 30th

**NOVEMBER 2023**


**14th ASIAN CONFERENCE ON INTELLIGENT INFORMATION AND DATABASE SYSTEMS (ACICIDS 2022)**, November 28–30, Ho Chi Minh City, Vietnam. [https://acicids.pwr.edu.pl/2022/](https://acicids.pwr.edu.pl/2022/)

**DECEMBER 2023**

**15th EUROSYMPOSIUM ON DIGITAL TRANSFORMATION**, Gdansk, Poland. [http://www.eurosymposium.eu](http://www.eurosymposium.eu)

**ICIS 2023 CONFERENCE THEME TRACK**: Emerging from the Pandemic and Reshaping Human Endeavors with Digital Technologies (Jeffrey Parsons, Pallab Sanyal, Jan vom Brocke, Fiona Fui-Hoon Nah)

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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 as team assistant.

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