ERCIS

European Research Center for Information Systems

ANNUAL REPORT 2023

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THE ERCIS NETWORK

ERCIS, the European Research Center for Information Systems, stands as an international nexus of scientists dedicated to collaborative research in the dynamic field of Information Systems. Established in 2004 at the University of Münster, Germany, ERCIS secures funding from the German State of North Rhine-Westphalia, the University of Münster, and Industry stakeholders. This vibrant network champions innovative thinking and a multidisciplinary approach to grapple with the challenges emerging from the ever-evolving societal and organizational landscape influenced by Information Technology.

Committed to tackling these challenges through a symbiotic relationship between research and practice, ERCIS is renowned for its exceptional communication and the seamless initiation of research collaborations and projects. Its key strength lies in the personal connections between researchers, rendering it a dynamic and lively network.

ERCIS spans an extensive array of disciplines and perspectives related to Information Systems research. Oversight is vested in the Board of Directors in Münster, helmed by two academic directors, Prof. Dr. Dr. h.c. Jörg Becker and Prof. Dr. Jan vom Brocke, complemented by eight additional professors active in the Information Systems research field. The network boasts internationally renowned researchers from over 25 Associated Research Institutions, Personal Members, and Advisory Board Members representing diverse industry entities. All ERCIS research partners are esteemed experts in various Information Systems-related disciplines.

ERCIS engages in comprehensive research, encompassing both fundamental and application-oriented endeavors. In addition to individual research pursuits, the network consolidates and supports specific research aspects of Information Systems in Competence Centers, amplifying research in targeted areas. The inclusion of Advisory Board Members from diverse industry sectors ensures the practical relevance of ERCIS research. Regular meetings between the Board of Directors and Advisory Board Members, coupled with annual workshops of ERCIS' Associated Research Institutions, foster a continuous, direct, and productive exchange of knowledge.

Students and young researchers reap the benefits of engaging with ERCIS, as many research partners extend exchange programs lasting one or two semesters, providing invaluable international exposure. Joint lectures and guest talks organized by ERCIS members contribute significantly to the internationalization of teaching.

If you are eager to connect with this vibrant network, please feel free to reach out to us.

For further information, please visit ***www.ercis.org***.

PREFACE

ERCIS is about to celebrate its 20th birthday and we have already set the course for the next 20 successful years of ERCIS. As you may have already noticed, this is the first annual report in which two authors write the foreword together. For both of us, Jörg and Jan, it is a distinct pleasure to work together even more closely in the future and, alongside all our partners, propel ERCIS to the next level.

The response was overwhelmingly positive when, overnight, several thousand colleagues congratulated Jan vom Brocke on social media for his return to the University of Münster and his new role at the ERCIS headquarters. As a Münster alumnus, Jan has been with ERCIS since its establishment in May 2004, and he has played a pivotal role in establishing the ERCIS location in Liechtenstein over the past 15 years. Together, we will ensure continuity and introduce a wealth of new ideas and initiatives to ERCIS.

In this current Annual Report, we look back on the many outstanding activities of the past year while also offering a glimpse into the future:

We had great meetings of ERCIS partners at many conferences, most notably the ECIS organized by our ERCIS partner in Kristiansand. Big applause to Kalle and his team. It was a great conference and a wonderful ERCIS meeting at the restaurant “La Famiglia”, where we also presented the second ERCIS Master Thesis Award. This year, the award was presented to Eric Amann from the University of Koblenz, with Janina Lütke Stockdiek from the University of Münster and Thomas Balbach from KU Leuven as deserving runners-up. Congratulations!

This ERCIS Annual Report underscores the impressive quantity and quality of activities and achievements, ranging from recently published research to newly launched and successfully acquired projects. Across Europe, approximately 20,000 students are being educated at ERCIS sites in the field of digital transformation, and they are taking on crucial leadership roles in shaping a bright digital future.

A particular highlight was once again the ERCIS Winter School on Business Process Management, which took place at the University of Liechtenstein. We are grateful for the strong support from our team at the University of Seville and from the numerous individual members who participated in the Winter School and made significant contributions. We had a great visit to the Hilti Headquarters and had a deep dive into the topic of process science, interacted with practitioners and enjoyed the beautiful nature in Liechtenstein during our traditional fondu trip and sleigh ride. In the future, we hope to extend our offers of this kind of education to other locations and topics! Stay tuned!

Together with partners from academia, industry and society, we are actively addressing highly topical issues such as the value-orientated and responsible use of generative AI, which we are working on in our five thematic clusters: Process Science, Data Science, Knowledge and Learning, Smart Manufacturing and Digital Public Services. Many exciting projects have been carried out in the clusters and original research has been published. One notable example is our article on "City 5.0: Citizen involvement in the design of future cities", in which 14 ERCIS partners from 9 locations were involved.

The ERCIS has also got new offspring. João and Jörg became grandfathers *(unbelievable!)* and we are delighted to welcome Isabella Seeber *(Grenoble Ecole de Management, France)*, Christian Janiesch *(TU Dortmund University, Germany)*, Ralf Plattfaut *(University of Duisburg-Essen, Germany)*, and Hajo Reijers *(Utrecht University, The Netherlands)* to the ERCIS family!

An unforgettable event was our Annual Meeting in Wrocław, where we also discussed some of the cornerstones for the future strategic direction of ERCIS. A big thank you to Dariusz Król, Ngoc Thanh Nguyen, and Katarzyna Zombroń for the truly exceptional hospitality. We enjoyed great presentations and discussions as well as wonderful music and even dance. We also had a great trip with the cable car across the Oder River! We are grateful for the opportunity to visit this beautiful city and engage with our ERCIS partners at the Wrocław University of Science and Technology, who are a very strong group particularly distinguished by their technical skills and great collegial spirit.

In Wrocław, we collectively shaped a shared vision and ambition to further expand ERCIS's contributions to research, teaching, and innovation across Europe. We are excited by the prospect of creating clusters that span countries and sectors, serving both businesses and societies across Europe. We are particularly enthusiastic about the European idea and the shared vision that together we can do things, no single university could do.

Life is better together!

We extend our heartfelt gratitude to all members for their unwavering commitment and high motivation in building ERCIS together. We value not only their professional expertise and excellence but also their collegiality, friendship, and shared enthusiasm for our work. We would especially like to thank our coordination team, Armin Stein – our highly valued Managing Director – as well as Katrin Bergner and Julia Seither together with many assistants, who make the ERCIS possible after all.

We invite you to enjoy this report, which may serve as inspiration for numerous joint activities in the years to come.

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14TH ERCIS ANNUAL WORKSHOP

Wrocław University of Science and Technology

14TH ERCIS ANNUAL WORKSHOP

After five years of planning, the much-anticipated 2023 ERCIS Annual Workshop finally unfolded in Wrocław, Poland, graciously hosted by the Wrocław University of Science and Technology *(WUST)* in collaboration with our esteemed partners Dariusz Król and Ngoc Thanh Nguyen. Welcoming 41 participants from around the globe, this year's workshop returned to its traditional three-day format, commencing with a captivating welcome reception on the first day that immersed us in the world of Flamenco Fusion through an exceptional live performance.

The workshop's second day commenced with an introduction to the Information Systems Research groups at WUST, followed by a comprehensive overview of the activities conducted throughout 2023. As we gradually return to pre-COVID research dynamics, the emerging topics unveiled new avenues for collaborative European-level research.

Jan, in a visionary address, outlined the network's future, emphasizing the desire to fortify connections with industry partners and suggesting a theme for the upcoming years: "Life is better together."

The afternoon featured a stimulating World Café session, dividing participants into thematic groups—Research, Education, Practice Collaboration, and Network Organization. The Research group deliberated on strengthening ties among network members, facilitating the expansion of local and national activities to international partners, and emphasized the crucial support and integration of early-stage researchers. In the Education domain, participants underscored the significance of leveraging ERASMUS+ and enhancing cooperation between individual researchers. Notably, there was a strong interest in facilitating joint Master Theses without administrative complexity. For Practice Collaboration, plans included establishing joint innovation labs and creating a unified research interface for companies operating globally. The use of students as a catalyst for collaboration with companies, yielding innovative ideas and solutions, formed a central theme. Lastly, the Network Organization groups explored governance changes to foster inclusivity among members, such as supplementing the Board of Directors with international partners.

The day concluded with presentations on funding opportunities by the European Commission, offering potential applicability to ideas generated during the World Café. The enchanting workshop dinner, featuring live music by a Ukrainian pianist, provided an ideal setting for initial discussions on operationalizing these innovative ideas.

The third day began with individual presentations on ongoing research activities, providing an insightful glimpse into the planned activities for 2024. We were delighted to receive an invitation from Alessio Maria Braccini of the University of Tuscia, Italy, to convene in Viterbo for the 2024 Annual Workshop.

SAVE THE DATE
The 2024 Annual Workshop will take place in Viterbo, Italy, in September.

NETWORK ACTIVITIES

The ERCIS Network represents a dynamic community comprising researchers and practitioners who, in addition to their individual contributions at their respective institutions, foster a spirit of collaboration.

In this section, we present an overview of the ongoing initiatives within the network, highlighting key accomplishments from the past year.

NETWORK ACTIVITIES

Erasmus+ Project – AI-Bility, IMG-Experiment, Innsbruck

UNDERSTANDING HOW CHILDREN LEARN WITH CONVERSATIONAL AI *(AI-BILITY PROJECT)*

Erasmus+

In February 2023, the AI-bility project team involving ERCIS partners from the University of Münster *(Germany)*, the University of Liechtenstein *(Liechtenstein)*, and Grenoble Ecole de Management *(France)* conducted their major field experimentation in Innsbruck *(Austria)*. Their aim was to investigate the learning behaviors and outcomes of 50 learners aged 11–13 when using conversational AI technology, such as a chatbot, voice assistant, or social robot.

The COVID-19 pandemic has accelerated the use of conversational AI among teenagers for educational activities such as solving math problems or language learning. The study focused on whether the utilization of such advanced conversational AI could enhance knowledge retention of micro-learning tasks. Such an investigation is particularly interesting as it is uncertain whether learners are able to retain the knowledge acquired from these conversational AI systems. The results of this study will be made available through publications in academic journals and on the project's website.

https://ai-bility.eu/

GRENOBLE ECOLE DE MANAGEMENT
BUSINESS LAB FOR SOCIETY

EDUCATIONAL STORIES ON CONVERSATIONAL AGENTS FOR CHILDREN *(AI-BILITY PROJECT)*

How can I explain conversational AI to my six-year-old daughter? What is a prompt, and how can I create one? How can I encourage my son to think critically about robots? These are common questions that parents and teachers often have on their minds. To address these questions, the AI-bility project team, which includes partners from the ERCIS network at the University of Münster *(Germany)*, the University of Liechtenstein *(Liechtenstein)*, and Grenoble Ecole de Management *(France)*, has taken the initiative to assist parents and educators in having meaningful conversations with children about these topics.

The project partners have embraced the concept of storytelling and have developed seven educational stories covering various aspects of conversational AI. These stories are available in both English and German and can be accessed on the project's website:

https://ai-bility.eu/stories/

KEBAP
Konstruktion und Evaluation von Referenzmodellen und -bausteinen zur KI-gestützten Automatisierung von Prozessen

COLLABORATIVE RESEARCH PROJECT KEBAB

We're excited to share the progress of our research project, "Construction and Evaluation of Reference Models for AI-Driven Process Automation *(KEBAP)*." This collaborative initiative focuses on expanding IT support for small and medium-sized enterprises *(SMEs)* by emphasizing affordability and adaptability. We are proud to partner with Prof. Dr. Ralf Plattfaut from the University of Duisburg-Essen through our ERCIS association. Generously funded by the German Federal Ministry of Education *(BMBF)* and the Association of German Engineers *(VDI)*, this project has already produced initial publications and supports two doctoral candidates: Peter A. François from Soest and Marlon Kampmann in Hagen. Our investigation seeks to determine the feasibility of implementing Robotic Process Automation *(RPA)* and Artificial Intelligence *(AI)* for SME process automation, exploring technical prerequisites and reference model utilization for efficient component reuse. We aim to answer key questions: How do reference models regarding procedures and processes enhance digital transformation's efficiency and effectiveness? And how should technical reference components be designed to improve efficiency and effectiveness? Our research findings are developed in collaboration with six participating companies and integrated into educational programs, ensuring practical impact. We anticipate sharing further insights as our research unfolds.

JOINT RESEARCH PROJECT PROMATU

We are pleased to announce that on October 1st, 2023, we commenced our latest research project, "ProcessMining@Utilities". The primary goal of this research initiative is to initially explore which standard use cases of process mining are particularly beneficial for energy providers. The project is financially supported by both the German Federal Ministry of Education *(BMBF)* and the Association of German Engineers *(VDI)*. Further objectives include addressing two related research questions that aim to clarify the data requirements for a process mining system. This involves efficiently leveraging existing data and providing additional data from process control, compliance, and financial control data sources. Based on this, standardized procedures for identifying core system data requirements and use cases and dashboards for process mining in medium-sized energy providers will be developed. As the ultimate outcome of the project, a functional demonstrator system is to be created, which, with the necessary adjustments to individual use cases, companies in the utility sector can use it to implement their own process mining endeavors. The research is overseen by two doctoral students who have recently started their work. They will receive practical support from a medium-sized energy provider in South Westphalia and a medium-sized IT service provider.

PUBLICATION AT ICIS 2023, HYDERABAD INDIA

We are excited to announce the publication of our research paper entitled "How do Organizations react to Unintended Affordances? An Ethnography in Healthcare" at the International Conference on Information Systems 2023 *(ICIS 2023)*. This paper represents the culmination of a joint research project conducted by Prof. Dr. Ralf Plattfaut, Carolin Vollenberg, and Prof. Dr. André Coners. The research project spanned two years and took place in a prominent German hospital. The paper explores the intricate relationship between organizations and unintended affordances that emerge. Misalignment between processes and organizational or individual goals can lead to unintended work practices. Users may actualize affordances that the artifact designer did not intend. Unintended affordances are those unforeseen uses or functionalities of technologies and processes that can significantly impact healthcare organizations. By delving into this phenomenon through ethnographic research, our study contributes valuable insights into how organizations react and adapt to these unintended affordances. Publication of this paper at the International Conference on Information Systems 2023 marks a significant milestone in our research journey.

NETWORK ACTIVITIES

18. Internationale Tagung Wirtschaftsinformatik

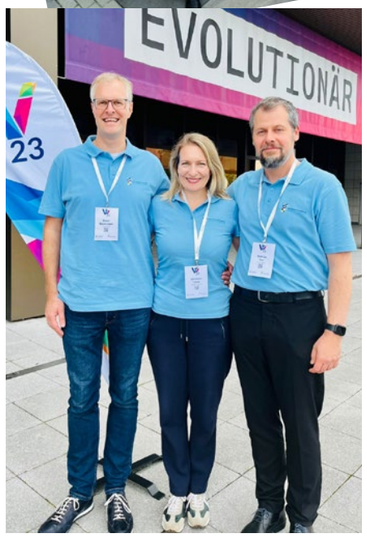
18.-21. September 2023, Universität Paderborn

18TH INTERNATIONAL CONFERENCE ON WIRTSCHAFTSINFORMATIK *(WI23)* IN PADERBORN

Setting the course together for a responsible digital future: The increasing spread of digital technologies has improved our lives in many ways, but the tremendous impact of these technologies also comes with great responsibility. At the 18th International Conference on Wirtschaftsinformatik *(Wi23)* in September 2023, 556 experts discussed how we can shape digital transformation responsibly. The WI is the premier IS conference in the German-speaking region.

Digital Responsibility guides the design and use of information systems in line with values and norms beyond the legal minimum. We performed a Delphi study to identify the properties and implications of implementing this idea. In his keynote speech, Michael Rosemann *(QUT)* proposed "learning from the future" to develop responsible innovations. Matthias Voigt *(Westfalen AG)* presented first-hand experience on a CIO panel. We hosted the first on-premise WI conference past COVID-19 and conducted extensive social activities to re-unity our community.

The Department of Information Systems at Paderborn University hosted Wi23. Many ERCIS colleagues attended the conference and served as track chairs, associate editors, or reviewers. Christiane Lehrer *(CBS)*, Daniel Beverungen, and Matthias Trier *(Paderborn University)* served as a program committee.



JOINT APPLICATION FOR AN EU DOCTORAL NETWORK ON DATA SPACES

EU Doctoral Network Application – Core Participants at ECIS 2023

Data spaces are part of a vision of designing digital interactions based on federated infrastructures that provide open spaces for the engagement of citizens, public institutions, and organizations. They point beyond current digital platforms owned and managed by one central actor that controls all interactions on the platform, sometimes at the expense of other stakeholders.

Building on the established cooperation structures in the ERCIS network, we apply for an EU Doctoral Network that focuses on understanding the emergence and facilitating the design of public dataspaces, guided by the principles of digital responsibility. Our consortium brings together our ERCIS partners from Paderborn, Galway, Kristiansand, Maribor, and Rome, as well as Delft University, all integrating their expertise to train PhD students to lay conceptual foundations, identify designing principles, and develop IT artifacts for public dataspaces.

With this doctoral network, we develop a cutting-edge environment to train postgraduate students on designing public data spaces for sustainable actor engagement. The students will attend a series of online courses that will teach them to perform their work in line with the highest scientific standards while combining their points of view with complementary perspectives on the phenomenon.

Colloquium Digital Platforms at LUISS

POST-COVID RESEARCH COLLOQUIUM ON "DIGITAL PLATFORMS" @ LUISS

From 26th to 29th October 2022, the chair of Daniel Beverungen visited Paolo Spagnoletti and his colleagues at the LUISS Business School in Rome. At a research colloquium, we discussed our latest findings and research projects on digital platforms. We were particularly excited to discuss our latest insights on different platform types, using public data spaces, acquiring knowledge through data mining, or creating value in platform ecosystems. We learned a lot from this exchange and received helpful research feedback.

In addition, we presented and discussed the current research projects from either side, leading us to various funding formats as initial ideas for starting joint research projects. In the meantime, this exchange of ideas has led us to develop an application for an EU Doctoral Network on Digital Platforms. From a social point of view, everyone enjoyed the intensive professional exchange and the international perspective. As a post-COVID-19 activity, visiting Rome was also a highlight for team building and networking, which we consider essential for succeeding in research and teaching.

RESEARCH SEMINAR PRIME INVITING ALESSIO BRACCINI TO PADERBORN

As part of the PRIME research seminar, the Department of Information Systems invites leading experts and promising young researchers to Paderborn University. In May 2023, we welcomed Alessio Braccini to Paderborn for a presentation on "When to Open or Not? The Role of Digital Technologies in Open Organising". Interacting in the seminar and a couple of social activities we performed was exciting and fun. After all, we find that this engaging interaction is the lifeblood of our network! And do you know the most striking commonality of the cities of Rome and Paderborn *(ask any of us in case you don't)*.

NETWORK ACTIVITIES

RESEARCH PROJECT ON BOTTOM-UP PROCESS INNOVATION WITH WORKAROUNDS *(ChangeWorkAROUND)*

Workarounds are goal-driven deviations from standard operating procedures that employees perform to resolve perceived constraints at work, cope with a perceived poor task-technology fit, and improve effectiveness. The extant research, mainly concerning Business Process Management and Organization Science, has just started exploring the complex role of workarounds in organizations. Likewise, few companies manage to translate workarounds into official process innovation, leaving their potential unexploited.

In our project ChangeWorkAROUND, which is funded by the German Federal Ministry of Education and Research *(BMBF)*, we design new data-based methods for identifying and evaluating workarounds based on digital process data, methods for strategic contextualization and evaluation of agile process innovations as well as methods for change and culture management of the process organization. ERCIS Adisory Board member Viadee designs data-driven approaches for identifying and evaluating workarounds. Three industrial companies – including Westfalen AG – prototype our methods to identify, analyze, and assess workarounds in a structured manner and to use them to create agile process innovations.

With this project, we follow up on recent publications on the diffusion of workarounds in organizations, developing concrete methods and tools that companies can apply to innovate their processes in an agile approach.

BEST PAPER AWARD FOR RESEARCH ON DECEPTIVE AI EXPLANATIONS

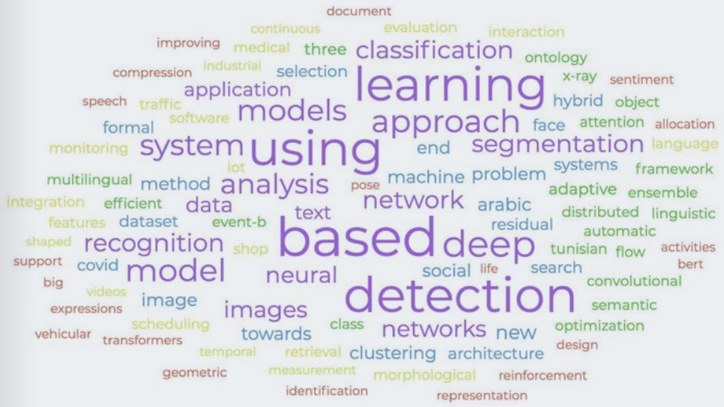
Johannes Schneider, Rene Abraham, Jan vom Brocke *(University of Liechtenstein)* and Christian Meske *(Ruhr-Universität Bochum)* have received the Best Paper Award for their article "Deceptive AI Explanations: Creation and Detection" at the 14th International Conference on Agents and Artificial Intelligence *(ICAART) (CORE Ranking B)*.

Artificial intelligence *(AI)* comes with great opportunities but can also pose significant risks. Automatically generated explanations for decisions can increase transparency and foster trust, especially for systems based on automated predictions by AI models. However, given, e.g., economic incentives to create dishonest AI, to what extent can we trust explanations? To address this issue, their work investigates how AI models *(i.e., deep learning, and existing instruments to increase transparency regarding AI decisions)* can be used to create and detect deceptive explanations.

Reference: *Schneider, J., Abraham, R., Meske, C. and Vom Brocke, J. (2022).* Artificial Intelligence Governance for Businesses. Information Systems Management, 40 (3), pp. 229–249.

SSAI Socio-technical System Design and Artificial Intelligence

15TH INTERNATIONAL CONFERENCE ON COMPUTATIONAL COLLECTIVE INTELLIGENCE *(ICCCI 2023)*, 27–29 SEPTEMBER 2023, BUDAPEST, HUNGARY



WUST Keywords cloud

Category B in the 2023 CORE conference rankings

The 15th edition of the ICCCI 2023 international scientific conference dedicated to collective computational intelligence was held on September 27–29. The event is co-organized by the Department of Applied Informatics at the Faculty of Information and Communication Technology together with the Hungarian Eötvös Loránd University *(ELTE)*.

The program included 122 papers that were presented during the conference and published in two volumes of the prestigious Springer series Lecture Notes in Artificial Intelligence and Communications in Computer and Information Science.

Collective computational intelligence is most often perceived as a branch of artificial intelligence dealing with soft computing methods that enable group knowledge processing and group decision-making by autonomous individuals operating in distributed environments. Web and mobile systems, social networks and multi-agent systems often require these types of tools for determining coherent knowledge, resolving conflicts, and making group decisions.

The ICCCI conference series is an important meeting place and exchange of views on scientific research on computational methods of collective intelligence and their applications in areas such as group decision-making, consensus processing, knowledge integration, semantic networks, social networks, and multi-agent systems.

Plenary lectures were delivered by professors: Loo Chu Kiong from the University Malaya, A.E. Eiben from Vrije Universiteit Amsterdam, Aleksander Byrski from the University of Science and Technology in Kraków and Diego Paez-Granados from ETH Zürich. The ICCCI conference has been awarded category B in the CORE rankings in 2021.

Wrocław University of Science and Technology

Aaron Leonard

Tiago Carvalho Lima ▸

ERCIS WELCOMES TWO NEW THIRD-GENERATION RESEARCHERS!

In 2023, the network extended again a warm welcome to a new cohort of earliest-stage researchers! In Münster, our Academic Director achieved the milestone of becoming a grandfather: Congratulations and a heartfelt welcome to Aaron Leonard, born on May 15th, 2023. Meanwhile, in Braga, Portugal, we celebrate the arrival of our second third-generation researcher. Thanks to the newest addition, Tiago Carvalho Lima, born on October 17th, our esteemed member João Alvaro Carvalho has also embraced the joys of grandfatherhood! Welcome to the network, and heartfelt congratulations to all!

NETWORK ACTIVITIES

INTER-INSTITUTIONAL PHD COURSE ON "RESEARCH METHODS IN INFORMATION SYSTEMS"

The inter-institutional PhD course on "Research Methods in Information Systems" is conducted across the University Alliance Ruhr, and in this case also between the ERCIS personal members Jens Pöppelbuß and Christian Meske from Ruhr University Bochum as well as Christian Janiesch from TU Dortmund. Further lecturers in this PhD course are Frederik Ahlemann, Simon Hensellek, Mario Nadj, Hannes Rothe, Reinhard Schütte and Manuel Wiesche.

Over a total of nine block sessions, the PhDs will gain a detailed overview of the breadth of research methods available in IS, including, for example, data and network analysis, grounded theory, literature review for theory development, qualitative comparative analysis, structural equation modeling, experimental studies and design science.

PARTICIPATION IN THE LADENBURGER DISKURS OF THE DAIMLER UND BENZ STIFTUNG ON "LEVERAGING AI FOR DECISION-MAKING IN MANAGEMENT"

AI is reshaping management decision-making across industries, predicting business challenges and enhancing service and product quality. Modern AI algorithms, fueled by data, computational power, and innovative techniques, emulate human judgment, automating key business decisions. The Ladenburger Diskurs emphasizes the role of cutting-edge AI technologies, like explainable AI and large language models, in guiding managerial choices. This initiative headed by Prof. Feuerriegel, LMU Munich, and seeks to bolster AI research in Germany, focusing on its integration in business decision-making. By advancing AI technologies and methodologies, the aim is to innovate business strategies and models.

Christian Janiesch, TU Dortmund University, talked about the "The cognitive toll of AI-based decision making" and Oliver Müller, Paderborn University, talked about "Diagnosing and Mitigating Shortcut Learning in ML-Based Research".

technische universität dortmund

ERCIS @ EMO 2023

The 12th International Conference on Evolutionary Multi-Criterion Optimization *(EMO)* has been hosted in March 20–24, 2023 by our ERCIS Partners at Leiden University. The general chairs – Michael Emmerich, André Deutz, and Hao Wang – organized a delightful five-day event in the center of Leiden, The Netherlands. For the first time since its establishment, the conference offered five keynotes and five tutorials, with ERCIS members contributing to both categories. Heike Trautmann *(formerly: University of Münster)* held an inspiring keynote on "Data Science: Statistics, and Optimization". Afterward, a team of ERCIS members – Christian Grimme *(University of Münster)*, Lennart Schäpermeier and Pascal Kerschke *(TU Dresden)*, gave a joint tutorial on the emerging topic of "Continuous Multimodal Multi-Objective Optimization". Finally, Lennart rounded out the ERCIS days at EMO by presenting a joint paper by all four previously mentioned researchers entitled "Peak-a-Boo! Generating Multi-Objective Multiple Peaks Benchmark Problems with Precise Pareto Sets".

KIbox RUHR UNIVERSITÄT BOCHUM RUB

KIBOX: SOLVING SUSTAINABLITY CHALLENGES THROUGH ARTIFICIAL INTELLIGENCE

At the Ruhr-Universität Bochum, the teams of the two ERCIS Personal Members Christian Meske and Jens Poeppelbuss jointly introduced a new course called "KIbox. Based on the Kickbox innovation process, interdisciplinary student teams develop AI-based solutions to support the United Nations Sustainable Development Goals *(SDGs)*. A newly designed kickbox *(the "KIbox")* with many helpful materials support them in the innovation process. Some of the students teams even continued their ideas beyond the course and are still active in developing their apps further and competing in start-up competitions. More information about the course can be found here: *www.kibox.rocks*. Together with more innovation management academics from the neighboring universities TU Dortmund and Universität Duisburg-Essen, we also teamed up as the Ruhr School of Design Thinking *(www.ruhrschool.de)* and organized events together where the students from various courses across all three universities pitched their ideas and gathered feedback.

NETWORK ACTIVITIES

ERCIS MEMBERS MEETING AT SCHLOSS DAGSTUHL

In June 2023, top researchers from around the world traveled to Saarland for a five-day Dagstuhl Seminar on “Challenges in Benchmarking Optimization Heuristics”. Schloss Dagstuhl is internationally well-known for its top-notch, invitation-only seminars that typically address trending computer science topics. This particular seminar was jointly organized by Anne Auger *(INRIA Saclay, France)*, Peter A.N. Bosman *(CWI Amsterdam, Netherlands)*, L. Darrell Whitley *(Colorado State University, USA)*, and ERCIS member Pascal Kerschke *(TU Dresden)*. The list of participants also included the names of four members of the ERCIS partner Leiden University: Thomas Bäck, Mike Preuss, Diederick Vermetten, and Hao Wang. Despite the seminar’s full schedule, which was packed with inspiring talks and stimulating breakout sessions, the participants also enjoyed the time they had for socializing and networking – possibly leading to new joint projects.

SCHLOSS DAGSTUHL
Leibniz-Zentrum für Informatik

In particular, Pascal Kerschke and Thomas Bäck were able to deepen some of these conversations as they met again at two subsequent Dagstuhl seminars on "Synergizing Theory and Practice of Automated Algorithm Design for Optimization" *(in August 2023)*.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0 20:00 Welcome Drink / Dinner	1 **Theme: Digital Strategies in Wine Industries** 09:00 Welcome Ceremony 09:30 Overview of Digital business strategies 10:30 Coffee Break 11:00 Measuring the success of adopted Digital Strategies 13:00 Lunch 15:00 Digital transformation challenges of Wine Production 20:00 Dinner	2 **Theme: Smart Wine Industry** 09:30 IoT and Digital Twins 10:30 Coffee Break 11:00 AI systems in smart production 13:00 Lunch 15:00 Digital marketing and consumer experience 17:30 Coffee Break 18:00 Co-Creation and open innovation 20:00 Dinner	3 09:00 Visit to Green Wine Producers in the Demarcated Region of Vinho Verde	4 **Theme: The Innovation Challenges of the Green Wine Industry** 09:00 Presentation of Grand Challenges 10:00 Coffee Break 11:00 Distribution of problems for co-creation of solutions 13:00 Lunch 15:00 Co-creation session - Part A 17:30 Coffee Break 18:00 Co-creation session - Part B 20:00 Dinner	5 **Theme: Brainstorming solutions to innovation challenges** 09:30 Group Work - Finalization of Projects 1 10:30 Coffee Break 11:00 Group Work - Finalization of Projects 2 13:00 Lunch 15:00 Presentation of developed solutions 17:30 Coffee Break 18:00 Open session for discussion of solutions 20:00 Dinner	6 09:00 Social activity 12:00 Handout of Participation Certificates 12:30 Departure

SUMMER SCHOOL “DIGITAL TRANSFORMATION OF THE WINE INDUSTRY”

In September, the first Zoom meeting *(Niels Garmann-Johnsen – UiA, Stefano Za - Unich, Isabel Ramos – UMinho)* was held to prepare the summer school aimed at master's students and focused on the digital transformation of the wine industry. A draft program was developed and will be refined through contacts with industry companies to tailor the training to their needs. The first edition will take place in Portugal in 2024, promoted by the University of Minho. The second edition will be held in 2025 at the University of Pescara in Italy.

In early October, the opportunity arose to link this summer school to the implementation of the hackathon within the CoDeAI project, involving the participation of that project's consortium in the initiative. Currently, this possibility is being incorporated into the initial plans. Below is the draft program for the summer school.

In January 2023, we organized our annual winter school – called the Ski Seminar – which already exists since the beginning of ERCIS. The seminar was a co-operation of the University of Koblenz and the ERCIS Headquarters. In the seminar, graduate and undergraduate students were presenting their results of seminars of different topics that were held during the winter term 2022/23 at the two universities. As a social event, we offered skiing in the Austrian Alps in the ski resort of Kleinwalsertal/Oberstdorf. This year’s seminar topics were “University-of-Things”, “Machine Learning & Predictive Process Monitoring”, “Machine Learning with Chemical Data”, and “Fairness & Discrimination”. The picture shows our location – a mountain chalet in the middle of the ski area.

UNIVERSITÄTS KLINIKUM HEIDELBERG

HEIDELBERG SPRING SYMPOSIUM ON MEDICAL INFORMATICS – MEDICAL INFORMATION SYSTEMS FOR INNOVATIVE RESEARCH AND CARE

In medicine, information systems are an important basis for excellent patient care and research. Digital medicine can only be successfully implemented if very good information systems are available. Today, however, efficient use is often still hampered by insufficient high-quality structured data. In 2021, the Institute for Medical Informatics *(IMI)* was founded at Heidelberg University Hospital. The research focus of the institute is information systems in medicine, especially the topic of structured patient data. Collaboration with European experts in this field shall be fostered, in particular through th ERCIS network. The main topic of the event were information systems for the digitalization of medicine. The event took place on May 17, 2023 from 12.00 – 16.00 as a hybrid event in the Marsilius-Arkaden at Heidelberg University Hospital. May 8, 2024 the next Heidelberg Spring Symposium on Medical Informatics is planned *(ukhd.de/mi-symposium-en)*.

NETWORK ACTIVITIES

RESEARCH COLLABORATION IE BUSINESS SCHOOL – UNIVERSITY "G. D'ANNUNZIO" OF CHIETI-PESCARA

Prof. Alvaro Arenas from IE Business School continued research collaboration with Prof. Stefano Za from University "G. d'Annunzio" of Chieti-Pescara. Prof. Arenas visited University of Chieti-Pescara from May until July 2023, imparting a research seminar on information systems to students from the PhD in Accounting, Management and Business Economics. The main topic of the collaboration has been "bias in artificial intelligence". As part of this collaboration, Marco Smacchia, PhD student from University of Chieti-Pescara, is visiting IE Business School from July until December 2023. Initial results of this collaboration include an article on bias in AI-based translator tools presented at ItAIS 2023, the XX Conference of the Italian Chapter of AIS.

CoDeAI PROJECT – *https://codeai-project.eu/*

Collaborative Development of AI capabilities

Large Enterprises already built AI capabilities and benefit from improved business processes and new data-driven business models. Micro, small and medium-sized enterprises *(SMEs)* are lagging as they cannot build the required AI capabilities, having huge impacts on their innovation power and thus future prospects. Therefore, it is essential that students, as possible future employees or founders of SMEs, are already educated with AI capabilities. To this direction, CoDeAI project will encourage the use of simulation-based learning strategies in universities, thus reducing the gap that still exists in connecting theory and practice and meeting the demands of a student population that increasingly uses digital environments to learn and communicate.

CoDeAI: aims at extending higher education institutions *(HEIs)* curricula by an AI capability perspective will help to bridge the innovation gap between higher education and businesses and foster collaboration between HEIs will equip universities with knowledge and important tools to design learning programs aimed to identify and teach skills directly relevant for the job market to their students will develop tools, which will help with training and innovation in SMEs.

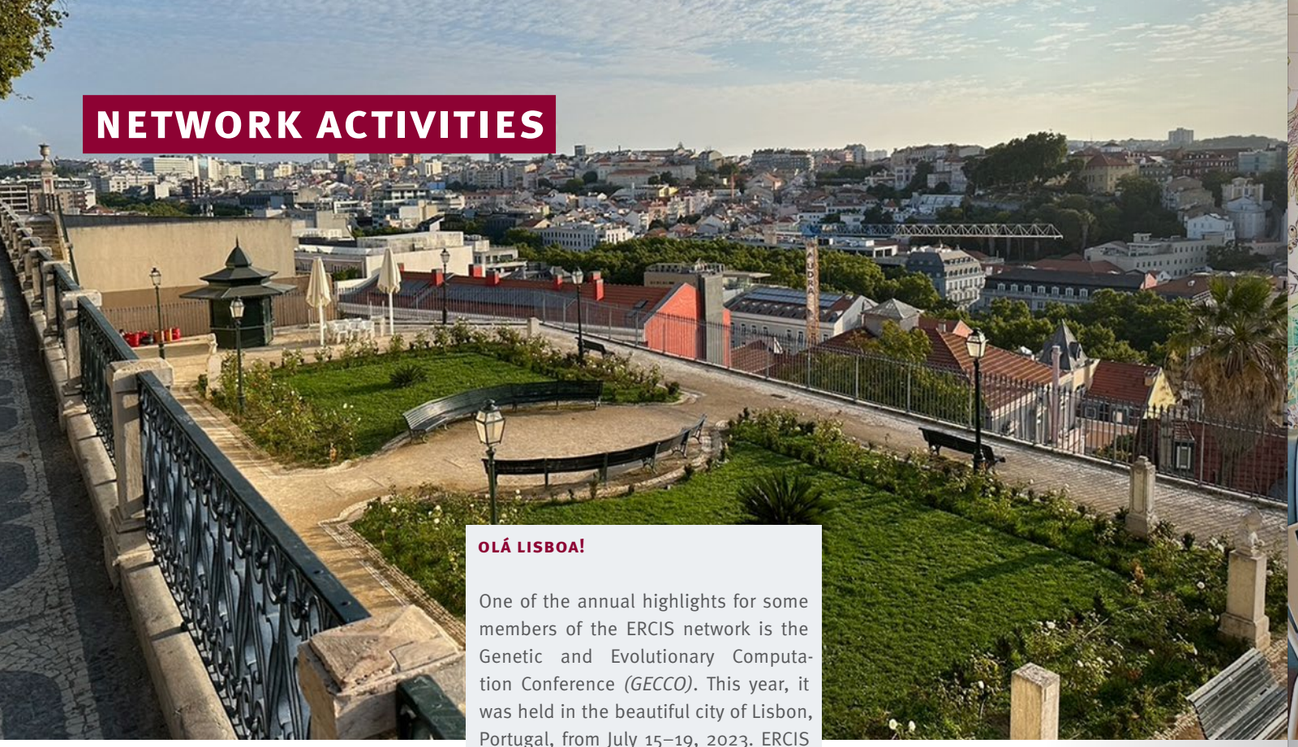
The project is coordinated by the University of Graz *(Austria)* and involves the participation of the University of Minho *(Portugal)* and the University of Muenster *(Germany)* as partners and members of the ERCIS.

RUI JOSÉ VISITING THE UNIVERSITY OF MÜNSTER

In January 2023, Rui José, an Associate Professor in the Department of Information Systems at the School of Engineering, University of Minho, conducted a research stay at the Department of Information Systems, University of Münster. Throughout his time in Münster, Rui delivered an insightful presentation at the ERCIS Lunchtime Seminar titled "New Innovation Paradigms for Networked Urban Ecosystems."

University of Minho
School of Engineering

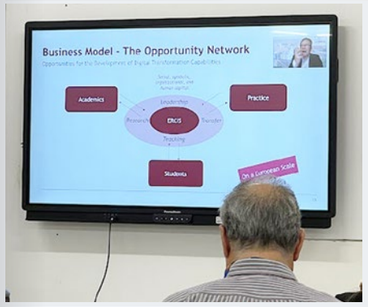
NETWORK ACTIVITIES



OLÁ LISBOA!

One of the annual highlights for some members of the ERCIS network is the Genetic and Evolutionary Computation Conference *(GECCO)*. This year, it was held in the beautiful city of Lisbon, Portugal, from July 15–19, 2023. ERCIS members, particularly researchers from Leiden University, University of Münster, and TU Dresden, actively contributed to the conference in various ways. On the first day of the conference, Mike Preuss *(Leiden University)* and Pascal Kerschke *(TU Dresden)* gave a joint tutorial on "Exploratory Landscape Analysis". On Sunday, the two also co-organized a workshop on "Good Benchmarking Practices for Evolutionary Computation", which was also supported by a member of another ERCIS partner, Thomas Bäck *(Leiden University)*, who contributed an enlightening talk on "Reflections on Mixed-Integer Global Optimization". Later in the week, Lennart Schäpermeier *(TU Dresden)* presented the joint work of him, his supervisor Pascal Kerschke, and Christian Grimme *(University of Münster)* on "Plotting Impossible? Surveying Visualization Methods for Continuous Multi-Objective Benchmark Problems".

Big Data Analytics in Transportation @TU Dresden



University of Minho
School of Engineering

ERCIS AS ROLE MODEL FOR THE PORTUGUESE INFORMATION SYSTEMS COMMUNITY

Armin Stein, at the invitation of Isabel Ramos from the University of Minho, Portugal, attended the CAPSI2023 conference in Beja, Portugal. CAPSI2023 marks the 23rd Conference of the Portuguese Association for Information Systems. The aim of this meeting was to offer inspiration to the Portuguese Information Systems Community from an international network's perspective and to share best practices for collaborating with industry. Armin provided an on-site introduction to the ERCIS network, followed by Jan's virtual presentation of his vision. The presentation sparked engaging discussions, and we anticipate that it will yield tangible results in the coming years.

Universität Münster

NETWORK ACTIVITIES

'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 Potsdam *(Stefan Stieglitz)*, the University of Agder *(Tim A. Majchrzak)*, the Queensland University of Technology *(Axel Bruns, Jean Burgess)*, the 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.

PUBLICATIONS

Preßler, D., Marx, J., Bunker, D., Stieglitz, S. & Fischbach, K. (2023). Social Media Information Governance in Multi-Level Organizations: How Humanitarian Organizations Accrue Social Capital. Information & Management *(I&M)*.

Mirbabaie, M., Stieglitz, S. & Marx, J. (2023). Negative Word of Mouth On Social Media: A Case Study of Deutsche Bahn's Accountability Management. Schmalenbach Journal of Business Research *(SBUR)*, 75, 99–117.

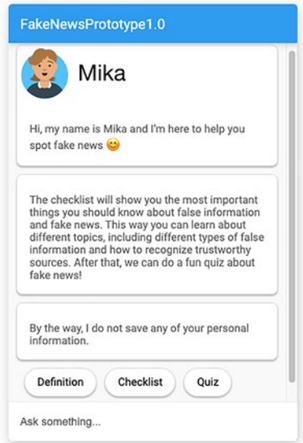
ERASMUS+ PROJECT: DEVELOPING PROCESS MINING CAPABILITIES AT THE ENTERPRISE LEVEL

Together with the University of Bayreuth and the Vienna University of Economics and Business, the University of Liechtenstein is collaborating on the Erasmus+ funded project "Developing Process Mining Capabilities at the Enterprise Level." Process mining is a rapidly growing technology that deals with managing and enhancing business processes. The potentials of process mining are vast and the market is anticipated to grow tenfold within the next ten years. However, there is a lack of knowledge regarding how to implement, utilize, and manage this digital technology.

Our work intends to support practitioners, and future students, in understanding, estimating, and managing the implications of process mining. We are among the first to point out the importance of developing process mining capabilities, and we contribute to the field by providing a conceptualization of such process mining capabilities. Given the importance attached to process mining in organizations, and the important question of how organizations can benefit from process mining, we also expect our findings to be widely adopted in practice. To this end, we join recent calls for a better understanding of the managerial and organizational aspects of process mining and contribute to the discourse on the adoption and use of process mining in organizations.

ECIS 2023 PUBLICATION: FIGHTING FALSE INFORMATION – DESIGNING A CONVERSATIONAL AGENT FOR PUBLIC SECTOR ORGANIZATIONS

As part of the RISE_SMA project partners from the University of Potsdam and the University of Duisburg-Essen utilized design science research to examine how conversational agents could be designed in order to assist public sector organizations in fighting the spread of false information online. For this purpose, a workshop with RISE_SMA partners from the municipality of Kristiansand, Norway was conducted to define objectives that a conversational agent would have to meet to address the challenges of false information to public sector organizations. Such challenges stem from digital transformation and could be for example posed by the dissemination of false information in social media which leads to uncertainty among citizens and decreases trust in the public sector. Conversational agents are already being successfully deployed by public sector organizations for tasks such as communication with citizens and supporting the delivery of digital services. Therefore, in order to identify these challenges within this workshop a conversational agent prototype was developed which was evaluated in two iterations with the municipality and students from the RISE_SMA partner the University of Agder, Norway. The results of this research are published as a research-in-progress paper and were presented to a scientific audience at the European Conference on Information Systems *(ECIS)* in Kristiansand, Norway in 2023.



WORKSHOP ON BEST PRACTICES AND CHALLENGES IN DSR EDUCATION AT DESRIST 2023

After starting the ERASMUS+ project "Design Science Research Academy" virtually together with researchers from the University of Liechtenstein, the University of St. Gallen, the University of Jyvaskyla, and the University of Münster we were finallyable to meet on-site at the 18th International Conference on Design Science Research in Information Systems and Technology *(DESRIST)* at the University of Pretoria in South Africa. This gave us the opportunity to plan the first milestones and to discuss our next tasks.

We were very excited that our workshop "Best Practices and Challenges in DSR Education" was accepted for the conference, and we had an inspiring exchange about experiences in teaching and participation in DSR courses with about 30 participants on site. In the interactive workshop, we worked in groups to identify best practices, challenges, and recommendations for successful DSR courses. Prof. Dr. Jan vom Brocke's keynote on "A Proficiency Model for Design Science Research Education" concluded the workshop. If you are interested in participating or sharing your experiences in teaching DSR, please find more information about the project activities on our project website *(https://dsr-academy.de/)* and contact us.

PUBLICATIONS

Kocur, Alexander; Clausen, Sünje; Hofeditz, Lennart; Brünker, Felix; Fromm, Jennifer; and Stieglitz, Stefan, (2023). "FIGHTING FALSE INFORMATION – DESIGNING A CONVERSATIONAL AGENT FOR PUBLIC SECTOR ORGANIZATIONS". ECIS 2023 Research-in-Progress Papers. 65.
https://aisel.aisnet.org/ecis2023_rip/65

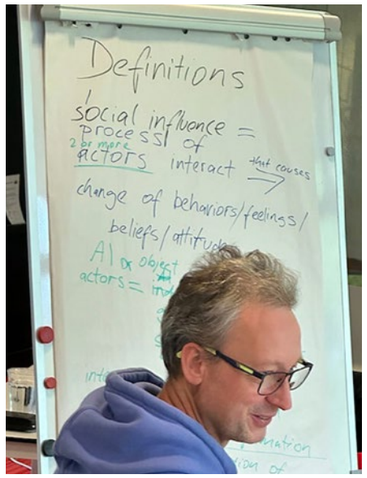
NETWORK ACTIVITIES

LORENTZ CENTER WORKSHOP ON SOCIAL INFLUENCE ANALYSIS

The workshop took place in Leiden, NL, September 25–29. The organizer team solely consisted of ERCIS partners, i.e. University of Münster *(GE)*, University of Twente *(NL)*, Leiden University *(NL)*, Wroclaw University of Science and Technology *(PL)*. It mainly addressed the following aspects:

How does sociopolitical polarization emerge on social networks? What are the factors contributing to *(dis)*information diffusion, hate speech, and the spread of radical content? Central to these urgent societal phenomena is a concept of social influence.

The workshop specifically aimed at building bridges between different research communities in terms of reaching a common understanding and multidisciplinary view on Social Influence Analysis, ranging from computer science, marketing, mathematics, information systems, to social and communication science. Highly recognized international experts gave keynote talks fostering interdisciplinary and fruitful discussions. State-of-the art research in the participating disciplines was summarized and promising joint research as well as funding opportunities could be identified.



SELF-ORGANIZING MAPS FOR DATA PURCHASE SUPPORT IN DATA MARKETPLACES

Data marketplaces have become popular in recent years, in particular for enterprises who want to enrich their own data with novel data from outside in order to improve their decision-making. A data marketplace is a platform that brings together data producers and data consumers; the platform itself provides the necessary infrastructure. Since producers want to maximize their revenue, while consumers want to minimize their spending, data pricing is among the central problems for a data marketplace. In this paper Denis Martins and Gottfried Vossen have investigated an approach in which the amount of data purchased is potentially minimized due to an indication of redundancy within the data or similarities between parts of the data. It is generally difficult for a buyer to decide whether all or just parts of the available data should be paid for. The approach described utilizes Self-Organizing Maps *(SOM)*, an early form of unsupervised neural networks introduced by Kohonen for automatic data analysis and visualization. Its inspiration is derived from the structural behavior of the cerebral cortex, in which neurons located at specific regions form groups to react together to a particular type of stimuli, such as visual or auditory. The paper shows how the SOM concept can be used to support a purchase decision.

D. Martins, G. Vossen: Self-Organizing Maps for Data Purchase Support in Data Marketplaces; in Proc. 15th International Conference on Computational Collective Intelligence *(ICCCI)* 2023, LNCS 14162, Budapest, Hungary, 43–55.

The paper received the Best Paper Award of ICCCI 2023.

NETWORK ACTIVITIES

Prof. Tatiana Bouzdine-Chameeva

Prof. Olivier Dupouet

KEDGE BUSINESS SCHOOL – CURRENT RESEARCH PROJECTS

1) Analysis of quantum computing development using dynamic communities' detection and topic modelling

This study aims to explore the interplay between community dynamics and knowledge production using the quantum computing research field as a case study. Quantum computing holds the promise of dramatically increasing computation speed and solving problems that are currently unsolvable in a short space of time. In this highly dynamic area of innovation, computer companies, research laboratories and governments are racing to develop the field.

Contact: Olivier Dupouet
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2) SMART CITY LOGISCTICS – In partnership with group LA POSTE – Tomorrow's urbain logistics

Conception of new logistics decision-making models, inspired by Hyperconected scenarios, allowing to achieve ecological and operational efficiency in line with the service level expected in the future.

- Hyperconnected city delivery *(inspired by the Physical Internet representing the combination of digital transportation networks that are deploying to replace actual road networks)* with an objective to study, 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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3) VitiREV – Innovons pour des territoires VITIcoles Respectueux de l'EnVironnement

The second stage of the project VitiREV *(2023–2026)* financed by the French government involves more than one hundred professional, institutional and academic partners, and focuses on the sustainability in wine sector *(including logistics and wine tourism)*. The innovative approaches including virtual and augmented reality for wine tours, original NTIC social media innovative tools and the analysis of the impact of auditory involvement and the impact *(text, music, sounds of natures, noise)* aim to enhance wine tourism practices and experiences.

Contact: Tatiana Bouzdine-Chameeva
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SELECTED PUBLICATIONS:

FERRADA, F., F. BABONNEAU, T. HOMEM-DE-MELLO, F. JALIL-VEGA, "Energy planning policies for residential and commercial sectors under ambitious global and local emissions objectives: A Chilean case study", Journal of Cleaner Production, 2022, vol. 350.

GRIMM, J. H., J. HOFSTETTER, J. SARKIS, "Corporate sustainability standards in multi-tier supply chains – an institutional entrepreneurship perspective", International Journal of Production Research, 2023, vol. 61(14)

DUPOUËT, O., Y. PITARCH, M. FERRU, B. BARNELA, "Community dynamics and knowledge production: Forty years of research in quantum computing", Journal of Knowledge Management, 2023

DUPOUËT, O., P. COHENDET, R. RAMPA, R. NAGGAR, L. SIMON, "The relationship between 'creative slack' as an intangible asset and the innovative capabilities of the firm" , International Journal of Technology Management, 2023

CRESPIN MAZET, F., O. DUPOUËT, K. GOGLIO, M. NEUKAM, "Harnessing Internal Communities: the role of intermediary structures", Management International, 2023

PONSIGNON, F., M. AMIRI AREF, R. LUNARDO, T. BOUZDINE-CHAMEEVA, "Assisting visitor path creation in experiential tourist attractions", Tourism Management Perspectives, 2023, vol. 49.

EL MOKRINI, A., T. AOUAM, N. KAFA, "A tailored aggregation strategy for inventory pooling in healthcare: Evidence from an emerging market", Operations Management Research, 2023, vol. 16.

BABONNEAU, F., A. BADRAN, A. HAURIE, M. SCHENCKERY, M. VIELLE, "GCC Countries Strategic Options in a Global Transition to Zero-Net Emissions", Environmental Modeling and Assessment, 2023

2023 ERCIS MASTER THESIS AWARD: ERIC AMANN, UNIVERSITY OF KOBLENZ

This year, the ERCIS network proudly presented the second ERCIS Master Thesis Award during the European Conference on Information Systems *(ECIS)* at our esteemed partner university in Kristiansand, Norway.

The committee acknowledges with emphasis that all the submissions were, once again, invaluable contributions to the body of knowledge within our Information Systems field, offering diverse perspectives on our extensive research field. These submissions exemplify the commendable work carried out by students and faculty across participating institutions, instilling a sense of pride in the accomplishments of our network's graduates.

Ultimately, the committee decided to bestow the 2nd ERCIS Master Thesis Award upon Eric Amann of the University of Koblenz, Germany, for his outstanding thesis titled "Prototyping of a Predictive Process Monitoring Dashboard."

The committee's laudation for the thesis is as follows: "The thesis adeptly addresses a highly relevant problem within the Information Systems discipline, specifically in the field of Business Process Management. The design-oriented research approach, coupled with meticulously applied requirements engineering methods, includes a comprehensive literature review and in-depth interviews. Furthermore, the implementation is not only clean and well-documented but also demonstrates a keen attention to detail. In summary, the thesis stands as an exemplary artifact of Information Systems research."

The award showcased two other highly competitive runner-ups, leading to a robust discussion about the winner. The committee extends special mentions to both authors:

Thomas Balbach, KU Leuven, Belgium, for the thesis "Does Official Language Proficiency Lead to Bureaucratic Discrimination of Cross-Border Citizens? A Correspondence Experiment in Germany."

Janina Lütke Stockdiek, University of Münster, Germany, for the thesis "Using Language Models for Benchmarking Manipulation Detection in Social Media."

RESEARCH CLUSTER

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.

RESEARCH CLUSTER

DATA SCIENCE AND ARTIFICIAL INTELLIGENCE

DIGITAL PUBLIC SERVICES

KNOWLEDGE AND LEARNING

PROCESS SCIENCE

SMART MANUFACTURING

ERCIS

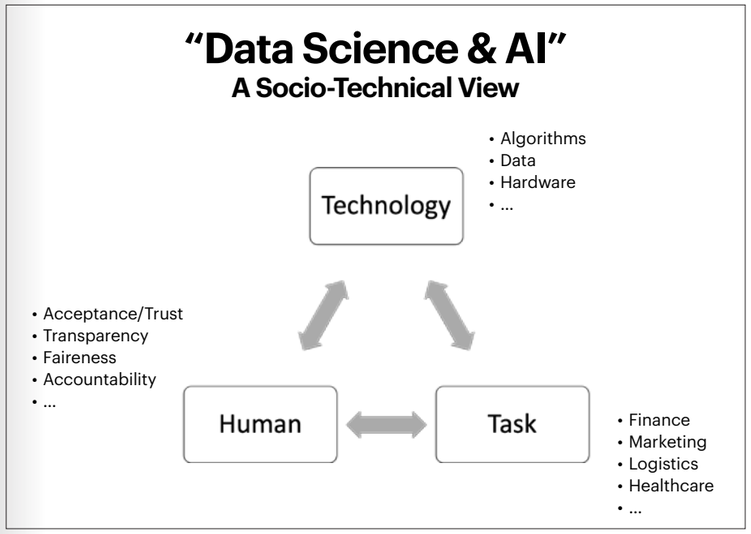
DATA SCIENCE AND ARTIFICIAL INTELLIGENCE

DATA SCIENCE AND ARTIFICIAL INTELLIGENCE CLUSTER

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 how business, government, and science are carried out. Many people believe that AI will bring forth changes that will be much more profound than any other technological revolution in human history.

In the Information Systems discipline, humans and their interaction with technology are traditionally an important topic. We believe that this angle is also relevant for enabling real-world use of Artificial Intelligence, especially in the context of AI safety aspects or ethical problems. Therefore, the mission of the ERCIS "Data Science & AI"

In the past year, members of the cluster were involved in organizing various conferences and workshops centered on the topics of data science, AI, and related themes, ranging from international events with thousands of participants to smaller regional or domain-specific gatherings. In the coming year, we will run the first ERCIS Data Science Winter School and plan to start a virtual series with research talks.



In 2023, the emergence of generative AI has hit the headlines. Novel AI-based assistants can now generate elaborate texts, high-end images, or even program code. However, there are also risks associated with algorithmic decision-making and autonomous AI systems. They may be used for steering complex hacking activities, or autonomous weapon systems, or decide wrongly according to unknown biases in the data.

cluster is to advance research, education, and practice on human-centered data science and AI to augment human capabilities and improve societal well-being. We explicitly take a socio-technical perspective on data science & AI, focusing on the intersection of technologies, humans, and tasks.

The cluster Data Science and Artificial Intelligence is headed by:

OLIVER MÜLLER is a professor of Management Information Systems and Data Analytics at Paderborn University. His research interests focus on data-driven judgment and decision-making. This includes the design and use of machine learning solutions for supporting human judgment and decision-making, with a particular focus on the computational analysis of unstructured data (e.g., texts, images), as well as studying the acceptance and implications of data-driven decision-making in organizations.

MIKE PREUSS is an associate professor at LIACS, the Computer Science department of Leiden University. He works in AI, namely game AI, natural computing, and social media computing. He is well known for his works in evolutionary optimization, experimental methodology, and the pioneering drug discovery by means of an AlphaGo-inspired method.

RESEARCH CLUSTER

KNOWLEDGE AND LEARNING

KNOWLEDGE AND LEARNING CLUSTER

The Knowledge and Learning *(K&L)* cluster within ERCIS encompasses a diverse spectrum of academic interests, spanning the domains of Knowledge Management, Teaching, Learning, Education, and related areas. Initially, this cluster was positioned "between" the other four clusters, reflecting its comprehensive scope. In a similar vein, when ERCIS members were asked to align their research interests with clusters, each member invariably included the K&L cluster.

The K&L cluster represents a unique entity within the ERCIS clusters, presenting a distinctive challenge in terms of its contribution to the ERCIS community. Given the malleable and evolving nature of cluster roles, it is prudent to approach its definition with circumspection. Thus, it is advisable to avoid articulating a stringent vision that might unduly favor perspectives on the meaning of knowledge and learning within the ERCIS community.

Hence, the initial vision for the K&L cluster is conceived as a navigational tool, akin to a "rose of the winds," for those venturing into the vast ocean of knowledge and learning. Positioned at the core of this metaphorical compass is knowledge and learning, which guides explorations in diverse directions within the academic landscape.

Additionally, the cluster aspires to evolve into a platform for knowledge exchange, where participants converge for mutual learning, whether in physical or virtual spaces. The cluster is envisioned as a catalyst for informal initiatives that require coordination, facilitation, cultivation, and nurturing. Its members will collectively determine pertinent subjects that warrant attention, aligning with their research interests.

THE PROPOSED ACTIVITIES OF THE CLUSTER INCLUDE:

- Mapping of research interests: The primary endeavor of the K&L cluster involves collaboratively constructing a map of academic interests centered around knowledge and learning. This mapping exercise will visually depict the extensive array of academic pursuits related to knowledge and learning. The process will encourage creativity through collaborative activities, such as knowledge cafes, with active engagement from the ERCIS community.

- Expanding knowledge: The cluster intends to encourage its members to orchestrate mini-tracks within selected conferences, focusing on K&L-related topics. These mini-tracks aim to contribute to a comprehensive understanding of knowledge and learning in the realm of information systems research.

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- Connecting with other ERCIS clusters: The cluster will actively pursue activities aimed at establishing connections with other clusters within ERCIS. Its members will assume the role of knowledge brokers, fostering cross-boundary initiatives that bridge common areas of interest with other clusters.

In summary, the K&L cluster seeks to serve as a versatile resource for navigating the expansive field of knowledge and learning, fostering knowledge exchange and connectivity with a commitment to inclusivity and adaptability within the ERCIS community.

PROCESS SCIENCE

PROCESS SCIENCE CLUSTER

Process science is an innovative field of science that intends to pull together contributions from various disciplines, such as computer science, management science and information systems, to better understand and develop 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 which evolves over time, occurs at various levels and constitutes a phenomenon of interest.

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 of 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 intervene in processes *(objective)*. Thereby, it embraces an interdisciplinary viewpoint, integrating contributions from various disciplines *(perspective)*.

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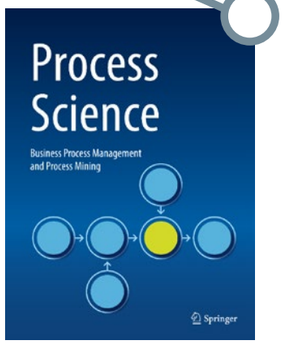

NEW JOURNAL ON PROCESS SCIENCE

With the involvement of the ERCIS cluster, a new journal called Process Science was established. Process Science is a joint effort of the steering committee of the BPM Conference and the IEEE Task Force on Process Mining. The aim of the journal is to publish high-quality scientific contributions that advance our understanding of processes and corresponding information systems. The journal is unique in its scope of equally embracing contributions that build on 1) formal and theoretical analysis, 2) engineering research, or 3) empirical research methods. It integrates technical and socio-technical discourses in data science, computer science and information systems research, as well as related research in management science, operations research, organization studies, psychology, and behavioural science. It is the mission of the journal to provide a service to the community and to authors. We offer a high-quality and well-managed single-blind peer review process with quick cycle times. Our ambition is to complete the first review round within one month. To this end, we work with bimonthly submission deadlines. Furthermore, we operate as a fully open access journal with transparent fees and opportunities for waivers. Boudewijn van Dongen and Jan Mendling serve as editors-in-chief.

KEY SOURCES

- The website of the new journal is here: *https://www.springer.com/journal/44311*

- The community paper on "Process Science: The Interdisciplinary Study of Continuous Change" is available online: *https://www.researchgate.net/publication/354380141_Process_Science_The_Interdisciplinary_Study_of_Continuous_Change*

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

RECENT PUBLICATIONS

Badakhshan, P., Wurm, B., Grisold, T., Geyer-Klingeberg, J., Mendling, J., vom Brocke, J. (2023). Creating Business Value with Process Mining. Journal of Strategic Information Systems.

Franzoi, S., Hartl, S., Grisold, T., vom Brocke, J. (2023). Explaining Change with Digital Trace Data: A Framework for Temporal Bracketing, 55th Hawaii International Conference on System Sciences *(HICSS 54)*, Hawaii.

Grisold, T., Kremser, W., Mendling, J., Recker, J., Brocke, J. vom, & Wurm, B. (2022). Keeping pace with the digital age: Envisioning information systems research as a platform. Journal of Information Technology.

Grisold, T., Wurm, B., vom Brocke, J., Kremser, W., Mendling, J., & Recker, J. (2022). Managing Process Dynamics in a Digital World: Integrating Business Process Management and Routine Dynamics in IS Curricula. Communications of the Association for Information Systems. 51.

Mendling, J. (2022): Advancing Business Process Science via the Co-evolution of Substantive and Methodological Knowledge. Proceedings of BPM 2022: 3–18.

RESEARCH CLUSTER

SMART MANUFACTURING

Cluster leads contact info:
PROF. ALESSIO MARIA BRACCINI
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SMART MANUFACTURING CLUSTER

In the ERCIS cluster "Smart Manufacturing", we exchange ideas on research how firms can use digital technologies in manufacturing in order to create new ways of providing customer value. We intend to connect the information systems discipline, which is at the heart of the ERCIS network, with adjacent disciplines such as operations management, mechanical engineering, computer science, and service research, which are also represented in the network. This way, we can benefit from the multiple perpectives that exist on the digital transformation of the manufacturing industry in Europe.

In 2023, we've organized online meetings and met personally at the ERCIS@ECIS reception in Kristiansand. We intensively discussed our research topics covering smart products and Industry 4.0, data analyics in supply chains, as well as new smart service value propostions 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 Poeppelbuss if you want to join this cluster.

HEADQUARTERS

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.

UNIVERSITY OF MÜNSTER
CHAIR FOR INFORMATION SYSTEMS AND INFORMATION MANAGEMENT

PROF. DR. DR. H.C. JÖRG BECKER
University of Münster

The University of Münster's Chair for Information Systems and Information Management, under the direction of Prof. Dr. Dr. h.c. Jörg Becker, currently consists of six postdoctoral researchers and nine research assistants.

Members of the Chair actively participate in research projects, receiving funding at both national and international levels. For an overview of these projects, please visit: *https://www.erc.is/go/cis_proj*. Our research findings are disseminated in renowned journals such as BISE *(Business & Information Systems Engineering)*, BPMJ *(Business Process Management Journal)*, Electronic Markets, EMISA *(Enterprise Modeling and Information Systems Architectures)*, ISeB *(Information Systems and e-Business Management)*, and GIQ *(Government Information Quarterly)*. We also present our research at esteemed conferences including ICIS *(International Conference on Information Systems)*, ECIS *(European Conference on Information Systems)*, ER *(International Conference on Conceptual Modeling)*, and HICSS *(Hawaii International Conference on System Sciences)*.

RESEARCH FOCUS

Conceptual modeling, in recent years, has become a leading method for describing, designing, and restructuring Information Systems. It is widely adopted in large corporations for tasks such as business process improvement, software deployment, and compliance management. Our research delves into the retail sector, with a focus on organizations and application systems in various domains, including wholesale, physical retail, and e-commerce. We address key issues pertaining to the interplay between organizational processes and application systems, emphasizing process management, conceptual modeling, and Enterprise Resource Planning *(ERP)* systems in the context of retail.

Smart Cities research focuses on leveraging advances in information and communication technologies to enhance the efficiency, information sharing, and service quality within four core aspects of a city: Retail, government, mobility, and energy. Our key area of interest centers on the development of integrated and configurable reference models for these city constituents, advancing both scientific knowledge and practical value in the pursuit of smarter cities. Additionally, we delve into the theory of digital sovereignty for citizens and its integration into these reference models.

E-Government constitutes another pivotal area of our research, examining administrative processes and services within governmental and inter-governmental organizations. We explore the interactions between these entities, citizens, and businesses through Information and Communication Technology *(ICT)*. Our work in E-Government combines strategic management with aspects of process management and economic sustainability, concentrating on both front-office and back-office operations. These topics are explored from content, technical, and conceptual perspectives.

CURRENT RESEARCH PROJECT

The DFG research group "Digital Medium-Sized City of the Future" *(FOR 5393)* investigates how medium-sized cities address the challenges of digitalization and develops digital tools to enhance their quality of life. This research group places a strong emphasis on four central structural areas in medium-sized cities: civil society and social services, government and administration, economy and energy, and education and culture. Prof. Becker, Dr. Distel, and Dr. Scholta from our Chair are actively involved in this project. To learn more about this research initiative, please visit: *https://www.digitale-mittelstadt-der-zukunft.de/*

SELECTED PUBLICATIONS

Please see *https://www.erc.is/go/cis_pub* for a complete list of publications.

Becker et al. (2023). City 5.0: Citizen Involvement in the Design of Future Cities. Electronic Markets, 33.

Chandra-Kruse, Bergener et al. (2023). Understanding the Digital Companions of Our Future Generation. Communications of the Association for Information Systems *(CAIS)*, 52.

Distel, Plattfaut, & Kregel (2023). How business process management culture supports digital innovation: a quantitative assessment. Business Process Management Journal, 29(5), 1352–1385.

► ***www.wi.uni-muenster.de/is***

UNIVERSITY OF MÜNSTER
DIGITAL INNOVATION AND THE PUBLIC SECTOR

PROF. DR. TOBIAS BRANDT
University of Münster

The Digital Innovation and the Public Sector *(DIPS)* group at the Department of Information Systems focuses on the impact of the digital transformation at the intersection of the public and private sectors with the civic society. Closely affiliated with the REACH start-up center of the university, we put a particular emphasis on the role of innovation and entrepreneurship in this context. Major current research streams of the group include the digital transformation of the public sector, data-driven improvement of urban services, emerging platform ecosystems in healthcare, and the intersection of IT strategy and sustainability.

PROJECTS

In 2023, we have continued working on our project Digital Innovation for Sustainable Development *(INNO4S)*, funded by the Ministry of Culture and Science of North Rhine-Westphalia, in which we create open educational resources in collaboration with the universities in Cologne and Paderborn. After developing an extensive teaching case on digital innovation and clean energy, the second case developed in the project will focus on responsible consumption and production. The full set of six teaching modules is expected to be released by the end of 2024.

In November, we also launched CURATE, a new Erasmus+ project coordinated by Haaga Helia in Helsinki and partners in Nice, Košice, and Innsbruck. CURATE will combine AI solutions related to the entrepreneurial process to develop an incubator program that will provide migrant students with a challenge-based platform to better meet their learning styles and provide transferable forward-looking skills.

DIGITAL INNOVATION & THE PUBLIC SECTOR

CONFERENCES

2023 was an active conference year for the group. In June, Niklas Korte presented work on "Crises as Drivers for Digital Innovation in the Public Sector: Insights from Covid-19" *(with L. Püchel and T. Brandt)* at ECIS in Kristiansand. Ann-Kathrin Meyer gave a talk on "Population Level Analysis of Urban Social Media Data" *(with T. Brandt)* at the INFOMS Annual Meeting in October and Shariga Sivanthan closed out the year by presenting work on "Building a Digital Platform Ecosystem for Elderly Care: Core vs. Portfolio" *(with T. Brandt)* at ICIS in December.

DIPS' Lea Püchel organized the First Conference on Sustainability & Data in collaboration with Cancan Wang from the IT-University Copenhagen. This virtual event explored the role of data in the pursuit of sustainable business practices, bringing perspectives from research and practice together.

JOURNAL PUBLICATIONS

Abdelwahed, A., van den Berg, P. L., Brandt, T., & Ketter, W. (2023). "Balancing convenience and sustainability in public transport through dynamic transit bus networks." Transportation Research Part C: Emerging Technologies, 151, article 104100.

Goby, N., Brandt, T., & Neumann, D. (2023). "Deep reinforcement learning with combinatorial actions spaces: An application to prescriptive maintenance." Computers and Industrial Engineering, 179, article 109165.

Püchel, L., Wellbrock, C., & Buschow, C. (2023). "Where Technology and Content Fuse: Applying Technology Acceptance to the Usage of and Payment for Digital Journalism." International Journal of Innovation and Technology Management, 20(02), article 2350006.

► ***https://www.wi.uni-muenster.de/department/dips***

UNIVERSITY OF MÜNSTER
CHAIR OF INFORMATION SYSTEMS AND BUSINESS PROCESS MANAGEMENT

PROF. DR. JAN VOM BROCKE
University of Münster

INTRODUCTION

The Chair of Information Systems and Business Process Management takes a distinct process view on the design, use and impact of information technology in organizations. We analyze processes based on digital trace data, understand processes applying large scale empirical investigations and design new processes applying innovative design science research approaches. We are committed to make processes run better both in industry and society. We enable more resilient and more sustainable processes as well as much more exciting customer and employee experiences.

PROCESS SCIENCE FROM DIGITAL TRACE DATA

In a world of constant change, organizations need to be sensitive to the many dynamics impacting today's work and live. Our research therefore enables organizations to sense and respond to such change. We capture data from processes as they unfold and instantly analyze this data. We include data from various sources such as enterprise systems, sensors, social media and wearables, creating a new view of processes. For instance, we include body data to account for cognitive and emotional effect in processes and to allow for neuro-adaptive processes.

SITUATED EXPLANATIONS AND PROCESSUAL PATTERNS

In order to support organizations in times of change, we also contribute to the further development of research methods in information systems and process research. In a recent study with international colleagues, for instance, we show how research can make more situated explanations to strengthen its relevance. We developed five key principles for building situated explanations and introduce the idea and concept of “processual patterns”. Complementing traditional theories with context-specific knowledge, has the potential to open new ways how we accumulate knowledge and make a real impact in the digital realm.

DEALING WITH COMPLEXITY IN DESIGN SCIENCE RESEARCH

Designing innovative solutions to real-world problems does not follow straight forward process. The same is with Design Science Research. In our research, we therefore introduce an innovative methodology to plan, scope and conduct design science research that systematically accounts for the evolutionary nature of design research. Our paper, forthcoming in MISQ, showcases an innovative methodology that adds a hierarchical organizing logic to DSR, enabling the decomposition of projects into coherent parts known as "echelons."

DESIGN SCIENCE RESEACH – ACADEMY

In a joint Erasmus+ project with our ERCIS partners from the University of St.Gallen and the University of Liechtenstein as well as with colleagues from the University of Jyväskylä in Finland, we develop innovative educational resources to teach and learn Design Science Research *(DSR)*. Together with Al Hevner, the Chair has published the DSR Proficiency Model, which identifies key skills required to succeed in planning, applying, and communicating DSR.

SELECTED PUBLICATIONS

Baskerville, R., vom Brocke, J., Mathiassen, L., Scheepers, H. (2023), Clinical Research from Information Systems Practice, in: European Journal of Information Systems.

Badakhshan, P., Wurm, B., Grisold, T., Geyer-Klingeberg, J., Mendling, J., vom Brocke, J. (2023), Creating Business Value with Process Mining. Journal of Strategic Information Systems.

Hevner, A., vom Brocke, J. (2023), A Proficiency Model for Design Science Research Education. Journal of Information Systems Education.

Tuunanen, T., Winter, R., & vom Brocke, J. (2023). Dealing with Complexity in Design Science Research – A Methodology Using Design Echelons. MIS Quarterly.

Grisold, T., Kremser, W., Mendling, J., Recker, J., vom Brocke, J., Wurm, B. (2023). Generating Impactful Situated Explanations through Digital Trace Data. Journal of Information Technology.

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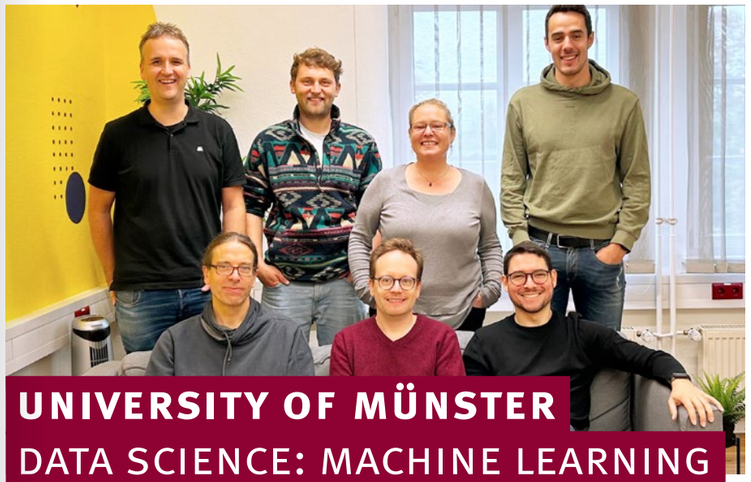

UNIVERSITY OF MÜNSTER
DATA SCIENCE: MACHINE LEARNING AND DATA ENGINEERING

PROF. DR. FABIAN GIESEKE
University of Münster

RESEARCH

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

PROJECTS

The group is currently involved in collaborations with geographers *(e.g., analysis of satellite time series data)*, municipalities *(e.g. collaboration in the context of smart cities/grids)*, and industrial partners.

Example: AI4Forest

Managing and conserving forest ecosystems in Europe and worldwide is an indispensable component of climate adaptation and climate change mitigation strategies. Precise and up-to-date information about the health and the carbon balance of forests are, hence, critical to assess the current state of forests, trigger appropriate countermeasures against forest loss, and develop improved management strategies. AI4Forest project brings together experts in artificial intelligence, applied mathematics, computer science, spatial remote sensing, and climate change, both from France and Germany. The resulting techniques will facilitate the generation of detailed forest maps at a very high spatial and temporal resolution for the whole European continent and the entire world, including tree species identification down to the level of individual trees. Supported by the Bundesministerium für Bildung und Forschung *(BMBF)*, grant number 01IS23025A.

PUBLICATIONS

Lima Martins, D. M., Lülf, C., & Gieseke, F. (2023). End-to-End Neural Network Training for Hyperbox-Based Classification. In Proceedings of the 31th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning, accepted.

Lülf, C., Lima Martins, D. M., Vaz, S. M. A., Zhou, Y., & Gieseke, F. (2023). Fast Search-By-Classification for Large-Scale Databases Using Index-Aware Decision Trees and Random Forests. In Proceedings of the VLDB Endowment, pp. 2845-2857, Association for Computing Machinery.

Lülf, C., Lima Martins, D. M., Vaz, S. M. A., Zhou, Y., & Gieseke, F. (2023). RapidEarth: A Search Engine for Large-Scale Geospatial Imagery. In Proceedings of the ACM SIGSPATIAL 2023, accepted.

Reiner, F., Brandt, M., Tong, X., Skole, D., Kariryaa, A., Ciais, P., Davies, A., Hiernaux, P., Chave, J., Mugabowindekwe, M., Igel, C., Oehmcke, S., Gieseke, F., Li, S., Liu, S., Saatchi, S. S., Boucher, P., Singh, J., Taugourdeau, S., Dendoncker, M., Song, X.-P., Mertz, O., Tucker, C., & Fensholt, R. (2023). More than one quarter of Africa’s tree cover is found outside areas previously classified as forest. Nature Communications, Vol. 14, 2258.

Li, S., Brandt, M., Fensholt, R., Kariryaa, A., Igel, C., Gieseke, F., Nord-Larsen, T., Oehmcke, S., Carlsen, A. H., Junttila, S., Tong, X., d’Aspremont, A., & Ciais, P. (2023). Deep learning enables image-based tree counting, crown segmentation, and height prediction at national scale. PNAS Nexus, 2(4).

► ***https://www.wi.uni-muenster.de/de/institut/dasc***

IS & SCM
Information Systems & Supply Chain Management

UNIVERSITY OF MÜNSTER
INFORMATION SYSTEMS AND SUPPLY CHAIN MANAGEMENT

PROF. DR.-ING.
BERND HELLINGRATH
University of Münster

The primary objective of our chair is to tackle the issues that come with the increasing complexity and uncertainty of today's supply chains. In particular, we provide research contributions by zooming in on the current trends of digitalised supply chains and by examining applications of new technologies in conjunction with emerging opportunities through digital transformation.

CURRENT RESEARCH PROJECTS

Our research activities can be divided into three main research areas: Supply Chain Digitalization, Supply Chain Integration, and Supply Chain Security and Crisis Management.

Within the Supply Chain Digitalization group, we are currently developing a reference process and a planning model to align Prescriptive Maintenance with Production Planning and Control with different industry partners. Furthermore, we are extending our Maturity Model for Digital Supply Chains, giving advice on their transformation.

In the area of Supply Chain Integration, our research focuses on integrating Supply Chain Risk Management activities into Sales & Operation Planning for dealing with current uncertain environments. Starting in July 2023 our group is joined by Prof. Dr. Luiz Felipe Scavarda do Carmo from the Pontifícia Universidade Católica do Rio de Janeiro *(BRA)* as a visiting scientist for one year.

The third research area Supply Chain Security and Crisis Management shines a light on addressing challenges posed by disruptive events. The group continued its research in response to the COVID-19 pandemic with three research projects, the first funded by the DFG, and the latter funded by the BMBF. The recently concluded SpaceImpact project enhanced the simulation platform of our former project EpiPredict to forecast COVID-19 caseloads in Germany at a regional level using real-time spatial, mobility, and behavioural data. In the OptimAgent project, we develop a micro-simulation system that encompasses a full-scale population model of Germany to support public health decision-makers in evaluating the effectiveness of infectious disease intervention strategies. In the PROGNOSIS project, we establish a simulation-based testbed for resource allocation decisions in a hospital network based on pandemic scenarios provided by our research partners. In addition to pandemic research, the DigCBA project, led by our ERCIS partners at the University of Agder, Norway, reached its second project year. The project targets designing, developing, and evaluating evidence-based frameworks to support selecting the most suitable digital technology for delivering cash-based assistance to refugees.

SELECTED PUBLICATIONS

Hellweg, F., Janhofer, D., Hellingrath, B. (2023). Towards a maturity model for digital supply chains. Logistics Research, 16.

Juntunen, E. A., Kalla, C., Widera, A., Hellingrath, B. (2023). Digitalization potentials and limitations of cash-based assistance. International Journal of Disaster Risk Reduction, 97.

Wesendrup, K., & Hellingrath, B. (2023). Post-prognostics demand management, production, spare parts and maintenance planning for a single-machine system using Reinforcement Learning. Computers and Industrial Engineering, 179.

DISSERTATIONS

Machine Learning supported Decision Making in Operational and Real-Time Road Freight Transport Planning, *Sandra Lechtenberg, January 2023*

Towards Data Analytics-Driven Supply Chain Performance Measurement Systems, *Raquel Gama Soares de Mello, May 2023*

Complexity-based Selection and Implementation of Heterarchical Production Planning and Control Architectures, *Dennis Horstkemper, May 2023*

Facilitating Supply Chain Integration through a Synthesis Framework and a Context-Specific Maturity Model in the Scope of Industry 4.0, *Eduardo Francisco Israel, July 2023*

Secure-by-Design Enterprise Architectures and Business Processes in Supply Chains, *Michael Middelhoff, July 2023*

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itm

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

PROF. DR. THOMAS HOEREN
University of Münster

RESEARCH PROJECTS

The ITM is the leading Institute for Information-, Telecommunication- and Media Law in Germany with more then 15 researchers. The Institute's work aims at exploring the legal framework and underlying policies of the information society with a particular focus on "information" as an economic and cultural good. Our research focuses on Information-, Telecommunication- 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. Currently, the ITM is involved in several EU-funded and national projects:

- 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 entirely free the help of law students to solve their basic legal problems, which occur during their academic studies. 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.

- 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.

- Matters of Law in the German Research Network *(DFN)*: 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. Increasingly, the DFN-members are facing legal questions regarding liability, telecommunications and data protection. The ITM assists in solving those difficult issues and offers general legal advice to the members.

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

- FAIR Data Spaces: FAIR Data Spaces is an interdisciplinary project funded by the Federal Ministry of Education and Research. The project deals inter alia with the issues of the immaterial-legal classification of data exchanged via NFDI and Gaia-X. The aim of the project is to establish a common cloud-based data space for industry and science by merging the two initiatives Gaia-X and NFDI.

SELECTED PUBLICATIONS:

Hoeren (2023), Media, Legal Tech and Modern Copyright Law, in A Critical Mind, Springer Link, 2023, 535.

Hoeren (2023), Corporate Liability under the GDPR.

John/Müller/Rennert (2023), Plattformhaftung und dezentrale Netzwerke: Die Haftung auf Mastodon *(Platform liability and decentralized networks: liability on Mastodon)*, GRUR 2023, 691.

Hoeren/Pinelli (2022), KI: Recht und Ethik *(AI: Law and ethics*), München *(CH Beck)* 2022.

Fischer/Klostermeyer/McGrath (2022), Urheberrechtliche Zulässigkeit der Archivierung von Prüfungsarbeiten in einer Plagiatssoftware-Datenbank *(Copyright law permissibility of archiving examination papers in a plagiarism software database)*, ZUM 2022, 371.

Große-Ophoff/Voget (2022), Shared Data with Limited Access, GRUR 2022, 1192.

► ***https://www.itm.nrw***

PROF. DR. STEFAN KLEIN
University of Münster

UNIVERSITY OF MÜNSTER
CHAIR FOR IS AND INTERORGANISATIONAL SYSTEMS

RESEARCH PROJECTS

- The transformation of research infrastructures *(S. Jarvenpaa, B. M, D. Ponte, S. Vidolov, S. Klein)*

Digitalization has profoundly shaped and transformed research, which increasingly relies on commercially provided tools and data. Generative AI has given a spurred the academic debate and reflection on the fundamentals of research, including the nature of knowledge, the role of theory, datafication and infrastructuring of research.

- The dark side of datafication *(O. Ngwenyama, CDN, F. Rowe, F, H. Zinner Henriksen, DK, S. Klein)*

"We interrogate how tech firms use social practices and platform design to strategically manipulate individuals into accepting datafication and data assetization that accrue positive data network effects for themselves and mostly negative data network effects for individuals. We draw on the ideas of Heidegger and Marcuse to critically question the Big Data paradigm in order to develop better understanding of the social implications for individuals and society. We interrogate sociomaterial structures that condition individuals into a digital habitus and to identify themselves as homo digitalis, who view all their "relations" *(social and economic)* as digital. We critically analyze the case of Microsoft Viva to provide an illustration of how mundane digital tools can condition our reality and entrap us into an open prison." Adapted from the abstract of Ngwenyama et al. 2023.

- Robotic-assisted surgery and the transformation of work *(M. B. Watson Manheim, S. Klein)*

We use Bartunek and Moch's *(1987)* framework of three orders of change to reconstruct and reflect the impact on health care in light of the growing adoption and diffusion of robotic-assisted surgery. We are particularly interested in the transformation of surgery, the division of work in the operating theatre, new training regimes, as well as the institutionalization and financial implications.

SELECTED PUBLICATIONS

Friedman, A., Kavanagh, D., Kelly, S., Klein, S., Ryle, F., & Vidolov, S. (2023). Democratic planning on large projects: co-creating a parliament with things. In 39th European Group of Organizational Studies *(EGOS)* Colloquium. Organizing for the Good Life: Between Legacy and Imagination. Sub-theme 59: [SWG] 'Paradoxes, Practices, and Potential of Creatives in Organizational Innovation' *(pp. 1–37)*.

Ngwenyama, O., & Klein, S. (2023). Some Principles for Conducting Phronetic IS Research. In R. M. Davison *(Ed.)*, Handbook of Qualitative Research Methods for Information Systems. New Perspectives *(pp. 222–239)*. Cheltenham, UK: Edward Elgar Publishing.

Ngwenyama, O., Rowe, F., Klein, S., & Zinner Henriksen, H. (2023). The Open Prison of the Big Data Revolution: False Consciousness, Faustian Bargains, and Digital Entrapment. ISR.

Remfert, C. (2923). Das IT-Service-Konzept – Rekonstruktion, Validierung und Implikationen für die IT-Organisation im Digitalzeitalter, Dissertation at the University of Münster.

Sommer, O. (2023). Exploring Multinational Cross-Site Implementation and Usage of E-Procurement Solutions, Dissertation at the University of Münster.

Vieru, D., Klein, S., Plugge, A., & Bourdeau, S. (2023). Capturing the dynamics of ambidexterity in digital platform ecosystems: A social mechanisms perspective. In 39th European Group of Organizational Studies *(EGOS)* Colloquium. Organizing for the Good Life: Between Legacy and Imagination. Sub-theme: 75 – The New Faces and Interfaces of Digital Platforms.

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UNIVERSITY OF MÜNSTER
PRACTICAL COMPUTER SCIENCE

PROF. DR. HERBERT KUCHEN
University of Münster

ABOUT THE INSTITUTION

Prof. Dr. Herbert Kuchen is leading the Practical Computer Science group since 1997. He teaches in the area of software engineering and programming.

CURRENT RESEARCH PROJECTS

We have extended the execution engine of the Münster Logic-Imperative Language *(Muli)*, called Mulib, with the option to symbolically represent arrays of reference-typed values. This allows for the concise object-oriented formulation of various constraint satisfaction problems.

Moreover, the tool Dacite was developed to dynamically identify and visualize data-flow relations in form of def-use chains for Java programs and a given test suite. It uses the Language Server Protocol. After integrating Dacite and Mulib, Dacite can highlight uncovered def-use chains and suggest test cases covering them.

We also finished a collaboration with bpc AG extending our previous work on model-driven ERP system development to interface development in SAP S/4HANA. In addition, we worked on a medical information system for personalized ankle rehabilitation in cooperation with the research group for Clinical Biomechanics.

For our research on multimedia systems, we explored the MPEG standard network-based media processing *(NBMP)* that defines a framework for media processing and delivery using *(multi-)*cloud and edge systems. In our implementation, Kubernetes serves as a generic execution environment supported by most cloud and edge providers.

In our project on high-level parallel programming, we were focusing on stencil computations. In collaboration with our guest Dr. August Ernstsson from Linköping, Sweden, we are also working on two-level parallelism.

SELECTED PUBLICATIONS

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Gomes Pereira de Lacerda, Marcelo; Buarque de Lima Neto, Fernando ; Ludermir, Teresa Bernarda; Kuchen, Herbert (2023). Out-of-the-box parameter control for evolutionary and swarm-based algorithms with distributed reinforcement learning. Swarm Intell. 17(3): 173–217.

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► ***https://www.wi.uni-muenster.de/de/institut/pi***

PROF. DR. HEIKE TRAUTMANN
University of Münster

WIRTSCHAFTS INFORMATIK & STATISTIK

UNIVERSITY OF MÜNSTER
INFORMATION SYSTEMS, DATA SCIENCE: STATISTICS AND OPTIMISATION

RESEARCH PROJECTS

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. 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 *(Exploratory Landscape Analysis)*. AI and ML techniques, in particular deep learning and classification approaches, play a fundamental role in constructing accurate and efficient selection models. Moreover, we focus on multi-objective automated *(hyper-)*parameter configuration and algorithm selection in collaboration with the University of Twente, NL. Since recently, the group also concentrates on advancing Trustworthy Artificial Intelligence, specifically regarding robustness of ML and optimization as well as the AI & Law domain. Also, the group is highly interested in Data Stream Mining and Social Media Analytics. Specifically, textual streaming data is analyzed in close cooperation with the Computational Social Science and Systems Analysis Group led by Prof. Dr. Christian Grimme. A strong focus lies on disinformation campaign detection in online media as well as on Social Influence Analysis.

In October 2023, Heike Trautmann moved to Paderborn University and launched the Machine Learning and Optimisation Group in the Computer Science Department. She will keep her ERCIS affiliation as personal member and stay Co-Head of the Social Media Analytics Competence Center, moreover she will co-lead the Data Science and AI research cluster.

SELECTED CURRENT RESEARCH PROJECTS

HybriD – Real-time detection of disinformation campaigns in online media *(2021–2024, BMBF)*: The aim of the BMBF-funded interdisciplinary project is to develop methods and tools, which enable experts to better detect and analyse disinformation campaigns.

The Social Influence Analysis *(SIA)* Network of mostly ERCIS institutions is an interdisciplinary and international collaboration of researchers with a special focus on Social Influence Analysis in online media. A respective Lorentz Center workshop was held in Leiden, NL, in September 2023.

SELECTED PUBLICATIONS

Pohl, J. S., Markmann, S., Assenmacher, D., & Grimme, C. (2023). Invasion@Ukraine: Providing and describing a Twitter streaming dataset that captures the outbreak of war between Russia and Ukraine in 2022. AAAI Conference on Web and Social Media, pp. 1093–1101

Prager, R. P., & Trautmann, H. (2023). Pflacco: Feature-Based Landscape Analysis of Continuous and Constrained Optimization Problems in Python. Evolutionary Computation Journal *(accepted)*

Schäpermeier, L., Kerschke, P., Grimme, C., & Trautmann, H. (2023). Peak-A-Boo! Generating Multi-Objective Multiple Peaks Benchmark Problems with Precise Pareto Sets. EMO 2023, pp. 291–304

Prager, R. P., Dietrich, K., Schneider, L., Schäpermeier, L., Bischl, B., Kerschke, K., Trautmann, H., & Mersmann, O. (2023). Neural Networks as Black-Box Benchmark Functions Optimized for Exploratory Landscape Features. FOGA '23, pp. 129–139

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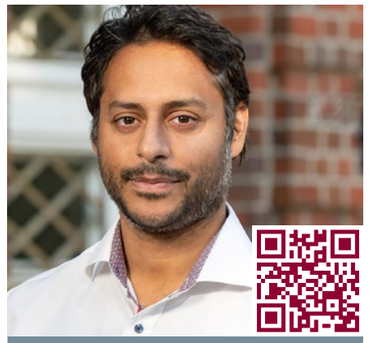
Stampe, L., Pohl, J., & C. Grimme (2023). Towards Multimodal Campaign Detection: Including Image Information in Stream Clustering to Detect Social Media Campaigns. MISDOOM Conference *(accepted)*

► ***www.wi.uni-muenster.de/department/groups/statistik***

UNIVERSITY OF MÜNSTER
INSTITUTE OF MEDICAL INFORMATICS *(IMI)*



PROF. DR. JULIAN VARGHESE
University of Münster

INTRODUCTION

The Institute of Medical Informatics *(IMI)* is dedicated to research and teaching the full range of informatics applications in medicine. It was founded in 1973 and belongs to the Medical Faculty. The IMI provides lectures, seminars and courses in small groups regarding Medical Informatics for medical as well as informatics students. The IMI has established the Medical Data Integration Centre of the University of Münster. The research focus is on interoperable medical data integration, data mining and pattern recognition techniques for clinical and genomic data. Moreover, it has been EN-ISO-13485 certified to develop medical software or AI-tools as high quality medical devices according to European Medical Device Regulation.

CURRENT RESEARCH PROJECTS

New Use Cases within the Medical Informatics Initiative

The IMI particates in several technical and clinical use cases to show scientific and/or clinical impact by the activity of our Medical Data Integration Centre. These include cardiovascular disease, involvement of patient reported outcomes, cancer research, annotation for natural language processing, medical device consultation an own coordinated use case – called EyeMatics – which will focus on eye disease research that will combine clinical data of six German hospitals and novel imaging sources such as OCT-scans to unravel new biomarkers of retinal diseases.

Biomedical Informatics

The IMI participates in the DFG clinical research group "Male Germ Cells: from Genes to Function" *(CRU 326)*, taking care of all OMICs 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 has been positively reviewed for an extended DFG collaborative research center, called Reproduction.ms that will hopefully start in the first half of 2024.

KEY PUBLICATIONS

Sigaud, R.; Albert, T. K.; Hess, C.; Hielscher, T.; Winkler, N.; Kocher, D.; Walter, C.; Münter, D.; Selt, F.; Usta, D.; Ecker, J.; Brentrup, A.; Hasselblatt, M.; Thomas, C.; Varghese, J.; Capper, D.; Thomale, U. W.; Hernáiz Driever, P.; Simon, M.; Horn, S.; Herz, N. A.; Koch, A.; Sahm, F.; Hamelmann, S.; Faria-Andrade, A.; Jabado, N.; Schuhmann, M. U.; Schouten-van Meeteren, A. Y. N.; Hoving, E.; Brummer, T.; van Tilburg, C. M.; Pfister, S. M.; Witt, O.; Jones, D. T. W.; Kerl, K.; Milde, T. MAPK Inhibitor Sensitivity Scores Predict Sensitivity Driven by the Immune Infiltration in Pediatric Low-Grade Gliomas. Nat Commun 2023, 14 (1), 4533. *https://doi.org/10.1038/s41467-023-40235-8.*

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► ***https://imi.uni-muenster.de/***

INTERNATIONAL PARTNERS

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.

› University of São Paulo (USP) – School of Arts, Sciences and Humanities (EACH)

UNIVERSITY OF SÃO PAULO
SCHOOL OF ARTS, SCIENCES AND HUMANITIES

University of São Paulo (copyright – Jornal da USP)

PROF. DR. MARCELO FANTINATO
University of São Paulo, School of Arts, Sciences and Humanities, Brazil

The University of São Paulo *(USP)*, established in 1934, is Brazil's premier institution for higher education and research, representing over 20% of the nation's research output. Operating across seven campuses, USP offers more than 250 undergraduate and graduate programs to nearly 100,000 students. The School of Arts, Sciences and Humanities *(EACH)*, established in 2005, hosts interdisciplinary programs, including Information Systems. USP has two other notable units focusing on information systems: the Institute of Mathematical and Computer Sciences *(ICMC)* in São Carlos and the School of Philosophy, Science, and Literature *(FFCLRP)* in Ribeirão Preto. With a combined faculty of over 100 researchers, USP contributes significantly to diverse computing fields, from artificial intelligence and big data to robotics and web systems. The university is at the forefront of impactful research, producing almost 50 research papers daily, with a particular emphasis on applied computing, including areas like bioinformatics, machine learning, and social networks.

RESEARCH PROJECTS

Process Mining: Optimizing business processes is vital for achieving organizational strategic goals. This project explores advanced process knowledge using machine learning and computational intelligence. Ongoing work includes process discovery, concept drift, legal compliance, legal process mining, educational process mining, interpretability and explainability with visualization, trace clustering, and iteractive clustering, aiming at process and organizational improvement.

Social Robotics: Social robots enhance human activities through interactive support. This project investigates their role in aiding specific groups in various contexts. Applications include diagnosing depression in older adults, proposing activities for mental well-being, and assisting lonely seniors, children with autism spectrum disorder, and isolated hospital patients. The focus is on utilizing social robotics to address unique needs and enhance social interactions for a better quality of life.

SELECTED PUBLICATIONS

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Freitas, F. A., Peres, S. M., Albuquerque, O. P., Fantinato, M., Leveraging sign language processing with formal sign writing and deep learning architectures. 12th Brazilian Conference on Intelligent Systems, 2023.

► ***http://ppgsi.each.usp.br/?lang=en***

› Charles University, Faculty of Mathematics and Physics – Department of Software Engineering

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CHARLES UNIVERSITY
FACULTY OF MATHEMATICS AND PHYSICS – DEPARTMENT OF SOFTWARE ENGINEERING

PROF. RNDR. JAROSLAV POKORNÝ, CSC.
Charles University, Czech Republic

RESEARCH PROJECTS

The Department of Software Engineering focuses on teaching and research in the field of software and database systems and their applications, bioinformatics and other associated areas as similarity retrieval and parallel architectures. Its members are involved in several research projects funded by the Czech Science Foundation and the Technology Agency of the Czech Republic. The research is conducted within national and European basic research, applied and contract research projects.

- Multimedia Retrieval: includes multimedia data in social media applications, video streaming services, digital libraries as well as in specialized medical or industrial fields. Their primary representation is semantically unstructured. 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. The research is focused on a set of techniques and tools for proper publishing and consumption of data on the Web.

- Multi-model databases: Relatively recently emerged NoSQL and other modern DBMSs allow to deploy databases based on other logical models than just the traditional relational ones. 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 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.

- Compilers: Compilers as the key component of high-performance computing as well as software engineering tools. 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 architectures, multi-core CPUs and GPUs, languages *(and compilers)* for parallel data processing, distributed computing.

- Research Software Engineering *(RSE)*: RSE helps scientists improve and speed up their code by up to several orders of magnitude, making it possible to process much larger volumes of data in the same amount of time.

PUBLICATIONS

J. Klimek, P. Koupil, P., P. Škoda, J. Bártík, J., Š. Stenchlák, M. Nečaský, M., I. Holubová, I.: Atlas: A Toolset for Efficient Model-Driven Data Exchange in Data Spaces. Proc. of the 26th Int. Conf. on Model-Driven Engineering Languages and Systems, pp. 1–5, Västeras, Sweden 2023, ACM Press, 2023.

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► ***https://cs.mff.cuni.cz/en/about-school/departments?code=204***

› University of Turku – Turku School of Economics – Institute of Information Systems Science

UNIVERSITY OF TURKU
TURKU SCHOOL OF ECONOMICS – INSTITUTE OF INFORMATION SYSTEMS SCIENCE

PROF. REIMA SUOMI
University of Turku,
Finland

Turun yliopisto
University of Turku

ABOUT THE INSTITUTION

The history of the Institute for Information Systems Science at the University of Turku dates back to 1971. Today the Institute is a part of the Department of Management and Entrepreneurship at the Turku School of Economics. The mission of the Institute is to educate IS professionals with a strong combination of both general management and IS-specific skills. In research, the Institute focuses on supporting companies and public organizations as well as the third sector in various aspects of management, governance, and utilization of Information Systems. The Institute is a pioneer in international education, even at the whole university level, running three international master's programs.

RESEARCH TOPICS

The IS research at the University of Turku covers a wide spectrum of IS research themes with a focus on governance and management of ICT, ICT ethics, consumer behavior digital environments, and ICT adoption and use by organizations and individuals. In recent years, artificial intelligence has become a focal research area of the Institute.

Smart Terminals – SMARTER project *(2021–2023)* is part of the Sea4Value program, which focuses on the digitalization of the port-to-port logistics chain. The DigiRe-actor project *(2021–2023)* supports the digitalization of small businesses by developing competencies for digital product development together with designing regional operating models.

DOCTORAL THESES

Anushree Luukela-Tandon (2023) "Fear of missing out on social media: implications for private and professional lives".

SELECTED PUBLICATIONS

Ahmad, F., Bask, A., Laari, S., & Robinson, C. V. (2023). Business management perspectives on the circular economy: Present state and future directions. Technological Forecasting and Social Change, 187, 122182.

Baiyere, A., Galliers, R. D., Salmela, H., & Tapanainen, T. (2023). The Backstory of "Digital Agility Theory". Journal of the Association for Information Systems, 24(3), 619–628.

Birkstedt, T., Minkkinen, M., Tandon, A., & Mäntymäki, M. (2023). AI governance: themes, knowledge gaps and future agendas. Internet Research, 33(7), 133–167.

Dennehy, D., Griva, A., Pouloudi, N., Dwivedi, Y. K., Mäntymäki, M., & Pappas, I. O. (2023). Artificial intelligence *(AI)* and information systems: perspectives to responsible AI. Information Systems Frontiers, 25(1), 1–7.

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Huang, R., Li, H., Suomi, R., Li, C., & Peltoniemi, T. (2023). Intelligent Physical Robots in Health Care: Systematic Literature Review. Journal of Medical Internet Research, 25, e39786.

Laato, S., Mäntymäki, M., Islam, A. N., Hyrynsalmi, S., & Birkstedt, T. (2023). Trends and Trajectories in the Software Industry: implications for the future of work. Information Systems Frontiers, 25(2), 929–944.

Minkkinen, M., & Mäntymäki, M. (2023). Discerning Between the "Easy" and "Hard" Problems of AI Governance. IEEE Transactions on Technology and Society.

Minkkinen, M., Zimmer, M. P., & Mäntymäki, M. (2023). Co-shaping an ecosystem for responsible AI: Five types of expectation work in response to a technological frame. Information Systems Frontiers, 25(1), 103–121.

Mustak, M., Salminen, J., Mäntymäki, M., Rahman, A., & Dwivedi, Y. K. (2023). Deepfakes: Deceptions, mitigations, and opportunities. Journal of Business Research, 154, 113368.

Zimmer, M. P., Baiyere, A., & Salmela, H. (2023). Digital workplace transformation: Subtraction logic as deinstitutionalising the taken-for-granted. The Journal of Strategic Information Systems, 32(1), 101757.

► ***www.utu.fi***

› KEDGE Business School – Department of Operations Management and Information Systems (MOSI)

KEDGE BUSINESS SCHOOL
OPERATIONS MANAGEMENT AND INFORMATION SYSTEMS *(MOSI)* DEPARTMENT

PROF. OLIVIER DUPOUET
Kedge Business School,
Bordeaux, France

ABOUT THE INSTITUTION

Founded in 1874, KEDGE is a leading French business school with four campuses in France *(Paris, Bordeaux, Marseilles and Toulon)*, three abroad *(Shanghai, Suzhou and Dakar)* and three partner campuses *(Avignon, Bastia and Bayonne)*. The KEDGE community is made up of 15,00 students *(including 25% international)*, 207 professors *(43% coming from abroad)*, 275 international academic partners, 300 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 Conférence des Grandes Ecoles. It is also recognised by the French government, with labelised programmes, and has obtained the EESPIG label. KEDGE's Master in Management was ranked 46th worldwide, the Executive MBA 39th 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 variety of degree programs *(including Undergraduate, Short-Term, Exchange, PhD, and Postgraduate programmes)* 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.

KEDGE BUSINESS SCHOOL

RESEARCH PROJECTS

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 Sustainability, 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.

► ***www.kedgebs.com***

PROF. KIERAN CONBOY
University of Galway, Ireland

UNIVERSITY OF GALWAY
BUSINESS INFORMATION SYSTEMS AND LERO RESEARCH CENTRE

ABOUT THE INSTITUTION

The Lero group in Galway explore how the proliferation of continually emerging, disruptive digital technologies positively and negatively influence the future of work and society. Alot of our work takes a critical stance examining society's over- reliance on tech in an increasingly digital and accelerated and dynamic world, and focusing on the responsible use of technology for the public good. We critically examine emerging concepts such as responsible tech and digital transformation, and how emerging tech such as AI, blockchain, online platforms and emerging methods such as agile and flow all impact work and society. The group currently includes 9 core staff from SBE, 2 postdocs and 11 current Ph.Ds. We have many existing projects with over 40 industry partners including Intel, SINTEF Norway, Fidelity Investments, as well as academic partners such as Toulouse Business School, Uppsala University, University of Sydney, MIT, NTNU, Athens University of Economics and Business.

HIGHLIGHT PROJECT: ROSETTA

There is no doubt we live in a heavily digitised and accelerated world. Mobile devices, social media, analytics, AI, blockchain, cloud, and an avalanche of new technologies continually emerge claiming to allow us to do things faster, to increase productivity while leaving more time for relaxation, family and social activities. However, the reality is very different. People are busier, productivity is lower and technology-induced mental health and stress issues in children and adults of all ages are at an all-time high. The true impact of technology on the usage of our time is poorly understood, often assumed and rarely examined in a holistic, interdisciplinary way.

To address this challenge, the group at Lero in Galway have obtained ‹3.6m funding for a Marie Curie project called ROSETTA *(**R**esp**O**n**S**ibl**E** **T**ime & **T**ech in an **A**ccelerated Digitised World)* research training programme proposes a transformative agenda to address the grand challenge of the impact of technology on the usage of our time. ROSETTA will implement a 60-month research training programme for 19 post-doctoral fellowships over a 2-year period.

The research strands of ROSETTA will explore (I) Temporal theories – how we think about how a technology impacts and should impact our lives in more sophisticated and contemporary ways than we do now; (II) Temporal methods and equipment – how we can use contemporary equipment such as neuro scanners, GPS trackers, advanced AI and other technologies to study the temporal aspects of technology more acutely; (III) Temporal context – how we can effectively understand and improve the impact of tech on the time of specific groups of people e.g., children, workers, older people or those with disabilities.

The ROSETTA fellows will be recruited from computer science, medicine, biomedical engineering, education, psychology, software engineering, information systems, human-computer interaction and management. ROSETTA outcomes will respond directly to European policies such as Shaping Europe's Digital Future and the European Declaration on Digital Rights and Principles .

SELECTED PUBLICATIONS

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► ***https://www.universityofgalway.ie/bis/***

UNIVERSITY OF TUSCIA
DEPARTMENT OF ECONOMICS ENGINEERING SOCIETY AND BUSINESS ORGANISATIONS *(DEIM)*

PROF. DR. ALESSIO MARIA BRACCINI
Università degli Studi della Tuscia, Italy

NETWORK EXCHANGES

In 2023, significant progresses were made in consolidating network exchanges between various well-established collaborations. These collaborative efforts involved several bilateral exchanges among key scholars, including Alessio Maria Braccini *(University of Tuscia)*, Emanuele Gabriel Margherita *(University of Tuscia)*, Øystein Sæbø *(University of Agder)*, Paolo Spagnoletti *(LUISS Guido Carli University)*, Robert Winter *(University of St. Gallen)*, Alvaro Arenas *(IE Business School)*, and Stefano Za *(University of Chieti Pescara)*.

CURRENT RESEARCH PROJECTS

Unitus remains actively engaged in various research projects centered around digital transformation, digital twin transition, and sustainability. Noteworthy projects undertaken in 2023 are as follows:

- Giustizia Agile *(funded by the Italian Ministry of Justice)*. The project is coordinated by the University of Tuscia and partnered by 10 universities in Lazio, Toscana and Umbria. The project's main objective is to develop tribunal organisational capacity by implementing new organisational models and digital technologies. The project's final conference was held in Viterbo on 21st September 2023.
- CybersecH: Cybersecurity hardening for AI solutions *(funding agency: National Competence Center Cyber 4.0)* was coordinated by 3rdPlace, Datrix | AI Solutions Group, in collaboration with the University of Tuscia. The project sought to design, develop, and validate a software solution to combat Artificial Intelligence Attacks, automating the hardening of AI-based systems. The project introduced the AIA Guard platform, currently available for trial at *https://www.aiaguard.com*.
- Frontsh1p: a FRONTrunner approach to Systemic circular, Holistic and inclusive solutions for a new Paradigm of territorial circular economy. The FRONTSH1P project aimed to facilitate the green transition of the Polish Lodzkie region, promoting decarbonization and territorial regeneration through the demonstration of highly replicable circular systemic models *(https://frontsh1p.eu)*.

SELECTED PUBLICATIONS

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Smacchia M. and Za S., "Exploring Artificial Intelligence Bias, Fairness and Ethics in Organisation and Managerial Studies" *(2023)*. ECIS 2023 Research Papers. 362. June 13–16, Kristiansand, Norway.

Satwekar, A., Volpentesta, T., Spagnoletti, P., & Rossi, M. (2023). An Orchestration Framework for Digital Innovation: Lessons from the Healthcare Industry. IEEE Transactions on Engineering Management, 70(7), 2465–2479. *https://doi.org/10.1109/TEM.2022.3167259*

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► ***https://www.unitus.it***

› University of Liechtenstein – Department Information Systems & Computer Science

UNIVERSITÄT LIECHTENSTEIN

UNIVERSITY OF LIECHTENSTEIN
DEPARTMENT INFORMATION SYSTEMS & COMPUTER SCIENCE

DR. JANINE HACKER
University of Liechtenstein,
Principality of Liechtenstein

The Department of Information Systems and Computer Science *(DISCS)* at the Liechtenstein Business School *(LBS)* has set itself the task of shaping Liechtenstein's future IT landscape through cutting-edge research and excellent education.

The academic portfolio of DISCS includes technical and economic foundations of business information systems. On the technical side, the department's expertise includes data science, artificial intelligence, security and distributed systems. From an economic and societal perspective, the department's research addresses novel business processes, digital transformation and innovation, sustainability and human-centric computing. Collaboration with other LBS departments and other research groups in Switzerland, Europe and beyond, leads to further synergies in the areas of digital finance and entrepreneurship, innovation and technology.

SELECTED RESEARCH PROJECTS

- Process Science *(Liechtenstein Research Fund)* – This project seeks to combine and synthesize contributions, theories and methods from multiple disciplines in order to create the conceptual foundations for process science. Process science shall provide the opportunity to accumulate interdisciplinary knowledge on processes in order to make a real-world impact.

- The Emergence of Industrial Industry of Things Solutions *(Liechtenstein Research Fund)* – The goal of this research project is to describe the emergence of complex industrial internet of things systems, to understand this phenomenon in depth and to provide explanations for the development and emergence of these systems.

- Online Choirs: How to carry out virtual choir rehearsals with the help of digital tools *(ERASMUS+)* – This project seeks to enable choirs to carry out online rehearsals by designing guidelines regarding technology, choir pedagogy and social interaction.

PUBLICATIONS

Abraham, R., Schneider, J. & vom Brocke , J. (2023). A taxonomy of data governance decision domains in data marketplaces. Electronic Markets, 33(22).

Franzoi, S., Grisold, T., & vom Brocke, J. (2023). Studying Dynamics and Change with Digital Trace Data: A Systematic Literature Review. ECIS 2023 Research Papers.

Gau, M., Maedche, A., & vom Brocke, J. (2023). Towards an Open Repository for Design Science Research: A Meta-Model and Its Instantiation for the Representation of Design Science Research Processes. Enterprise modelling and information systems architectures, 18(4).

Grisold, T., Kremser, W., Mendling, J., Recker, J., vom Brocke J., & Wurm, B. (2023). Keeping pace with the digital age: Envisioning information systems research as a platform. Journal of Information Technology, 38(1), 60–66.

Hacker, J.,Miscione, G., Felder, T., & Schwabe, G.(2023). Commit or not? How blockchain consortia form and develop. California Management Review, 65(3), 110–131.

Pekaric, I., Groner, R., Witte, T., Adigun, J. G., Raschke, A., Felderer, M., & Tichy, M. (2023). A systematic review on security and safety of self-adaptive systems. Journal of Systems and Software *(Vol. 203, p. 111716)*.

Schneider, J., Abraham, R., Meske, C., & vom Brocke, J. (2023). Artificial Intelligence Governance For Businesses. Information Systems Management, 40(3), 229–249.

Schneider, J., Seidel, S., Basalla, M., & vom Brocke, J. (2023). Reuse, Reduce, Support: Design Principles for Green Data Mining. Business & Information Systems Engineering, 65(1), 65–83.

DISSERTATIONS AND HABILITATIONS

Yulia Litvinova: "The Role of Self and Place in the Digital World: Challenges for Hybrid Work and Virtual Collaboration" *(Dissertation)*

Marcus Basalla: "Opportunities and Challenges of Data Analytics in IS Research" *(Dissertation)*

Johannes Schneider: "Making AI Understand Humans and Making Humans Understand AI" *(Habilitation)*

► ***www.uni.li/de/universitaet/schools/liechtenstein-business-school/departement-information-systems-computer-science***

› Kaunas University of Technology – Department of Information Systems / Centre of Information Systems Design Technologies

KAUNAS UNIVERSITY OF TECHNOLOGY
DEPARTMENT OF INFORMATION SYSTEMS/CENTRE OF INFORMATION SYSTEMS DESIGN TECHNOLOGIES

PROF. DR. RIMANTAS BUTLERIS
Kaunas University of Technology,
Lithuania

As of autumn 2023, the Department and Centre combined employed over 30 researchers and teachers. At the same time, the Department is curating two study programmes: Information Systems *(1st cycle)* and Digital Transformation and System Architectures *(2nd cycle)*. Key research areas are as follows:

- 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
- Gamified information systems
- Information systems user interface and usability
- Machine learning
- Blockchain technologies

SELECTED PROJECTS

- Development of Measures to Increase Efficiency of the Public Sector Buildings Life-Cycle by Applying Building Information Modeling – BIM-LT *(2019–2023)*. Funded by EU structural funds. In cooperation with the Vilnius Gediminas Technical University and several Lithuanian public institutions; coordinated by the Ministry of Environment of Lithuania.

- Identification of Pathological Lung Sounds Using Artificial Intelligence Techniques - DITA *(2023)*. Funded by the KTU Research and Innovation Fund and in partnership with Lithuanian University of Health Sciences.

- A Model for Assessing the Possibilities of Resource Recovery from Landfills and its Testing in Lithuanian Conditions *(2021–2023)*. Commissioned by the PI Kaunas region Waste Management Center.

- Challenge Based Learning in AI Enhanced Digital Transformation Curricular – ASSISTANT *(2022–2024)*. Funded by Erasmus+ and coordinated by KTU.

SELECTED PUBLICATIONS

Danėnas, P., Skersys, T. (2022). Exploring natural language processing in model-to-model transformations. IEEE Access. Piscataway, NJ : IEEE, vol. 10, p. 116942–116958.

Drungilas, V., Vaičiukynas, E., Ablonskis, L., Čeponienė, L. (2022). Heterogeneous models inference using hyperledger fabric oracles. Proceedings of the 1st blockchain and cryptocurrency conference *(B2C' 2022)*, 9–11 November 2022, Barcelona, Spain. Barcelona : IFSA publishing, p. 83–85.

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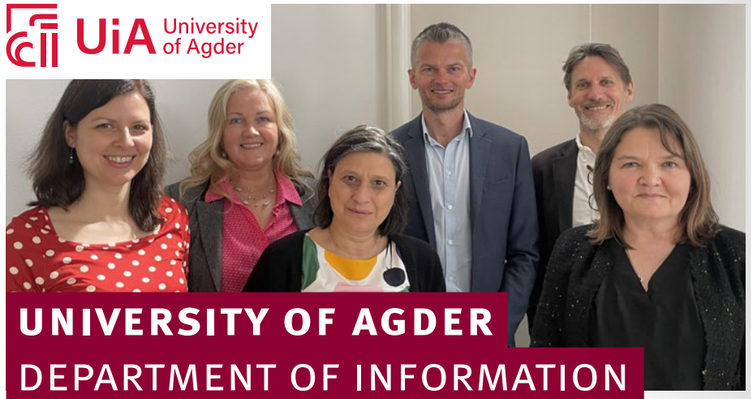
Jurgelaitis, M., Čeponienė, L., Butkus, K., Butkienė, R., Drungilas, V. (2023). MDA-based approach for blockchain smart contract development. Applied Sciences. Basel : MDPI, vol. 13, iss. 1, p. 1–28.

Vaičiukynas, E., Andrijauskienė, M., Danėnas, P., Benetytė, R. (2023). Socio-eco-efficiency of high-tech companies: a cross-sector and cross-regional study. Environment, Development and Sustainability. Dordrecht : Springer, vol. 25, iss. 11, p. 12761–12790.

► ***https://fi.ktu.edu/department-of-information-systems***
https://fi.ktu.edu/cisdt

PROF. LEIF SKIFTENES FLAK
University of Agder, Norway



UNIVERSITY OF AGDER
DEPARTMENT OF INFORMATION SYSTEMS

The Department of Information Systems *(IS)* is one of four departments within the Faculty of Social Sciences at the University of Agder *(UiA)* and is one of the largest and most active IS departments in Norway.

The department offers study programmes in IT and Information Systems at all levels. In addition, a two-year master's programme in Cybersecurity was established in 2019. In addition, the department is currently expanding our range of executive courses and programmes.

RESEARCH TOPICS

The research in the Department of IS is organized in three interdisciplinary centres: Centre for Digital Transformation *(CeDiT)* conducts advanced social science research on the relationships between digital technologies and societies, organizations, and individuals. CeDiT applies disciplinary, multidisciplinary, and interdisciplinary approaches and draws on a wide range of theories from social science. Centre for 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.

Centre for 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.

In addition, the department has research groups on Human Centered AI and Systems Development.

CURRENT RESEARCH PROJECTS

AI4Users *(2020–2024)* is a project funded by the Research Council of Norway addressing the "black box" problem contributing to responsible use of AI when digitalizing public services.

Digitalizing public welfare services in Scandinavia *(2021–2025)* is a project funded by the Research Council of Norway. The project focuses on what public services are suitable for digital communication channels.

DigCBA – Digital Cash-Based Assistance *(2021–2024)* is funded by The Research Council of Norway and contributes to the responsible use of digital cash-based assistance *(CBA)* in the refugee crisis.

From isolation to inclusion *(I2I) (2020–2023)* is a health project funded by the Interreg North Sea Region *(NSR)*. The aim is to facilitate innovation in public service delivery by developing digital solutions to avoid social isolation and/or loneliness.

EVENTS

European Conference on Information Systems – ECIS was hosted by the department in June 2023 and attracted around 750 IS scholars from large parts of the world.

SELECTED PUBLICATIONS

Abdelgawad, Ahmed, A., Khan, A. & Baharmand, H. (2023). Exploring gaps in using digital delivery mechanisms for cash-based assistance in refugee crises, International Journal of Disaster Risk Reduction, Volume 96, 2023.

Pinheiro, R., Tømte, C. E., Barman, L., Degn, L., & Geschwind, L. (2023). Digital Transformations in Nordic Higher Education: A Step Towards Unpacking a Multifaceted and Emergent Phenomenon. In Digital Transformations in Nordic Higher Education *(pp. 3–26)*. Cham: Springer International Publishing.

Soliman, W., & Rinta-Kahila, T. (2023). Unethical but not illegal! A critical look at two-sided disinformation platforms: Justifications, critique, and a way forward. Journal of Information Technology, 02683962231181145.

Vassilakopoulou, P.; Haug, A.; Salvesen, L.M.; Pappas, I. (2023). Developing human/AI interactions for chat-based customer services: lessons learned from the Norwegian government. European Journal of Information Systems, 32(1), 10–22. doi: 10.1080/0960085X.2022.2096490.

Wass, S., Thygesen, E., & Purao, S. (2023). Principles to Facilitate Social Inclusion for Design-Oriented Research. Journal of the Association for Information Systems, 24(5), 1204-1247.

► ***https://www.uia.no/en/is***

UNIVERSITY OF GDAŃSK
DEPARTMENT OF BUSINESS INFORMATICS

JACEK MAŚLANKOWSKI, PH.D.
University of Gdańsk,
Sopot, Poland

With more than 20 thous. students, 11 faculties and 1,8 thous. academic staff members, the University of of Gdańsk, is the largest institution of a higher education in the Pomeranian, 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 of Gdańsk, 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 Pomeranian Regional Academy Cisco, educating hundreds of computer network administrators with professional skills confirmed by international Cisco certificates.

As regard teaching, some of Departments' academic manuals are bestsellers in Poland, like 896 pages book "Business Informatics. Theory and Applications.", PWN, 2019 *(in Polish)*. This book was awarded in the Competition of Polish Society for Informatics, for the best informatic book of 2019. The Department is also active internationally, organizing conferences including the 10th European Conference on Information Systems *(ECIS 2002)* entitled "Information Systems and the Future of the Digital Economy", The 7th International Conference on Perspectives in Business Informatics Research *(BIR 2008)*, The 8th International Conference on European Distance and E-learning Network *(EDEN 2009)* and the series of events rebranded now as EuroSymposium on Digital Transformation.

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

RESEARCH PROJECTS

- On 28th of September 2023, EuroSymposium'2023 on Digital Transformation took place in Sopot, Poland. All submissions were blind reviewed and the acceptance rate was 32%. Accepted papers were published in LNBIP series by Springer.

- Jörg Becker and Jacek Maślankowski from ERCIS are track chairs of the track T5. Digital Transformation *(EuroSymposium'2024)* at the 32st International Conference on Information Systems Development *(ISD 2024)*. ISD conference will be hosted by University of Gdańsk on 26–28 August, 2024. ISD provides a forum for research and developments in the field of information systems. The theme of ISD 2024 is "Harnessing Opportunities: Reshaping ISD in the post-COVID-19 and Generative AI Era". New trends in developing information systems emphasize the continuous collaboration between developers and operators in order to optimize the software delivery time. The conference promotes research on methodological and technological issues and how IS developers and operators are transforming organizations and society through information systems. The ISD 2024 conference held this year also provides an opportunity for researchers and practitioners to promote their research, practical experience, and to discuss issues related to Information Systems through papers, posters, and journal-first paper presentations.

PUBLICATIONS

Maślankowski J., Marcinkowski B., Rupino da Cunha P. (eds.): Digital transformation: 15th PLAIS EuroSymposium on Digital Transformation, PLAIS EuroSymposium 2023, Sopot, Poland, September 28, 2023: proceedings; Lecture Notes in Business Information Processing, no. 495, 2023, Cham, Springer, ISBN 978-3-031-43589-8. DOI:10.1007/978-3-031-43590-4

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Joskowski A., Przybyłek A., Marcinkowski B., Scaling scrum with a customized nexus framework: a report from a joint industry-academia research project, Software-Practice & Experience, 2023, vol. 53, no. 7, pp.1525–1542. DOI:10.1002/spe.3201

► ***https://wzr.ug.edu.pl/kie***

Wrocław University of Science and Technology

PROF. NGOC THANH NGUYEN
Wrocław University of Science and Technology, Poland

PROF. DARIUSZ KROL
Wrocław University of Science and Technology, Poland

WROCŁAW UNIVERSITY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF APPLIED INFORMATICS

The Department of Applied Informatics, chaired by Professor Ngoc Thanh Nguyen, is a part of the Faculty of Information and Communication Technology at the Wrocław University of Science and Technology. The Faculty of Information and Communication Technology was officially opened on 15 September 2021 at Wrocław University of Science and Technology. FICT consists of 12 fields of study, nearly 5000 students, 8 departments, and 500 scientists and academic teachers. Our department employs 9 professors, 28 assistant professors, 7 research assistants and 11 Ph.D. students. We regularly co-organize two international scientific conferences: the Asian Conference on Intelligent Information and Database Systems *(ACIIDS)* and the International Conference on Computational Collective Intelligence *(ICCCI)*.

CURRENT RESEARCH PROJECTS

We are organised into the following research teams: Computational Collective Intelligence, Internet and Multimedia Information Systems, Processes Analysis and Semantic Systems, Knowledge Engineering, Intelligent Data Processing Technologies, Software Engineering and Data Science, Security and Reliability of IT Systems, and Database Systems.

A list of current projects:

- An intelligent system for creating maps for 3D games based on the Unreal Engine using machine learning techniques, 2020–2023, The project is co-financed by the European Union, NCBR: GAMEINN-IV
- Highly Accurate and Autonomous Programmable Platform for Providing Air Pollution Data Services to Drivers and Public *(HAPADS)*, 2019–2023, NOR/POLNOR/HAPADS/0049/2019
- An Artificial Intelligence-Powered Multiomic Platform to Unveil New Biological Pathways in Amyotrophic Lateral Sclerosis: The Impact of Aging and Sarcopenia, Unveil ALS, JPND Call 2023 *(under evaluation)*
- Creation and development of Regional Centers of Digital Medicine, Medical Research Agency *(under evaluation)*
- 4You: An Intelligent Platform for Foreigner's *(under evaluation)*

PUBLICATIONS

Linh Anh. Nguyen, Ngoc Thanh. Nguyen, Logical characterizations of crisp bisimulations in fuzzy description logics. IEEE Transactions on Fuzzy Systems. 2023, vol. 31, nr 4, s. 1294–1304.

Szymon Stradowski, Lech Madeyski Machine learning in software defect prediction: a business-driven systematic mapping study. Information and Software Technology. 2023, vol. 155, art. 107128, s. 1–15.

Phu Pham, Loan T. T. Nguyen, Ngoc Thanh. Nguyen, Robert Kozma, Bay Vo, A hierarchical fused fuzzy deep neural network with heterogeneous network embedding for recommendation. Information Sciences. 2023, vol. 620, s. 105–124.

Trang Huyen. Phan, Ngoc Thanh. Nguyen, Dosam Hwang: Fake news detection: a survey of graph neural network methods. Applied Soft Computing. 2023, vol. 139.

Rafał P. Palak, Krystian Wojtkiewicz: A centralization measure for social networks assessment. Cybernetics and Systems. 2023, s. 1–12

Martin Schieck, Philippe Krajsic, Felix Loos, Abdulbaree Hussein, Bogdan Franczyk, Adrianna Kozierkiewicz, Marcin M. Pietranik, Comparison of deep learning methods for grapevine growth stage recognition. Computers and Electronics in Agriculture. 2023, vol. 211, art. 107944, s. 1–9.

Marcin Jodłowiec, Marek Krótkiewicz, Piotr Zabawa: The analysis of data metamodels' extensional layer via extended generalized graph. Applied Intelligence. 2023, vol. 53, s. 8510–8535.

► ***https://kis.pwr.edu.pl/en/***

University of Minho
School of Engineering

UNIVERSITY OF MINHO
DEPARTMENT OF INFORMATION SYSTEMS

DR. ISABEL RAMOS
University of Minho, Portugal

HIGHLIGHT PROJECT

The Department of Information Systems underwent a major change of its educational offer at the levels of Bachelor and Master. The core degree program offered by the Department of Information Systems was an integrated Master on Engineering and Management of Information Systems. As an integrated Master, students were enrolled directly to a Master program. The study plan of the integrated Master was designed taking into consideration that all students were following the same academic route. Major changes in the Portuguese national regulations prevented engineering schools from offering integrated master programs, reserving that possibility for a few areas with strong regulation by state agencies such as medicine and architecture. Therefore, the Department of Information Systems had to review its portfloio of degree programs.

The reorganization of the educational offer led to the creation of a Bachelor and a Master degree programs that share the designation of "Engineering and Management of Information Systems". Learning outcome of both programs ara aligned with the Department's vision that the information systems field is oriented to professional activities that seek to make use of information technology to create value to human endeavours and social situations. In preparation for the reorganization the Department took into consideration educational trends, curricula recommendations and engaged in an internal debate about IS professional functions.

The study plans of the new programs had to be designed according to premises aligned with the new Portuguese regulations and aim at enabling more flexibility to students and to their academic routes. Another restriction was a concern on assuring the readiness of Bachelor graduates – 3 years graduates in Engineering and Management of Information Systems – for junior professional profiles. Learnig outcomes for the Bachelor program address the development of competencies relevant for the following professional functions: Information curation; Enlivenment of informational objects through IT; Development of IT applications; Implantation of IT applications; Upkeeping of the portfolio of IT applications. The Master program addresses competencies that build upon those covered in the udergaduate program and are related with other professional functions, namely: Design of IS architectures; Setting up of information-centered, IT-enhanceable enterprise capabilities; Oversight of IT infrastructures; Control of the fit between the IS architecture and the reality; Studies on the impact of IT on society; Administration of the IST unit.

KEY PUBLICATIONS

Alarabiat, A., Hujran, O., Soares, D., & Tarhini, A. (2023). Examining students' continuous use of online learning in the post-COVID-19 era: an application of the process virtualization theory. Information Technology & People, 36(1), 21–47.

de Moraes, C. R., da Cunha, P. R., & Ramos, I. (2023). Designing Digital Workplaces: A Four-Phase Iterative Approach with Guidelines Concerning Virtuality and Enterprise Integration. PAJAIS Preprints *(Forthcoming)*. 8. *https://aisel.aisnet.org/pajais_preprints/8*

Reascos, I., & Carvalho, J. A. (2023). A Framework for implanting EITA in SMEs: Leadership, communication, project management, and change management. INNOVATION & DEVELOPMENT IN ENGINEERING AND APPLIED SCIENCES, 4(2), 18–18.

Escobar, F., Almeida, W. H., & Varajão, J. (2023). Digital transformation success in the public sector: A systematic literature review of cases, processes, and success factors. Information Polity, 28(1), 61–81.

Fernandes, J., Machado, C., & Amaral, L. (2023). Towards a readiness model derived from critical success factors, for the general data protection regulation implementation in higher education institutions. Strategic Management: International Journal of Strategic Management and Decision Support Systems in Strategic Management, 28(1).

► ***https://www.dsi.uminho.pt***

› Pohang University of Science and Technology (POSTECH) – Department of Industrial & Management Engineering

POHANG UNIVERSITY OF SCIENCE AND TECHNOLOGY *(POSTECH)* DEPARTMENT OF INDUSTRIAL & MANAGEMENT ENGINEERING

DR. MINSEOK SONG
Pohang University of Science and Technology *(POSTECH)*, Republic of Korea

ABOUT THE INSTITUTION

Industrial and Management Engineering is an academic field that designs, develops, and manages integrated systems involving people, materials, equipment, and information across various sectors. It aims to generate innovations in today's dynamic global environment by combining elements of business administration with industrial engineering. While industrial engineering focuses on planning and optimizing complex industrial systems, Industrial and Management Engineering extends its scope to encompass service, information, and management fields. The mission of the Department of Industrial and Management Engineering at Pohang University of Science and Technology is to cultivate creative leaders in the era of convergence and innovation by offering specialized education, conducting impactful research, and nurturing young talents with systems thinking, passion, and humanity.

CURRENT RESEARCH PROJECTS *(SELECTED)*

- 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)*

This research aims to develop core foundational technologies for optimizing the traffic signal operation system at city-wide scale intersections in situations where autonomous vehicles and conventional vehicles coexist. To achieve this goal, the research focuses on defining intersection signal operation strategies and control technology issues, building digital twin models, developing data engineering technologies, creating big data analysis techniques, and developing and applying optimization algorithms.

- Fashion Item Recommendation Systems using Bandit Algorithms. *(Samsung Fashion, Jan. 2023 – Dec. 2023)*

The Bandit Algorithm is a type of reinforcement learning used in machine learning and artificial intelligence. This algorithm is employed to learn strategies for adaptively maximizing rewards among various choices. In this study, we aim to develop a system that recommends fashion items based on the Bandit Algorithm.

- Clinical Digital Twin Model Mining and Process Redesign Method based on the OMOP Common Data Model *(National Research Foundation of Korea, Mar. 2021 – Feb. 2025)*

This research aims to develop an OMOP CDM Analysis Framework for automatically deriving Digital Twin models based on the Common Data Model for healthcare *(OMOP-CDM)* and process improvement. To achieve this, we will develop a PM-based healthcare status analysis, automatic Digital Twin derivation method, ML/AI-based automatic exploration of healthcare issues/alternatives, and Digital Twin simulation methods.

SELECTED PUBLICATIONS

Becker, J., Chasin, F., Rosemann, M., Beverungen, D., Priefer, J., Brocke, J. V., Matzner, M., del-Río-Ortega, A., Resinas, M., Santoro, F., Song, M., Park, K., Di Ciccio, C., "City 5.0: Citizen involvement in the design of future cities", Electron Markets Vol. 33, 10, 2023.

Park, G., Song, M., "Optimizing Resource Allocation Based on Predictive Process Monitoring", IEEE Access, Vol. 11, pp. 38309-38323, 2023.

Park, K., Cho, M., Song, M., Yoo, S., Baek, H., Kim, S., Kim, K.,"Exploring the potential of OMOP common data model for process mining in healthcare", PLOS ONE, Vol. 18, No. 1, pp. 1-24, 2023.

Park, H., Choi, D.G., Min, D., "Adaptive Inventory Replenishment using Structured Reinforcement Learning by Exploiting an Optimal Policy Structure" International Journal of Production Economics, Vol. 266, 109029, 2023.

Lee. J., Kim, B-I, Nam, M., "Novel method for welding gantry robot scheduling at shipyards" International Journal of Production Research, Vol. 61, No. 17, pp. 5842-5859, 2023.

► ***https://ime.postech.ac.kr/en***

› IE Business School – Information Systems and Technology Department

IE BUSINESS SCHOOL INFORMATION SYSTEMS AND TECHNOLOGY DEPARTMENT

PROF. ALVARO ARENAS
IE Business School,
IE University, Madrid, Spain

IE Business School is one of Europe's top providers of management education. IE's Information Systems and Technology Department *(ISTD)* is responsible of all technology-related courses and pursues research on the transformative use and impact of digital technologies in today's world.

Research work within ISTD includes themes such as Digital Innovation, studying the interplay between organizational capabilities and digital innovation, as well as value co-creation in digital platforms; Business Intelligence, Analytics and Machine Learning, researching the application of AI and machine learning in key areas such as sustainability, Green IS, education and e-health; Economy of Information Systems, focusing on IT outsourcing and Cloud Computing, organizational networks and the Sharing Economy; and Information Security and Privacy, investigating topics such as cybersecurity behaviour of Spanish households, hacker behaviour analysis, and machine learning to improve security.

SELECTED RESEARCH PROJECTS INCLUDE

- DIGYMATEX is an EU-funded project that aims to provide evidence-based tools to assist in understanding and determining children's digital maturity. The main outputs include the Digital Youth Maturity Index *(DYMI)*, an innovative tool that will precisely measure and predict harmful and beneficial ICT-related children behaviour and consequences for specific user groups, and the DIGyou3 program, a recommendation program that will help to improve relevant dimensions of children's digital maturity, and the development of ICT-related competencies.

- Prof. Konstantina Valogianni is participating in the EU MSCA Doctoral Network on Distributed Ledger Technology: Innovation & Ecosystem Management, aiming at creating a platform for researchers to engage in the co-production of knowledge by investigating state-of-the-art challenges and societal implications of Blockchain technology across actors and industry boundaries.

SELECTED PUBLICATIONS

Alibakhshi, R., & Srivastava, S. C. (2022). Post-story: Influence of introducing story feature on social media posts. Journal of Management Information Systems, 39(2), 573–601.

Herrero, J., Torres, A., Vivas, P., Arenas, A. E., & Urueña, A. (2022). Examining the empirical links between digital social pressure, personality, psychological distress, social support, users' residential living conditions, and smartphone addiction. Social Science Computer Review, 40(5), 1153–1170.

Ketter, W., Schroer, K., & Valogianni, K. (2023). Information systems research for smart sustainable mobility: A framework and call for action. Information Systems Research, 34(3), 1045–1065.

Lu, Y., Susarla, A., Ravindran, K., & Mani, D. (2023). Machine learning approaches to understand IT outsourcing portfolios. Electronic Commerce Research, 1–31.

Schallehn, F., & Valogianni, K. (2022). Sustainability awareness and smart meter privacy concerns: The cases of US and Germany. Energy Policy, 161, 112756.

Truong, M., Gupta, A., Ketter, W., & van Heck, E. (2022). Buyers' strategic behavior in B2B multichannel auction markets: When an online posted price channel is incorporated into a Dutch auction system. Information Systems Research, 33(4), 1344–1367.

► ***https://www.ie.edu/business-school***

› Universidad de Sevilla – Smart Computer Systems Research and Engineering Lab

UNIVERSIDAD DE SEVILLA
SMART COMPUTER SYSTEMS RESEARCH AND ENGINEERING LAB

PROF. DR. ADELA DEL RÍO ORTEGA
Universidad de Sevilla, Spain

PROF. DR. MANUEL RESINAS
Universidad de Sevilla, Spain

The Smart Computer Systems Research and Engineering *(SCORE)* lab at Universidad de Sevilla focuses its research 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 aims at developing and applying methods, techniques, and software tools to improve the performance and human resource management of business processes with a particular emphasis on unstructured knowledge-intensive processes.

RESEARCH PROJECTS

- ORCHID. Digital Transformation of the Public Administration Driven by Intelligent Contracts. This project 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.

- BUBO. Bots and human collaboration for improving the development and operation of digital services. 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.

- STATUS. Mashup-based Multi-Domain Compliance Management System. STATUS is a proof-of-concept project, whose goal is to develop an industry-ready compliance management system that advances the state of the art by providing a low-code solution to automatically monitor compliance in an organization from the data stored in its information systems

- TAPIOCA. Hybrid intelligence to develop advanced support for business process compliance. This project seeks to design and develop models, techniques, and tools that advance the support for business process compliance towards more autonomous systems that predict and reason upon compliance violations, and that are able to interact with the stakeholders in a humane manner.

PUBLICATIONS

Manuel Resinas, Adela del-Río-Ortega, Han van de Aa: From Text to Performance Measurement: Automatically Computing Process Performance Using Textual Descriptions and Event Logs. BPM 2023: 266–283. *https://doi.org/10.1007/978-3-031-41620-0_16*

María Salas-Urbano, Carlos Capitán-Agudo, Cristina Cabanillas, Manuel Resinas: LoVizQL: A Query Language for Visualizing and Analyzing Business Processes from Event Logs. ICSOC 2023.

Anti Alman, Alessio Arleo, Iris Beerepoot, Andrea Burattin, Claudio Di Ciccio, Manuel Resinas: Tiramisù: A Recipe for Visual Sensemaking of Multi-Faceted Process Information. ICPM Workshops 2023.

Jörg Becker, Friedrich Chasin, Michael Rosemann, Daniel Beverungen, Jennifer Priefer, Jan vom Brocke, Martin Matzner, Adela del-Río-Ortega, Manuel Resinas, Flávia Maria Santoro, Minseok Song, Kangah Park, Claudio Di Ciccio: City 5.0: Citizen involvement in the design of future cities. Electron. Mark. 33(1): 10 *(2023)*. *https://doi.org/10.1007/s12525-023-00621-y*

EVENTS

Adela del-Río-Ortega became a member of the Steering Committee of the BPM conference series, and was also part of the Diversity, Equity and Inclusion *(DEI)* Committee of BPM 2023, in Utrecht, The Netherlands.

Cristina Cabanillas was chair of the CAISE Forum 2023 and of the Doctoral Consortium at ICPM 2023.

Manuel Resinas and Adela del-Río-Ortega, together with Han van der Aa, and Henrik Leopold, organized the 2nd Workshop on NLP for Business Process Management *(NLP4BPM)* at BPM 2023.

► ***https://score.us.es***

› Luleå University of Technology (LTU) – Department of Space and Systems Science/Division of Digital Services and Systems/Information Systems Research Group

LULEÅ UNIVERSITY OF TECHNOLOGY *(LTU)*
DEPARTMENT OF SPACE AND SYSTEMS SCIENCE/DIVISION OF DIGITAL SERVICES AND SYSTEMS/ INFORMATION SYSTEMS RESEARCH GROUP

PROF. DR. AHMED ELRAGAL
Luleå University of Technology *(LTU)*, Sweden

Luleå University of Technology's Information Systems research subject focuses on the design and use of information technology in relation to humans, organizations, and societies. Our vision is to design and develop knowledge about the digital transformation for a sustainable society, taking our starting point in local conditions to make global impact.

RESEARCH PROJECTS

- SMArt Livskraftig Landsbygd *(SMALL)*: This project implements and evaluates digital solutions. SMALL develops collaboration models for digitization that are adapted to rural conditions.

- COFFEE: This project uses AI in education specifically for severly challenged learners in an adaptive learning mode.

- U4IoT: This project recognized that end-users and societal acceptance are critical to the success of the IoT large-scale pilots. U4IoT combines complementart RRI-SSH expertise encompassing social and economics sciences, communication, crowdsourcing, living labs, co-creative workshops, meetups and persona data protections to actively engage users and citizens in the large-scale pilots.

- DigiBy: Digital Services in Villages and is about digitizing service in Norrbotten's countryside.

- Wireless Innovation Arena: The project focuses on the wireless communication in Upper Norrland where organizations together with users create innovative services based on new technologies.

- ISSUES – the project aims to support development and internationalisation through information-secure digital services. It focuses on security by design, information classification, and incident management.

- SUMMATION: Sustainable Autonomous Systems and Solutions increase SMEs' innovation capacity and use of advanced technologies in their operations. It forecasts monitoring and maintenance of road and rail using drones, 3D-maps and hyperspectral camera.

PUBLICATIONS

Andersson, S. Problems in information classification: insights from practice (2023). Information and Computer Security. DOI *https://www.emerald.com/insight/content/doi/10.1108/ICS-10-2022-0163/full/html*

Elragal, R., Elragal, A., and Habibipour, A. Healthcare Analytics – A Literature Review and Proposed Research Agenda (2023). Frontiers in Big Data, Volume 6, DOI: *https://doi.org/10.3389/fdata.2023.1277976*

Habibipour, R. and Ståhlbröst, A. A Living Lab Perspective on Information Systems Development Process *(2023)*. In: Advances in Information Systems Development: AI for IS Development and Operations / [ed] G. S. Silaghi; R. A. Buchmann; V. Niculescu; G. Czibula; C. Barry; M. Lang; H. Linger; C. Schneider, Springer Nature, 2023, p. 19–34.

Hietala. H, Päivärinta. T. Multilectic Forums in Digital Service Ecosystems *(2023)*. Part of: Proceedings of the 24th Annual International Conference on Digital Government Research *(DGO 2023)* – Together in the Unstable World: Digital Government and Solidarity, s. 270–279, Association for Computing Machinery, 2023.

Raghavendran, K. R. and Elragal. A.. Low-Code Machine Learning Platforms: A Fast-lane to Digitalization *(2023)*, Informatics Journal, 10(25), pp.1–19. *https://www.mdpi.com/2227-9709/10/2/50#*

DISSERTATION

Osman, Ahmed M. Shahat. Smart Cities and Big Data Analytics: A Data-Driven Decision-Making Perspective, 22nd June 2023. Luleå University of Technology *(LTU)*. PhD Thesis.

► ***https://www.ltu.se/research/subjects/information-systems?l=en***

› University of St. Gallen – Institute of Information Management

PROF. DR. JAN MARCO LEIMEISTER
University of St. Gallen, Switzerland

UNIVERSITY OF ST. GALLEN
INSTITUTE OF INFORMATION MANAGEMENT

Institute of Information Management
University of St.Gallen

CURRENT RESEARCH PROJECTS

For 30 years, the Institute of Information Management at the University of St. Gallen *(IWI)* has been dedicated to applied and design-oriented research at the intersection between business and IT. Prof. Andrea Back, Prof. Ivo Blohm, Prof. Walter Brenner, Prof. Reinhard Jung, Prof. Jan Marco Leimeister, and Prof. Robert Winter are heading six research groups covering research topics ranging from data management and analytics, design thinking, digital service innovation, to privacy and trust. We are excited to share that Prof. Thomas Grisold has joined the University of St. Gallen as an Assistant Professor.

CURRENT COMPETENCE CENTERS AND MULTI-YEAR RESEARCH PROJECTS

The institute pursues a mixed funding approach from both public and private sources. Privately funded research at IWI is usually organized in the form of research consortia *("competence centers")*. These centers, each of which includes between four and eighteen corporate partners, fall under the responsibilities of different chaired professors.

- 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/*

- Cognitive Automation: The Competence Center Cognitive Automation combines academic insights 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. *https://cognitive.iwi.unisg.ch/*

- Data Management & Analytics Community: The Data Management & Analytics Community establishes networking between data & analytics leaders from large financial institutions for discussing current issues and workable solutions. *https://iwi.unisg.ch/en/projects/dmac/*

- Digital Service Innovation: Research conducted in the context of 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. *https://iwi.unisg.ch/projects/dienstleistungssysteme/*

A list of competence centers and current projects can be found at *http://www.iwi.unisg.ch/?id=1202*

SELECTED PUBLICATIONS

Fahse, T., Blohm, I., van Giffen, B. (2022). Effectiveness of Example-Based Explanations to Improve Human Decision Quality in Machine Learning Forecasting Systems. International Conference on Information Systems, published online first.

Beese, J., Haki, K., Schilling, R., Kraus, M., Aier, S., Winter, R. (2023). Strategic Alignment of Enterprise Architecture Management – How a Decade of Corporate Transformation shaped the Portfolio of Control Mechanisms at Commerzbank, European Journal of Information Systems, 32, 1, pp. 92–105.

Grisold, T., Kremser, W., Mendling, J., vom Brocke, J., Wurm, B. (2023). Generating Impactful Situated Explanations through Digital Trace Data. Journal of Information Technology, published online first.

Ritz, E., Rietsche, R., Leimeister, J.M. (2023). How to Support Students' Self-Regulated Learning in Times of Crisis: An Embedded Technology-Based Intervention in Blended Learning Pedagogies. Academy of Management Learning & Education, published online first.

Schmitt, A., Zierau, N., Janson, A., Leimeister, J.M. (2023). The Role of AI-Based Artifacts' Voice Capabilities for Agency Attribution. Journal of the Association of Information Systems, published online first.

Tuunanen, T., Winter, R., Vom Brocke, J. (2023). Dealing with Complexity in Design Science Research: Using Design Echelons to Support Planning, Conducting, and Communicating Design Knowledge Contributions, MIS Quarterly, published online first.

► ***https://iwi.unisg.ch***

› University of Twente – Department of Industrial Engineering & Business Information Systems

ASSOC. PROF. DR.
FONS WIJNHOVEN
University of Twente,
The Netherlands

UNIVERSITY OF TWENTE
DEPARTMENT OF INDUSTRIAL ENGINEERING & BUSINESS INFORMATION SYSTEMS

The Business Information Systems team consists of about 40 professors, researchers and PhD candidates that are part of the larger IEBIS department of the University of Twente Faculty of Behavioural, Management and Social Science. The group focuses on digital transformation management, enterprise architectures engineering, and cybersecurity as a managerial challenge as mutually dependent and reinforcing development in organizations, organizational networks, and markets. With knowledge on these domains, the group participates in the University of Twente business administration, public administration, industrial engineering & management, and business & information technology programs. The BIS group has extensive collaborations with multiple other disciplines in the Digital Society Institute. The group applies diverse research methods for achieving valid empirical and design science insights that may contribute to business and organization innovations.

HIGHLIGHT PROJECTS

MSCA Industrial Doctoral Network on Digital Finance for building a European PhD programme on digital finance with research focussing on *(coordinator dr Joerg Osterrieder)*:

- Towards a European financial data space.

UNIVERSITY OF TWENTE.

- Deployment of complex artificial intelligence models for real-world financial problems.
- Towards explainable and fair AI-generated decisions.
- Driving digital innovations with Blockchain applications.
- Sustainability of Digital Finance by simulation of financial markets.
- Horizon Europe funding with 4.5 Mio, 19 PhD students, 4 years, 18 Partners across Europe, e.g. Humboldt Uni, European Central Bank, Bern Business School.

COST Action Fintech and AI in Finance to promote research and collaboration across Europe on Fintech and AI in Finance. Horizon Europe funding with 1.0 Mio, 300+ researchers, 51 countries globally, 70 institutions, mostly universities, 4.5 years, since 2021.

Other research activities are, among others, on AI adoption, smart industry organization, inter-organizational systems and value chain governance, cybersecurity risks prediction, economics of cybersecurity, and behavioral cybersecurity risks.

SELECTED PUBLICATIONS

Buyuktepe, O.,Catal, C.,Kar, G.,Bouzembrak, Y.,Marvin, H.,Gavai, A., (2023). Food fraud detection using explainable artificial intelligence. Expert systems, e13387, DOI: 10.1111/exsy.13387

Machado, M. R., & Karray, S. (2022). Applying hybrid machine learning algorithms to assess customer risk-adjusted revenue in the financial industry. Electronic Commerce Research and Applications, 56, 101202.

Sedrakyan, G., Gavai, A., van Hillegersberg, J. (2023). Design Implications Towards Human-Centric Semantic Recommenders for Sustainable Food Consumption, Advances in Conceptual Modeling, LNCS 14319, Chapter No: 29, DOI:10.1007/978-3-031-47112-4_29, Springer Nature.

Wijnhoven, F., Hoffmann, P., Bemthuis, R., & Boksebeld, J. (2023). Using process mining for workarounds analysis in context: Learning from a small and medium-sized company case.International Journal of Information Management Data Insights, 3(1), 100163.

► ***https://www.utwente.nl/en/bms/iebis/***

ASSOC. PROF. MIKE PREUSS
Universiteit Leiden, The Netherlands

LEIDEN UNIVERSITY
LEIDEN INSTITUTE OF ADVANCED COMPUTER SCIENCE *(LIACS)*

ABOUT THE INSTITUTION

The Leiden Institute of Advanced Computer Science *(LIACS)* is a center of excellence for multidisciplinary research and education in computer science and artificial intelligence *(AI)*. LIACS features a wide range of research, from theory to algorithms to applications, with a strong focus on artificial intelligence and data science. Within the Dutch university landscape in computer science, LIACS has positioned itself for AI4LIFE, basically meaning we use modern AI methods *(from optimization, deep learning, reinforcement learning, quantum computing, machine learning)* for solving real-world problems in the Life Sciences and beyond. This aim is pursued by LIACS researchers in leading roles in the SAILS program, the CCLS initiative, and the European initiative for excellence in AI research and innovation, CLAIRE. We also cooperate with knowledge institutes, governments and companies.

As a major institute for education in computer science we offer BSc, Master, and PhD programs in a broad variety of study tracks, some of which are in collaboration with other scientific domains such as Biology and Economics. The institute has rapidly grown in the last years and is continuing this trend. As of now, LIACS has around 90 staff members, 95 PhD students, and 40 non-scientific personnel. For the study programs of the institute, more than 500 master students, and more than 780 bachelor students are registered, including our new bachelor on Data Science and AI.

RESEARCH TOPICS AND COLLABORATIONS

Artificial Intelligence is the major focus of LIACS research. To accomplish a stronger momentum and to exploit synergies among fields, networking initiatives have been established across the faculty of science *(center for computational life science, CCLS)* and across the entire university *(Society Artificial Intelligence and Life Science, SAILS)*. These instruments stimulate collaboration within the university on artificial intelligence topics and bring these topics to new application domains. Moreover, with its participation in European and International research networks ERCIS and CLAIRE, the research in LIACS is integrated in a wider community of researchers.

The main research branches of LIACS are: Theory, Natural Computing, Machine Learning, Data Science, Software & Business, Systems & Security, Media & Interaction, and Bio-Imaging.

We have a strong focus on providing Smart Computing for Science & Industry, which materializes in longstanding cooperations with industrial partners and governments. These help us to focus on the applicability of research results and at the same time generate new directions for our research in computer science. Our collaborations include partners such as Honda Research, Zorginstituut Nederland, Tata Steel, Greenchoice, BMW, KLM, General Electrics Aviation, Young Capital, Qualogy, Ministry of Foreign Affairs, National Police, Wooconnect, Stabiplan, Naturalis Museum, Royal Dutch Shell, Oncode Institute, Sanquin, and De Nederlandsche Bank.

RECENT AND UPCOMING EVENTS

March 2023: EMO *(Evolutionary Multi-Criterion Optimization)* conference in Leiden *https://emo2023.liacs.leidenuniv.nl/*

April 2023: 6 new professors hired

January 2024: institute scientific leadership will transfer from Aske Plaat to Marcello Bonsangue

March 2024: the whole institute *(now spread over 3 buildings)* will move together in the new science building

Universiteit Leiden
The Netherlands

► ***https://liacs.leidenuniv.nl***

SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMICS *(KHNUE)*
DEPARTMENT OF INFORMATION SYSTEMS

PROF. IRYNA ZOLOTARYOVA
Simon Kuznets Kharkiv National University of Economics (KhNUE), Ukraine

CURRENT RESEARCH PROJECTS

- ERASMUS 2022 AFID – Providing of Academic Freedom and Inclusion through Digitalization. The AFID project aims to create an inclusive environment for students and teachers through an inclusive virtual campus that will be accessible to a wide range of consumers of educational services through digital tools.

- ERASMUS 2023 DigiUni – Digital University – Open Ukrainian Initiative. The project is initiated to create an inclusive digital educational ecosystem in Ukraine to ensure continuous, high-quality, inclusive, and transparent education, regardless of the student's location, with the use of existing digital innovations in the field of education and the understandable paradigm of involving future innovations.

EVENTS

The International Scientific and Practical Conference "Information Technologies and Systems", April 13–14, 2023.

International Scientific Conference of Young Scientists and Students "Information technology in the modern world: the research of young scientists", February 16–17, 2023.

SELECTED PUBLICATIONS

Critical infrastructure defense: perspectives from the EU and USA cyber experts/ *I. Zolotaryova, I. Leroy* Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu ISSN 2223-2362, 50–53, 2023

Insights for Economic Security: Recovery Strategies from Cyber-Attacks. / *I. Zolotaryova, I. Leroy* The 13th IEEE International Conference on Dependable Systems, Services and Technologies, DESSERT'2023, Athens, Greece.

Dorokhov O. Consumer Choice of Fitness Trackers: An Example of Modeling / *O. Dorokhov, D. Yevstrat, Y. Chyrva, O. Yermolenko, L. Dorokhova* // TEM Journal. – 2022. – Vol. 11. – Is. 3. – P. 1034–1041.

Dmytro Yevstrat, Yuliia Chyrva, Serhii Semenov, Oleksandr Mozhaiev, Oleksandr Mozhaiev, Tiulieniev Serhii. Devising a procedure for defining the general criteria of abnormal behavior of a computer system based on the improved criterion of uniformity of input data samples / *S. Semenov, O. Mozhaiev, N. Kuchuk, M. Mozhaiev, S. Tiulieniev, S., Y. Gnusov, D. Yevstrat, Y. Chyrva, H. Kuchuk* // Eastern-European Journal of Enterprise Technologies. – 2022. – Vol. 3. – Is. 3 (117). – P. 23-34.

Gryzun L. E. Development of the information system for navigation in modern university campus / *L. E. Gryzun, Shcherbakov O. V., Bida B. O.* // Proceedings of the 5th International Workshop on Augmented Reality in Education. – Kryvyi Rih, 2022. – Vol. 3364. – P. 108–126

Dorokhov, O.; Malyarets, L.; Yevstrat, D.; Ukrainski, K. (2022). Estimation of Parameters in Regression Analysis Based on QR Decomposition of Rectangular Matrices by Householder Reflections. Informatica 46 *(2022)*, 551–556

Hrabovskyi, Y., Minukhin, S., Brynza, N. (2022). Development of an information support methodology for quality assessment of the prepress process. Eastern-European Journal of Enterprise Technologies, 6 *(2 (120))*, 30–40. doi: *https://doi.org/10.15587/1729-4061.2022.26690*

Dorokhov, Oleksandr, Malyarets, Lyudmyla, Petrova, Mariana, Yevstrat, Dmytro, Aliyeva, Anar. Consumer expectations and real experiences: case of Ukrainian tourists in Turkey. *(2023)* Access-Access to Science Business Innovation in the Digital Economy, 4(1), 102–115

Gryzun L. E., Shcherbakov O. V., Bida B. O. Development of the information system for navigation in modern university campus. *(2023)* CEUR Workshop Proceedings, 3364, 108–126 *(Joint Proceedings of the 10th Workshop on Cloud Technologies in Education, and 5th International Workshop on Augmented Reality in Education)*,Kryvyi Rih, Ukraine, 2023 *(pp. 28–38)*

Liudmyla Bilousiva, Liudmyla Gryzun, Natalia Zhytienovac, Valentyna Pikalovad. Issues of Formalization of Risk Management Process in Software Design. IntelITSIS'2023: 4th International Workshop on Intelligent Information Technologies and Systems of Information Security, 2023, Khmelnytskyi, Ukraine

► ***https://kafis.hneu.net***

PROF. DR. PETER KAWALEK
Loughborough University,
United Kingdom

LOUGHBOROUGH UNIVERSITY – CENTRE FOR INFORMATION MANAGEMENT *(CIM)* – LOUGHBOROUGH BUSINESS SCHOOL

Loughborough University

Introduction

The Centre for Information Management *(CIM)* conducts research on topics related to the digitalization of business and society. This is developed from multiple theoretical positions across Information Systems, Knowledge Management and wider Business research. CIM is committed to topical research of high social and business value, and our researchers take pride in being able to develop relevant topics so that they address both academic and practical agendas. Our work on social media analytics through EMOTIVE is very well known and continues to advance. We are also pioneering the development of Security Cybernetics, a dimensionally enlarged view of the implications of digitalization for the safe function of society. CIM has also led the development of the topic of Space Health, focusing on the mental health of astronauts. We have other significant research topics in addition to these, including Digitalization and Social Justice, the role of platforms, the role of identity systems, and issues of machine-learning and modelling in railways systems. CIM has an extensive network of partner organizations and businesses. We are very excited to receive enquiries about our work and collaboration.

Highlight Project

- Digital Decarbonisation

"Using our calculations, a typical data-driven business such as insurance, retail or banking, with 100 employees, might generate 2,983 gigabytes of dark data a day. If they were to keep that data for a year, that data would have a similar carbon footprint to flying six times from London to New York." Jackson and Hodgkinson, 2022.

The topic of Digital Decarbonisation has been developed by Professor Tom Jackson and Professor Ian Hodgkinson. The implications of this research are of note for all researchers of digitalization as the findings hold significant implications for how organizations conceptualise, utilize and store data. In 'Dark Data is Killing the Planet', an article for The Conversation, Professors Jackson and Hodgkinson illustrate the environmental cost of the dark data firms generate i.e. data they collect, process and store but only use once or never at all. The volume of dark data has grown as digital transformations have advanced, with organisations seeking to store all data without giving thought to the consequences for the environment. Another concept that is used to describe the problem is that of Redundant, Obsolete or Trivial *(ROT)* data. Storing ROT in the form of unneeded videos, messages and other fils, is a common trend that creates a huge additional drain on national and global energy supply. To illustrate the magnitude of these wasteful digital practices, a recent paper in the Journal of Business Strategy identifies as much as 55% of data stored by organisations may be dark data, while Forbes suggest ROT data in organisations may be as high as 33%. A plausible worst-case scenario is that a staggering 88% of data stored by an organization could be irrelevant. The consequence of storing this data in datacentres is very significant and contributes to an increased CO_2 footprint.

Key Publications

Jackson, T., Hodgkinson, I., (2022) 'Dark data' is killing the planet – we need digital decarbonisation, The Conversation, September 29, 2022.

Jackson, T., Hodgkinson, I., (2022) What is 'dark data' and how is it adding to all of our carbon footprints? World Economic Forum, *https://www.weforum.org/agenda/2022/10/dark-data-is-killing-the-planet-we-need-digital-decarbonisation/*, accessed 1st November, 2023.

Jackson, T.W. and Hodgkinson, I.R., 2022. Keeping a lower profile: how firms can reduce their digital carbon footprints. Journal of Business Strategy.

► ***https://www.lboro.ac.uk/departments/sbe/cim***

PERSONAL MEMBERS

Our personal members seamlessly integrate with our partner structure. Many of them have already been part of our network for several years, initially associated with one of our partner institutions, before transitioning to a different Higher Education Institution. Nevertheless, they continue to contribute to the network with the same level of dedication exhibited by our institutional members.

PERSONAL MEMBERS

PADERBORN UNIVERSITY

PROF. DR.
DANIEL BEVERUNGEN
Paderborn University

Fachhochschule Südwestfalen
University of Applied Sciences

PROF. DR.
ANDRÉ CONERS
South Westphalia University
of Applied Sciences

UNIVERSITÄTS KLINIKUM HEIDELBERG

PROF. DR.
MARTIN DUGAS
Heidelberg University Hospital

UiA University of Agder

DR.
SARA HOFMANN
University of Agder

UNIVERSITÀ TELEMATICA INTERNAZIONALE UNINETTUNO

PROF. DR.
MARCO DE MARCO
Università Telematica Internazionale
UNINETTUNO

university of koblenz
Computer Science

PROF. DR.
PATRICK DELFMANN
University of Koblenz

technische universität dortmund

PROF. DR.
CHRISTIAN JANIESCH
TU Dortmund University

TECHNISCHE UNIVERSITÄT DRESDEN

PROF. DR.
PASCAL KERSCHKE
TU Dresden

PERSONAL MEMBERS

RUB

SSAI Socio-technical System Design and Artificial Intelligence

PROF. DR.
CHRISTIAN MESKE
Ruhr-Universität Bochum

PADERBORN UNIVERSITY

PROF. DR.
OLIVER MÜLLER
Paderborn University

TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY

PROF. DR. IR.
HAJO A. REIJERS
Eindhoven University of Technology

GRENOBLE ECOLE DE MANAGEMENT
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ASSOCIATE PROF. DR.
ISABELLA SEEBER
Grenoble École de Management

UNIVERSITÄT DUISBURG ESSEN

PROF. DR.
RALF PLATTFAUT
University of Duisburg-Essen

RUHR UNIVERSITÄT BOCHUM RUB

PROF. DR.
JENS POEPPELBUSS
Ruhr-Universität Bochum

Chair of Business Information Systems and Digital Transformation (SAP-endowed)

PROF. DR.
STEFAN STIEGLITZ
University of Potsdam

Ud'A Università degli Studi "G. d'Annunzio"

ASS. PROF.
STEFANO ZA
University "G. d'Annunzio" Chieti-Pescara

ADVISORY BOARD

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.

ADVISORY BOARD

ABOUT THE COMPANY

Business. People. Technology.

Founded in 1997 at the heart of the Ruhr-area, adesso SE is one of the leading IT providers in the German-speaking market. With more than 10.000 employees on 63 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. adessi 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

TOPICS OF INTEREST

- Java
- Javascript
- Microsoft
- Cloud Technologies
- ServiceNow
- PHP
- Google
- Mobile
- SAP

For more information, please visit
www.adesso.de/de/technologien/technologie-radar/index.jsp

OUR SECTORS/INDUSTRIES

- Automotive
- Banks / Financial services
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- Healthcare
- Retail
- Life Sciences
- Lottery
- Manufacturing Industry
- Media and Entertainment
- Exhibition corporation
- Food and luxury food industry
- Sports
- Public authorities
- Public transportation
- Insurance

JOB OPPORTUNITIES

At adesso we are looking for people who are enthusiastic about a job in the following areas:

- Software Development
- IT-Consulting
- Account Management
- Central Services
- User Experience
- Online Marketing

If you are interested in working with an ever-growing first-class employer, please check out our job offers:
www.adesso.de/de/jobs-karriere/unsere-stellenangebote

LEADING BUSINESS IT SOLUTIONS

BISON

BISON develops and implements innovative retail ERP and software solutions and has been successfully serving SMEs and large companies in the retail, agricultural and energy trading sectors with a focus on the DACH region for over 40 years.

With our modern solutions, we support our customers in digitalization and in optimizing their business processes along the entire value chain in retail.

RETAIL-SPECIFIC AND RELEASE-ORIENTED: BISON RETAIL

A major advantage of BISON Retail is its release capability. Customer-specific requirements are kept releasable from the very beginning as part of software maintenance, so that they can continue to be used in future deliveries without any major effort. This represents sustainable investment protection.

OUR SPECIALIZATION IS THE ADVANTAGE FOR THE RETAIL INDUSTRY

The standard system of BISON Retail ERP as well as the other Smart Retail Products focus explicitly on the requirements of the retail industry.

Due to this focus, more and more specific functionalities have been and are being integrated into the system or solved with partner applications. BISON Retail, thus covers the required retail functionalities already in the standard.

Individual adaptations are always checked for integration into the standard. In this way, other BISON customers also benefit from the enhancements.

MODERN ERP

Trade specific
Tried and tested
Releaseable

For further information please visit
www.bison-group.com

BISON
LEADING BUSINESS IT SOLUTIONS

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. Around 12.000 employees are engaged in this task in 140 countries; talented people from all professions, who make their daily contribution towards feeding the world.

TOPICS OF INTEREST

- Connected machines
- Farming 4.0
- Omni-channel customer experience
- Precision Farming
- Data Management
- Big data & AI/ML Engineering
- Autonomy

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.

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 connect, as the holistic digital touchpoint, delivers integrated functionalities, services and shops to their customers in order to link the customer's processes seamlessly with ours.

To further centralize sales processes, as well as dealer and customers systems we´ve created a new location – the CLAAS Campus Herzebrock. The well-known positive customer experience from our physical dealer touchpoints will be ensured for our digital touchpoints through the integration of state-of-the-art systems e.g. Salesforce, SAP hana, Tableau and modern IT architectures. 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.

JOB OPPORTUNITIES

CLAAS is special because it is a family owned enterprise with a long-term, forward-looking approach which is based on the commitment of its employees. At CLAAS, you will face the challenging task of continuously improving harvesting performance through innovative technology.

Selected vacancies in Germany for professionals:

- Solution Owner (m/w/d) Autonomy / AI-Framework
- IT Security Specialist (m/w/d) Data Center & Cloud
- Network Security Specialist (m/w/d)
- IT Client Specialist (m/w/d)

Selected vacancies in Germany for students:

- CLAAS Inside Corporate IT – SAP Development
- CLAAS Inside Learning Solutions
- CLAAS Inside Corporate IT – Application Integration

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

www.claas.jobs
Instagram: *@claas_careers*

welcome to cronos

ABOUT THE COMPANY

With a pioneering spirit and a startup attitude, cronos was founded in 1991 in Münster, Germany. Our core consulting area is IT and process optimization for utility companies. We support our customers in the process of digitalization and the development of new business fields. cronos is an official partner of SAP, UiPath, Celonis and Microsoft. We have long-standing partnerships with universities and a combined experience of more than 1000 customer projects. Based on this experience and the latest technology trends such as Blockchain, SAP S/4HANA, Robotic Process Automation, Process Mining, Machine Learning and AI, we are able to develop innovative and proven solutions for the utilities industry.

We actively contribute to the success of the energy transition in Germany, Austria and Switzerland. With more than 350 permanent consultants in 8 locations, we are the largest independent SAP consultancy for the utilities industry in the GSA. Our success is the result of a well-balanced team of 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
- 350+ consultants
- 200+ active customers
- 1000+ successful projects
- 30 years of experience
- SAP Partner Energy of the year 2020, 2021 and 2022
- UiPath Platinum Partner
- Celonis 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

JOB OPPORTUNITIES

Think outside the box - especially in IT! Driven by innovative and creative young people, digitalization is accelerating the development of new technologies and challenges. Giving young professionals the freedom to explore ideas and take on more responsibility 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 comprehensive onboarding system help launch careers 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.cronologewerden.de

ADVISORY BOARD

ESB_Professional/shutterstock.com

ABOUT THE COMPANY

DMI takes responsibility for the digital archiving of patient records and provision in client software systems. Since 1966, the specialised service provider has been providing hospitals with continuous support in the optimisation of information-based processes and with fully compliant archiving throughout constant changes in technology and framework conditions. In production centres and at clients' locations, DMI staff digitise, qualify, integrate and archive every second patient record for inpatients 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.

D·M·I

TOPICS OF INTEREST

- Digitalising and consolidating medical records including electronic and digitized documents
- Certified service portfolio "Archivar 4.0"
- Over 1.400 clients, approx. 1.200 employees at 4 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 work- flows 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 not your typical medium-sized company: it is an owner-managed organization of roughly 1.200 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 *(Saxony)* and Essen *(the "Green Capital", NRW)*.

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.

- Selected open positions in Germany for students: thesis students *(business IT, information systems, IT, software development)* for innovation in documentation and archiving enabled by state-of-the-art IT and by digital transformation.

FOR MORE INFORMATION, CONTACT:

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www.dmi.de

EUCON

Eucon is one of the companies demonstrating foresight in challenging times. The digital pioneer has a track record of more than 25 years of successfully supporting digital transformation in the automotive, insurance, and real estate industries.

A major factor in the success of the expert for data-driven decision-making and process intelligence is its focus on implementation. Eucon is convinced that it is not merely a matter of generating ideas, but above all transforming them into marketable products. Therefore, products are jointly developed in close cooperation and constant exchange with our B2B customers. At the heart of all products is the objective to turn data into actionable insights and cater customer needs for ever greater automation of processes. This inspires enthusiasm to embrace change, but above all generates added value for our customers.

ABOUT THE EUCON GROUP

Eucon develops data-driven solutions based on technologies such as Artificial Intelligence and Robotic Process Automation. In total, more than 500 employees work for the Eucon Group worldwide. Around 250 customers from over 80 countries already rely on the products of the innovation leader around the global automotive aftermarket, the insurance claims process and real estate management.

In the automotive aftermarket, Eucon is a leading international provider of market information and data-based solutions for the product management of parts manufacturers. The systems are used by both original equipment manufacturers and automotive suppliers who seek to define and improve their aftersales strategy using data-driven processes.

In the insurance industry, Eucon implements solutions to analyze, automate, and accelerate the entire claims process, from claims reporting to AI-supported verification, control, and automated processing to final negotiation. With its aggregated products, Eucon enables significantly simpler and faster processes, cost benefits, and higher productivity for insurers.

For real estate companies and corporate real estate managers, Eucon offers a platform for data-driven property management. The use of various quality-assured sources thereby enables fact-based real estate management. The central data platform creates added value by paving the way to a digital twin of the building, especially in terms of consumption and a full cost overview. This enables companies to make informed investment decisions and increase building profitability. At the same time, rapid efficiency gains are achieved in invoice processing and internal and external cost control is improved.

JOB OPPORTUNITIES

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. Possibilities to join the company in Münster or remote:

- *(Junior)* Software Developer *(m/f/d)*
- *(Junior)* Data Scientist *(m/f/d)*
- DevOps Engineer *(m/f/d)*
- Junior Product Manager *(m/f/d)*

We also mentor bachelor's and master's theses in various areas and are regularly looking for interns and working students.

CONTACT

Dr. Jens Brunk
Technical Lead Data
jens.brunk@eucon.com

Vanessa Solic
HR Manager Recruiting
vanessa.solic@eucon.com

For more information, visit us at
www.eucon.com/Jobs

or follow us on
www.linkedin.com/company/eucon-group

ABOUT THE COMPANY

For the sixth time in the past 11 years, Hilti has been named one of the best employers by Great Place to Work.

What began as a family business in 1941, founded by brothers Eugene and Martin Hilti, has become a leading industry player with over 120 locations worldwide and a workforce of more than 33,000 colleagues. Our incredible journey, from humble beginnings to a global powerhouse, is a shining example of the rewards of a hard-working and dedicated team.

At Hilti, we provide leading-edge tools, technologies, software, and services for the global construction industry and beyond. Our purpose is making construction better based on a passionate and inclusive global team and a caring and performance-oriented culture.

We invest a substantial amount of our annual profit to the Hilti Foundation, which focuses on initiatives that empower people to live independently and autonomously, contribute to building stronger societies, and create networks of competent partners to achieve sustainable and scalable impact.

Hilti stands for quality, innovation, and direct customer relationships, resulting in about 280,000 individual customer contacts each day. Many ideas for improvements are developed directly on construction sites while talking to customers. This is why the company invests approximately 7 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.

ABOUT GLOBAL IT IN HILTI

Hilti's IT team is a globally diverse group with major hubs in Switzerland, Malaysia, and the USA. Each location boasts a highly skilled team that collaborates closely to achieve success. Known for their commitment to sustainable value creation, Hilti's IT experts are dedicated to utilizing the latest technological innovations to deliver value-adding solutions and services.

TOPICS OF INTEREST

- Business applications – where we run a fully consolidated global SAP S/4 HANA system landscape.
- Digital workplace – where we connect our 33,000 Hilti people and make them an information-enabled team.
- Cloud application platform – where we build our common platform for all digital and software offerings to our customers.
- Enterprise computing – where we design, build, and operate our network and computing capabilities.

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

JOB OPPORTUNITIES IN OUR STRATEGIC IT OFFICE IN BUCHS, SWITZERLAND:

- Interns or thesis students
- Hilti Fellowship program
  (in cooperation with University of Liechtenstein)
- Graduate positions

Take a look at the open positions on
https://careers.hilti.group
or get in touch with us directly.

CONTACT
Lea Ricken
Internship Manager
lea.ricken@hilti.com

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 benefits 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.

PICTURE

Prozessmanagement. Einfach. Machen.

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 website *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

PROVINZIAL

ABOUT THE COMPANY

The Provinzial Group is the second largest public insurance group in Germany. We are an insurer and employer in the region with social responsibility. With 12,000 employees in various professional groups, we inspire our customers with security and reliability.

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 not more than a few minutes away and can also 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 head offices in Münster, Düsseldorf, Kiel, Hamburg and Detmold.

OUR IT DEPARTMENT

Within the IT department, our almost 1,000 colleagues ensure the operation and further development of our systems. With the help of process automation and machine learning, we know faster what our customers want and are able to react quickly and appropriately. Our cross-functional teams range from the Baltic Sea to the Rhineland 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. And with our corporate start-ups such as Apato *(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

Advanced data provision by Datenservice+

Datenservice+ GmbH *(DS+)* emerged as a fully-owned subsidiary in June 2023 from the Provinzial company, stemming from the success of a mapping application developed as part of a project aimed at generating insurance quotes for residential buildings. With its API, DS+ provides – with more than 56 million buildings – the most comprehensive building information for Germany. With an initial team of six employees, DS+ is set to broaden its scope, extending its services to provide comprehensive information regarding buildings and their respective environments not only to insurance companies but also to various industries. *(www.datenservice.plus)*

Funding for Female Founders

In the course of 2023's Startup Week Düsseldorf, Provinzial invited female founders to pitch their companies and desired areas of growth. The collaborative jury consisting of representatives from InsurLab Germany, InsurTech Hub Munich, Crossbuilders, nushu founder Melly Schütze and employees of Provinzial awarded the prize of 20,000 euros to the founders of littleplan, who prevailed against five other teams of founders. Littleplan supports first aid for children with nursery posters and pram accessories. The founders have received an award from the Björn Steiger Foundation and are now represented with their products in the dm online shop. A continuation of the format is planned for 2024.

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 regularly search 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

Communicate directly:
it-perspektiven@provinzial.de

Get more information:
www.provinzial.de/karriere

or follow us on

SAP

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

- Business AI
- Digital Supply Chain
- Industrie 4.0 / IIoT
- Employee Experience Management
- Sustainable Enterprises / 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

ADVISORY BOARD

ABOUT THE COMPANY

With 575,000 employees in 32 different countries, the Schwarz Group is among the top retail groups in the world. Based in Neckarsulm, Baden-Württemberg, Germany, the pillars in food retailing are Lidl and Kaufland. Furthermore the Schwarz Produktion is active in food production and PreZero in the area of environmental services. This makes the Schwarz Group one of only a few retail groups to cover the entire value cycle, from production and retail to disposal and recycling. Schwarz Digits as IT and digital division offers compelling products and services, wich comply with Germany's strict data protection standards.

By continuously considering current technological developments, Schwarz IT identifies innovative courses of action. In close cooperation with the departments, Schwarz IT develops professional, efficient IT solutions. In total, Schwarz IT is responsible for IT at more than 13,700 locations throughout the Schwarz Group in 32 countries en-route to "Trading 4.0".

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.

TOPICS OF INTEREST

Digital Transformation and Innovations, Business Transformation, extensive service processes, IT architecture, Cloud Data, Informatics, Master Data Management, SAP HANA, Big Data, Business Intelligence, Artificial Intelligence & Analytics, SAP Retail/EWM/CAR, Salesforce, CRM, SuccessFactors, GK Software, Hybris, Solution Development, Design Thinking and Conversational Commerce (Chatbot, VoiceBot).

JOB OPPORTUNITIES

In a wide range of exciting tasks and global projects, employees work in a dedicated, independent and cheerful way towards providing optimum business support to Europe's largest retail company in terms of assisting global business processes, and designing, developing and rolling out systems. Furthermore, they ensure a highly-available IT system and application landscape as well as ultra-modern, high-end technologies.

Goals: The Schwarz Group is among the top retailers worldwide with annual sales of over 154,1 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

www.it.schwarz

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

viadee®
IT-Unternehmensberatung

ABOUT THE COMPANY

viadee Unternehmensberatung AG is a German IT-Company with more than 200 tech-interested 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 1994 to offer great individual solutions to our customers.

viadee currently has an office in Münster, as well as an office in Cologne and Dortmund. 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 CO_2 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.

TOPICS OF INTEREST

We share a passion of technological and methodical expertise. Keeping up to date with the ever-changing world of IT, there are various opportunities to grow within viadee.

Bringing BPMN *(business process model notation)* models to life is currently one of our core activities. Prominent mention should be given to our Open Source contributions on GitHub, as well as our confluence BPMN-Modeler on the Atlassian Marketplace. Work often is organized in agile projects leveraging Java- or Cloud-based technologies, be it newest technologies 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 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 RPA framework: An opportunity to create cross-platform integration tests, be it web-based, or on the level of an operating system.

Areas of expertise and consulting products, such as these, are invented and supported like internal start-ups by using lean methods.

Employees contribute their topics of interest as part of our research and development activities. Right now, this is happening with IT-Security, Cloud Architecture, Process Mining, Agile Leadership, ML-Ops, and several other topics.

JOB OPPORTUNITIES

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

IT-Consultants for
- Software Engineerng
- BPM & Software Architecture
- Data Science & BI

To find out about our benefits and further job listings make sure to visit our website *www.viadee.de/karriere*.

For a closer look at our field of interest, you are invited to follow along at *blog.viadee.de* – a blog to which every employee can add content.

FOR MORE INFORMATION, PLEASE CONTACT:

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www.viadee.de

ABOUT THE COMPANY

100 years of expertise: The Westfalen Group is active in the fields of technical gases, refrigeration and heating, service stations and mobility, and respiratory home therapy. With its products and services, the company is increasingly offering solutions that help customers become more sustainable. Hydrogen as an energy carrier is playing an important role in more and more areas. Founded in Münster in 1923, the family-owned company is now represented by numerous subsidiaries and affiliates at over 20 production sites in Germany, the Netherlands, Belgium, France, Switzerland and Austria. In the fiscal year 2022, sales of around 2.3 billion euros were generated with approximately 2,000 employees.

Industrial Gases & Services

The Westfalen Group produces and sells more than 300 technical gases and gas mixtures for virtually all applications in industry and the trades, food production, laboratories, pharmaceuticals and medicine. These include the air gases nitrogen, oxygen and argon, which are produced in three of the company's own air separation plants, as well as acetylene and hydrogen. Refrigerants and heat transfer media for cooling and air-conditioning technology complete the extensive product range.

Energy Solutions

With its Westfalengas brand, the Westfalen Group is one of Germany's leading suppliers of liquefied gas. Westfalengas is suitable for more than 2,000 applications: as off-grid thermal energy for heating private homes, factory buildings and agricultural buildings, for thermal processes in industry and commerce, and as environmentally friendly energy carrier for cars or forklifts. Since mid-2023, Westfalen has been adding heat pumps to its range of heating solutions

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. Westfalen is actively helping to shape the mobility transition and is increasingly focusing on future fit energy carriers: its product portfolio already includes charging power from 100% green electricity, hydrogen, and a prospective switch from LNG to Bio-LNG and the offer of Bio-CNG.

Respiratory Homecare

Westfalen offers innovative equipment technologies and services in the fields of oxygen, sleep, nebulizer and ventilation therapy as well as secretion management, and its commitment contributes to a significant improvement in the quality of life of the people supplied.

A family owned company

The Fritsch-Albert family ensures continuity of the family company: Westfalen remains an independent family business, competitive, financially independent and proud of its 100-year history. The family foundation behind the company guarantees a stable ownership structure and stands for generation- and value-oriented thinking.

Sustainability

The Westfalen Group has defined six fields of action in which the family-owned company is focussing upon sustainability. In addition to the aim of being an attractive employer and increasing transparency in the supply chain, Westfalen would like to help itself and in particular its customers to act in a more sustainable way. Westfalen's locations in Germany are certified according to ISO 14.001 and the electricity-intensive locations according to ISO 50.001. Since the beginning of 2022, all Westfalen filling plants in Germany have been powered by green electricity. At the same time, Westfalen is developing future fit business models and wants to actively contribute to the energy transition by investing in sustainable drive energies such as Bio-CNG, Bio-LNG, hydrogen and e-mobility. Westfalen has set itself the goal of significantly expanding its hydrogen activities in the coming years and establishing itself as the preferred partner for European SMEs in the decentralized production and delivery of green hydrogen. This includes expanding the network of mobile and stationary hydrogen filling stations, primarily for refueling commercial vehicles. With the acquisition of the NGC.Tec Group, Westfalen has also significantly strengthened its position in the field of electricity-based heat in 2023.

TOPICS OF INTEREST

- Industry 4.0
- IoT in Logistics
- Data Analytics and Machine Learning
- Several initiatives for AI
- Mobile Solutions
- Business Process Excellence
- Digital business models

JOB OPPORTUNITIES

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

https://www.westfalen.com/de/de/unternehmen-jobs/jobs-karriere

COMPETENCE CENTERS

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.

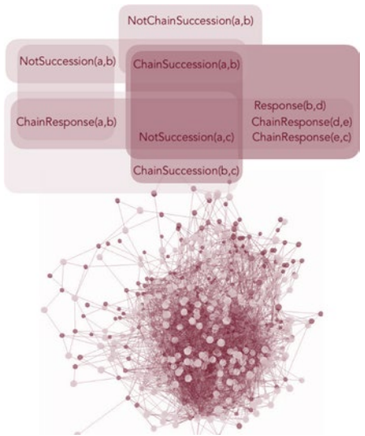
COMPETENCE CENTERS

CONCEPTUAL MODELING

The Competence Center for Conceptual Modeling focuses on the development of novel methodologies, providing automatic support for the design, enactment and analysis of process models in different business domains. Our research is mainly based on formalisms, models and algorithms from graph theory, machine learning, propositional logic, natural language processing, ontologies, and software engineering.

RESEARCH

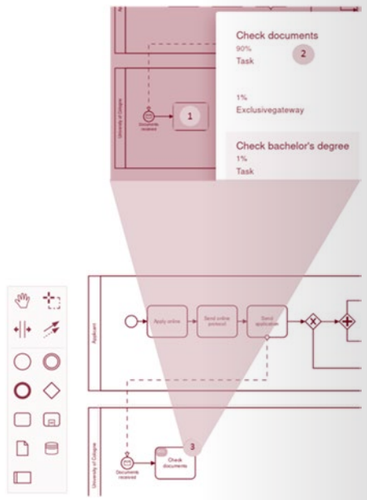
- Business Rules Management: Declarative Process Models consist of so-called business rules that are used to control the execution of business processes. Other than imperative process models, they allow any process execution as soon as the rules are complied with. Business rules are often maintained in repositories as part of process-aware application systems. An important task of Business Rules Management is to maintain said repositories in coordination with running process instances in order to cope with inconsistencies, for instance. In our new research project "Predictive and Interactive Management of Potential Inconsistencies in Business Rules *(MIB)*", we will focus on the prediction of inconsistencies based on currently running process instances and on proactively avoiding them also considering human-in-the-loop approaches. The project will start in January 2024 and will be funded for three years by the German Research Foundation *(DFG, DE 1983/9-3)*.



- *(Social)* Process Mining and Prediction: Traditional Process Mining focuses on highly structured processes as they are typically executed in enterprise systems or semi-structured processes, which are supported, for instance, by case handling systems. A new research field in Process Mining, which we initiated with our research project "Social Process Mining *(SPM)*", focuses on unstructured processes as we find them in Enterprise Social Software *(ESS)*. The goal of the SPM-project, which is funded for three years by the German Research Foundation *(DFG, DE 1983/12-1)*, is to develop Process Mining algorithms that consider the special character of unstructured ESS processes and to apply them on large ESS log data to automatically detect typical collaboration scenarios in ESS. Recently, we acquired a new research project in this field, which focuses on the prediction of unstructured processes. It will be funded for three years by the Rhineland-Palatinate Research Ministry for three years, starting in January 2024.

- Predictive Process Monitoring: Predictive Process Monitoring *(PPM)* is used to learn the structure and behavior of a business process automatically from log files of business software and predict the future behavior of currently running process instances. The prediction results can be used to proactively influence process instances, for example, to assure beneficial behavior and avoid unfavorable one. Currently, we are working on our research project "Context-aware Predictive Process Analytics", which is funded by the German Research Foundation *(DFG, DE 1983/13-1)* for 2½ years, and which has started in November 2022. The project involves ERCIS partners from the universities of Erlangen-Nuremberg and Koblenz.

- Process Modeling Recommender Systems: Recommender Systems provide automatic support for process modelers by recommending next and/or previous process flow 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. 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 1983/11-1)*.



DFG Deutsche Forschungsgemeinschaft
German Research Foundation

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C³M

CRISIS MANAGEMENT

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

CURRENT RESEARCH PROJECTS

The C³M team is looking back at a busy but highly productive year 2023. In June, our project "BISKIT: Blood Information System for Crisis Intervention and Management", funded by the Federal Ministry of Education and Research, ended with an exciting final meeting at the University of Darmstadt. We were happy to present the developed multi-method simulation environment, our findings on integrated optimizations, and several improved enterprise architectures of the involved practitioner organizations, the *South African National Blood Service* and *National Blood Service Ghana*. We have truly enjoyed the great international and interdisciplinary collaboration and new learnings, which led to several interesting follow-up activities. One exciting action was already undertaken: We have successfully organized a project seminar with the blood transfusion service of German Red Cross *(DRK-Blutspendedienst West)*, where new opportunities through information systems and sourcing strategies to increase donations and to reach new donors were investigated.

We also made good progress in our collaborative research project "DigCBA: Responsible Use of Digital Cash-Based Assistance", funded by the Research Council in Norway and led by our ERCIS partners from the *University of Agder*. The project objective is to design, develop, and evaluate evidence-based frameworks to support selecting and using the most suitable digital technologies for delivering cash-based assistance (CBA) to refugees. This objective not only perfectly matches our past and ongoing research on humanitarian logistics but also leads to a stronger integration of ERCIS partners in the C³M. In 2023, the project entered its second year. In addition to regular meetings between all participating institutions, interviews were conducted, and workshops were held in refugee shelters in Uganda. Moreover, as part of the project, we were happy to host *Ms. Sajedeh Dehghan* for two months as a visiting scholar from *Yazd University, Iran*. The various project activities resulted in a publication in the *International Journal of Disaster Risk Reduction*.

Two out of four ongoing projects were concluded in the area of epidemics modelling. In the *DFG-funded* project SpaceImpact we have contributed to forecast COVID-19 caseloads in Germany at a highly regional level using the EpiPredict simulation platform. The EpiPredict platform was developed in a former research project and is a testbed to evaluate non-pharmaceutical intervention strategies for a deeper understanding of infection dynamics. Besides, our *H2020-funded* demonstration project "STAMINA: Demonstration of Intelligent Decision Support for Pandemic Crisis Prediction and Management within and across European Borders" ended in February with the finalization of twelve European trials, in which different pandemic management innovations were evaluated. Our contribution was centred around adjusting and applying the Trial Guidance Methodology *(see tgm.ercis.org)* to evaluate several innovative pandemic management solutions.

At the same time, our two interlinked and epidemic-related research projects, funded by the Federal Ministry of Education and Research, entered the second project year. In the project OptimAgent, we have contributed significantly to the alpha version of the German Epidemic Micro-Simulation System (GEMS), which contains a full-scale population model of Germany and allows public health decision-makers to evaluate the effectiveness of infectious disease intervention strategies. Several development, modelling, and coding workshops have occurred in Münster, Kaiserslautern, Trier and Berlin. In the PROGNOSIS project, we progressed with the development of a simulation-based testbed for resource allocation decisions in a hospital network during a pandemic. Both projects have been presented and discussed with the research partners on the MONID *(Modeling Network for Severe Infectious Diseases)* Annual Meeting in Berlin and at the 18th Biennial European Conference of the Society for Medical Decision Making.

It was also great, that our 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)*, again turned into full face-to-face mode. Besides, our collaboration with the *Institute for Fire Services of North Rhine-Westphalia*, the *Fire Department* and the *City of Erftstadt*, which was seriously affected by the German floodings in the year 2021, was further intensified. Together with a group of nine ERCIS students, we have investigated the collaboration between the involved crisis teams as well as the crisis communication to the public. We have developed a scalable platform supporting the communication between the different stakeholders, including the utilization of cutting-edge language models.

We very are grateful for the great collaborations with our long-standing and new partners and would like to end with two amazing news: We are very proud of our team member *Sebastian Henke*, who was granted with the *best student research paper* at the 20th annual ISCRAM conference in Omaha, USA! And, on top of this, we are very honoured to announce that the 21st ISCRAM conference is coming to Münster, Germany, from May 25th to 29th. The C³M will join forces with the *State Fire Service Institute North Rhine-Westphalia* to host the conference, embodying a pracademic approach. Please visit the conference website for information: *iscram2024.ercis.org*. We will be happy to welcome you in Münster and explore further opportunities how ERCIS can even more contribute to ISCRAM research!

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COMPETENCE CENTERS

DTM for SMEs

DIGITAL TRANSFORMATION MANAGEMENT FOR SMES

SMEs *(small and medium-sized enterprises)* account for approx. 65 per cent of jobs in most OECD countries. Throughout they also account for a disproportionately large share of new jobs created. So, helping SMEs to grow helps the whole economy growing and provide a distribution of welfare in society.

Digital transformation is challenging for most firms who struggle with effectively understanding the opportunities and consequences of digitalization to their business and how they should transform. This struggle is especially true for small- and medium size enterprises, who may not have the financial resources needed to source the capabilities for managing this transformation.

The competence centres of the ERCIS networks are programs of varying lengths, established to promote research and learning activities into areas of concern, like this competence centre Digital Transformation Management for SMEs. These programs live for as long as needed. In a progressing faster changing world, with the added threats coming from global warming and energy crisis, global social crisis, and at the same time, the new opportunities coming from new technologies like generative artificial intelligence, we feel that there is still a need for such a competence centre.
A core group consisting of prof. Isabel Ramos, University of Minho, prof. Stefano Za, Università degli Studi "G. d'Annunzio", and assoc. prof. Niels Garmann-Johnsen, University of Agder, have for some time been planning or an international summer school, linked to promoting a sustainable green wine industry, a case that can provide insight into how SME businesses can become mor sustainable and resource efficient in general, using digital means.

The first summer school is planned in the Porto region, in the summer of 2024, aimed at Ph.D. candidates and master students.

PROJECTS AND ACTIVITIES

Here we will highlight some of the competence centres activities: two new research streams, and last but not least, the new summer school!

New BPM capabilities for SMEs

In research, and an article named "Conceptualizing Business Process Management Capabilities in Digitalization Contexts" presented at the 2023 CENTERIS conference *(Porto, Nov. 2023)*, the authors *(Eikebrokk, Olsen and Garmann-Johnsen)* address a gap in the business process management literature *(BPM)* regarding the capabilities needed for interacting with actors outside of the organization as drivers for process innovation. We describe capabilities for process management in contexts when digitalization involves actors outside of the organization. In our answer to closing this competence gap, we conceptualize activities related to business network co-creation to be covered in a proposed new BPM capability.

The Tripple bottom line co-creation business canvas

One of the areas where SMEs may benefit from collaboration and co-creation new joint value propositions to users and customers are linked to more sustainable value chains and -networks. By adopting digital technologies, SMEs can potentially improve their financial performance by increasing efficiency, reducing costs, and reaching new markets. For small and medium-sized enterprises *(SMEs)*, such investments can be particularly challenging due to their limited resources and reliance on external cooperation. As a result, many successful SMEs have opted to collaborate with other companies to co-create digital assets. Digital transformation can also have social and environmental impacts, both positive and negative. By considering social and environmental impacts alongside financial performance, SMEs can identify and address potential risks and opportunities, and develop strategies that balance the three dimensions of the Triple Bottom Line. This concept refers to the idea that enterprises should not only focus on financial profits but also on social and environmental impact, combining "people, planet and profit". To address this gap, the authors *(Garmann-Johnsen, Eikebrokk and Olsen)* have developed a conceptual model of a Triple Bottom Line co-creation canvas based on a review of the literature and real-life co-creation cases. This canvas can be a valuable tool for SMEs looking to better understand how to approach co-creation network in their industry that takes corporate sustainability into account *(Fig. 1)*.

One example case-study highlighted in this research and article, «The Tripple bottom line co-creation business canvas» as presented at the CENTERIS conference,

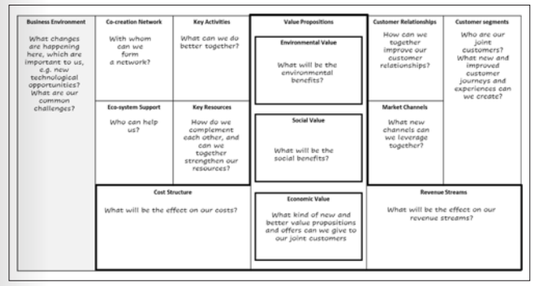

Figure 1
The Tripple bottom line co-creation business canvas – key questions

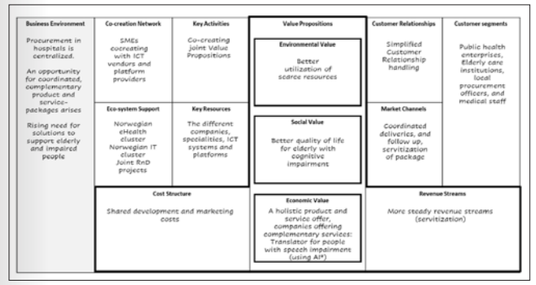

Figure 2
TBL Co-creation Business Model Canvas for the cognitive impairment technology network.

Figure 3
Intended program, summer school (facsimile)

2023, and demonstrating it's potential use, involved a consortium of bigger and smaller ICT-companies collaborating to mitigate the problem of cognitive impairments in the aging population through the use of Artificial intelligence. This project plans to record and analyse speech from individuals and adapt it to translate later diminished speech. The societal effect of this project is contributing to better quality of life for elderly with cognitive impairment, and a reduction in the cost of care for the elderly or other individuals with reduced speech. There is also an environmental value proposition in better utilization of scarce resources *(Fig. 2)*.

Digital Transformation of the Wine Industry
In September, the first Zoom meeting *(Niels Garmann-Johnsen, Stefano Za, Isabel Ramos)* was held to prepare the summer school aimed at master's students and focused on the digital transformation of the wine industry. A draft program was developed, and it will be refined through contacts with industry companies to tailor the training to their needs. The first edition will take place in Portugal in 2024, promoted by the University of Minho. The second edition will be held in 2025 at the University of Pescara in Italy.

In early October, the opportunity arose to link this summer school to the implementation of the hackathon within the CoDeAI project, involving the participation of that project's consortium in the initiative. Currently, this possibility is being incorporated into the initial plans. Below is the draft program for the summer school *(Fig. 3)*.

PUBLICATIONS

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Other contributions? Lease send us information *(see contact details!)* and we can post it at our website *ccdt.ercis.org*!

eGov

E-GOVERNMENT

The E-Government Competence Center unites members within the ERCIS network who are focused on digitalization in the public sector. Our research encompasses a wide range, from individuals' utilization of e-government technology to e-participation and process management.

Future Digital Towns

The Future Digital Towns research group, funded by the German Research Council *(DFG)*, explores how mid-sized cities *(towns)* tackle digitalization challenges and develops digital tools to enhance their livability. The project focuses on four key areas: government & administration, economy, labor & energy, civil society & social services, and education & culture.

In six sub-projects, the group analyzes town-specific challenges and creates solutions that maintain the town's identity and regional connection. The team includes experts from Information Systems *(Jörg Becker, Thomas Hupperich, Bettina Distel, Hendrik Scholta)*, Educational Science *(Marcelo Parreira do Amaral)*, Sociology *(Matthias Grundmann)*, Political Science *(Norbert Kersting)*, and Economics *(Andreas Löschel)* at Ruhr University Bochum.

In February 2023, the research group had a successful kick-off. They established research goals, developed working papers, and fostered collaboration with partner towns and institutions. A workshop in May 2023 with nearly 30 partnering towns and institutions provided valuable insights into the challenges of digitalization. Subsequent activities involved literature reviews, empirical research, and resulted in publications. The group also engages students through seminars in the University's 2023 summer and 2023/2024 winter terms, sharing their research content and questions related to digital towns.

eGov-Campus at the University of Münster

As public service delivery becomes increasingly digital, e-government initiatives are gaining importance. However, the public sector continues to face a shortage of personnel with adequate IT skills to address this challenge. To tackle this issue, the "eGov-Campus" research project began in 2020 with the goal of establishing a nationwide e-learning platform for e-government. This platform empowers public officials to develop essential IT competencies. In 2021, the first online course, led by Prof. Jörg Becker and the CC eGov, focused on process management in the public sector.

While the initial course received positive feedback, it became apparent that the course's depth was overwhelming for public employees not working as process managers. However, some basic and potentially role-specific knowledge was deemed valuable to a broader audience. Thanks to extended funding from the German IT planning council, activities in 2023 concentrated on modularizing the course and tailoring content for specific target groups. The modularized course now includes a foundational module for all employees and additional modules for process managers, organizational employees, and IT personnel. It is scheduled to launch by the end of 2023.

To expand the project's impact, we partnered with Speyer University for the first time this year to deliver the process management course in a hybrid format. The CC eGov has taken on a coordinating role in the project, with project administration handled by the Hessian State Chancellery.

Collaboration with the Norwegian Labour and Welfare Organisation

During spring 2023, the University of Agder established a strategic partnership with the Norwegian Labour and Welfare Organisation *(NAV)*, based on our research in the digitalization of the public sector at the Department of Information Systems. NAV administers one third of the state budget and has a high need and wish for digital transformation. The collaboration agreement focuses on responsible digitalization and aims to serve as a catalyst for initiating several projects in this field. Currently the agreement comprises the three programme areas Digital Citizenship, Citizen Channel Selection and NAV's Multichannel Strategy, and Human-Centered Artificial Intelligence. The contact persons are Sara Hofmann, Øystein Sæbø and Xenia Vassilakopoulou.

Furthermore, researchers from the University of Agder are currently working on several research projects in collaboration with NAV. In their project "AI4 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 facilitating 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.

Master's Program Public Sector Innovation and E-Governance *(PIONEER)*

PIONEER is a joint master's program organized by KU Leuven, the University of Münster, and TalTech University Tallinn, providing students with interdisciplinary expertise. While the sixth cohort has already relocated to Tallinn, the seventh cohort, consisting of more than 30 students, commenced in Leuven. We look forward to welcoming them in Münster in April 2024.

Starting with this cohort, the program is once again funded by the European Commission, enabling us to offer scholarships. This support aligns with our goal of integrating the best students from around the world, bringing individuals from all continents into the new cohort.

Student Track at d.go 2023

In July, Bettina Distel and Hendrik Scholta *(both from Münster)*, in collaboration with Karen Mossberger *(Arizona State University, USA)* and Marzia Mortati *(Polytechnic University of Milan, Italy)*, organized the inaugural Digital Government Student Track at the Annual International Conference on Digital Government Research *(dg.o 2023)* in Gdańsk, Poland. The primary objective was to provide Bachelor's and Master's students with valuable hands-on experiences in academia and the publication process. Bachelor's and Master's students served as the first authors of all accepted papers and presented their research work.

The track at the conference was organized in a hybrid format to attract submissions from around the world, resulting in productive discussions with the audience.

Change in Competence Center lead

At the end of the year, Michael Räckers will pass on his co-leadership role at the competence center to Bettina Distel. Michael has been the head of the competence center since 2007. In light of significant changes in the organization of the Department of Information Systems, now is the appropriate time for this transition to Bettina. Bettina specializes in digitalization of the public sector, with a specific emphasis on trust. Welcome, Bettina!

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COMPETENCE CENTERS

COMPETENCE CENTER SMARTER WORK

SMARTER WORK

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.

SELECTED RESEARCH PROJECTS

- Responses to privacy and security risks in Zoom *(K. Dassel, S. Klein)*

During the COVID-19 pandemic, digital platforms like Zoom became essential for remote work. Yet at the same time, substantial security and privacy risks made the headlines. Using the lenses of Naturalistic Decision-making and the Theory of Multilevel Information Privacy, we find diverging responses to well-documented security risks of Zoom use in educational environments. We identify-three distinct response patterns, which we name the 'Agnostic', the 'Pragmatic' and the 'Sceptic'. We provide empirical evidence for multilevel decision-making and highlight the contextual and social nature of privacy decision-making about platform mode of use for remote work.

- Hybrid Workplace Behaviors and Self-Determination *(J. Hüllmann in cooperation with P. Weritz)*

The deployment of novel technologies in the digital transformation of work creates new avenues for hybrid workplace arrangements. Although recent phenomena-driven research highlights the sustainability of hybrid work, firms struggle with designing hybrid work arrangements to benefit the organization and its employees. In this research project, we follow a survey-based approach and investigate what factors guide hybrid workplace behaviors and what influence these hybrid workplace behaviors have on the employees' IT mindfulness, job satisfaction, and autonomy. The results contribute to understanding hybrid workplace behavior and shed light on how firms can design their work arrangements to facilitate employee self-determination and benefits.

- People Analytics Beliefs *(J. Hüllmann in cooperation with M. Gierlich-Joas)*

People analytics *(PA)* is a sensitive topic that provokes contradictory beliefs, often at odds with the reality of PA's technological features. While managers tend to overtrust PA in explaining and predicting the workplace, employees fear transparency and surveillance. Confronting these beliefs with the reality of PA leads to unmet expectations and complicates PA's introduction into organizations. Thus, uncovering how these beliefs are formed is crucial. In this research project, we empirically investigate the beliefs of PA by conducting semi-structured interviews. The results shed light on the contextual factors that guide the formation of beliefs. Explanations for the contradictions are derived and inform guidelines for designing and initiating PA projects. The guidelines contribute to effectively introducing PA in organizations and reducing PA project failures.

- Meaningful work in human-AI collaboration settings *(J. Backmann and B. Berger in cooperation with C. Ruiner)*

Leveraging technological advances in artificial intelligence *(AI)*, many companies begin to establish collaborations between humans and AI-based systems. This raises the question how the implementation of AI-based systems at the workplace affects human work, specifically its meaningfulness. To answer this research question, we conducted an experimental two-step study. In the first step, we identified tasks that differ in their meaningfulness to human workers. Secondly, we investigated how support by an AI-based systems in conducting these tasks affects the tasks' meaningfulness. The results show that the deployment of an AI-based system does not necessarily affect task meaningfulness or the effect of task type on meaningfulness. However, AI support moderates the relationship between task type and excitement, reducing professionals' excitement for particular meaningful tasks.

- Implementing ML-Based Forecasts in Financial Planning and Analysis *(M. Möllers and B. Berger in cooperation with K. Riemer)*

Seeking efficiency gains and data-driven insights, organizations increasingly deploy machine learning *(ML)* techniques to support human work and decision-making. As the introduction of a new technology comes with new roles and interactions between humans and ML-based systems, new actor configurations arise which meet long-established work practices and can evoke diverse challenges and responses. By means of an exploratory case study inside Deutsche Telekom, we investigate the introduction and use of machine learning *(ML)* predictions within its financial planning and analysis *(FP&A)* departments. Our case organization aims to establish a setting in which human controllers remain in the loop of ML predictions to adjust input and output data while using these insights as a secondary opinion for financial planning and decision making. We try to shed light on the individual responses and challenges that the new interplay between financial planning practices and ML-based insights in the human-in-the-loop configuration evoke.

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SELECTED PUBLICATIONS

Backmann, J., Berger, B., & Ruiner, C. (2023). Meaningful Work in Human-AI Collaboration Settings. Presented at the 39th EGOS Colloquium 2023. Cagliari, Italy.

Dassel, K. S., & Klein, S. (2023). To Zoom or Not: Diverging Responses to Privacy and Security Risks. Journal of Business Research, 161, 113772.

Hüllmann, J. A., Göritz, L., Hagen, S., Beinke, J. H., & Thomas, O. (2023). Servitization in Automotive: The Digital Transformation of Selling Product-service Systems at a Large German Car Manufacturer. In Proceedings of the 31st European Conference on Information Systems, Kristiansand, Norway.

Hüllmann, J. A., Precht, H., & Wübbe, C. (2023). Configurations of Human-AI Work in Agriculture: Adoption and Use of Intelligent Systems by Agricultural Workers. In Proceedings of the 43rd GIL-Jahrestagung, Osnabrück, Germany.

Gierlich-Joas, M., & Hüllmann, J. A. (2022). Tensions between Affordances and Valuations of People Analytics among Stakeholders. In Proceedings of the Pre-ICIS 2022, International Workshop on The Changing Nature of Work, Copenhagen, Denmark.

Klein, S., & Watson Manheim, M. B. (2022). Transformation of Higher Education During and After COVID-19. In Proceedings of CNoW 2022. Copenhagen, Denmark.

Lansmann, S. (2023). The Relevance of Individual Work for Team Collaboration in Digital Environments. Dissertation at the University of Münster.

Möllers, M., Berger, B., & Klein, S. (2023). Contrasting Human-AI Workplace Relationship Configurations. In I. Constantiou, J. P. Mayur, & M. Stelmaszak (Eds.), Research Handbook on AI and Decision Making in Organizations. Edward Elgar Publishing Ltd.

Rzepka, C., Berger, B., & Tams, S. (2023). AI-based Technologies for Everyone: How and Why to Adapt Voice Assistants' Complexity to Older Adults. In Proceedings of the 44th International Conference on Information Systems. Hyderabad, India.

COMPETENCE CENTERS

C²SMA
Competence Center
Social Media Analytics

MISDOOM 2023
5th Multidisciplinary International Symposium on Disinformation in Open Online Media
November 21-22, 2023
Centrum Wiskunde & Informatica, Amsterdam, The Netherlands

SOCIAL MEDIA ANALYTICS

The Competence Center Social Media Analytics *(CC SMA)* deals 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: information systems, computer science, psychology, statistics, journalism and media, communication science, as well as mathematics.

RESEARCH

The CC SMA has continued topics of previous years in research, networking, as well as in collaboration projects, and at the same time has added new topics to its consideration. The new research topics particularly include the possibilities of generative neural networks *(like GPT)* for content production. This content can be applied in the context of the above foci of disinformation, fake news, and propaganda for increasing the possibilities of malign exploitation and enhancing the quality of disseminated content. The possibilities were already scientifically described in the last reporting period; however, these methods are evolving in fast pace and pose ever new challenges to current content and campaign detection methods. Thus, the members of the CC SMA investigated the technical possibilities in detail and extended their perspective to so-called multimodal content *(i.e., text, image, video)* analysis. In addition, the CC SMA worked on AI-based methods that strengthen the recognition of generated *(textual)* content in real-time campaign detection.

NETWORKS, AND COLLABORATIONS

In terms of community networking, CC SMA has been involved in building and strengthening the Social Influence Analysis *(SIA)* network and has been instrumental in applying for and organizing a Lorentz Center workshop on Social Influence Analysis. This workshop was held in Leiden *(The Netherlands)* at the end of September 2023. More than 25 international scientists from the domains of information systems, computer science, mathematics, psychology, communication science, marketing as well as practitioners from industry were invited. This group was able to discuss definitions of social influence intensively and broadly and identified common research gaps and funding tools.

MISDOOM 2023, FIFTH EDITION OF THE INTERNATIONAL SYMPOSIUM

Members of the CC SMA supported the National Research Center for Mathematics and Computer Science Amsterdam, the Netherlands, in organizing the fifth edition of the Multidisciplinary International Symposium on Disinformation in Open Online Media *(https://event.cwi.nl/misdoom-2023/)*. 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. Since 2019, this is the first on-site MISDOOM event, again. The conference features two keynotes from different scientific domains and multiple parallel sessions in a packed two-day program during 21–22 November 2023. Since 2023, Christian Grimme is also acting as head of the MISDOOM steering committee.

PUBLICATIONS

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

Pohl, J. S., Markmann, S., Assenmacher, D., & Grimme, C. (2023). Invasion@Ukraine: Providing and describing a Twitter streaming dataset that captures the outbreak of war between Russia and Ukraine in 2022. In Lin, Y.-R., Cha, M., & Quercia, D. *(Eds.)*, Proceedings of the Seventeenth International AAAI Conference on Web and Social Media *(pp. 1093–1101)*. Palo Alto, CA, USA: AAAI Press.

Klapproth, J., Unger, S., Pohl, J., Boberg, S., Grimme, C., & Quandt, T. (2023). Immunize the Public against Disinformation Campaigns: Developing a Framework for Analyzing the Macrosocial Effects of Prebunking Interventions. In Bui, T. X. *(Ed.)*, Proceedings of the 56th Hawaii International Conference on System Sciences *(HICSS) (pp. 2411–2420)*. Honolulu, HI, USA: Scholar Space.

L. Stampe, J. Pohl, & C. Grimme (2023). Towards Multimodal Campaign Detection: Including Image Information in Stream Clustering to Detect Social Media Campaigns. In D. Ceolin, T. Caselli, M. Tulin *(Eds.)*, Proceedings of the Multidisciplinary International Symposium on Disinformation in Open Online Media *(MISDOOM)*. LNCS, Springer, Cham.

B. Grimme, J. Pohl, H. Winkelmann, L. Stampe, & C. Grimme (2023). Lost in Transformation: Rediscovering LLM-generated Campaigns in Social Media. In D. Ceolin, T. Caselli, M. Tulin *(Eds.)*, Proceedings of the Multidisciplinary International Symposium on Disinformation in Open Online Media *(MISDOOM)*. LNCS, Springer, Cham.

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ACTIVITIES

- Several members of the CC SMA are active project partners in the HybriD project, which is running until 2024. This project addresses the challenges of disinformation campaign detection. In that context, Christian Grimme presented results of the project and the CC SMA joint work at the German Federal Information Security Conference organized by the Federal Ministry of Research and Education *(13–15 March 2023)*.

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- The CC SMA organized the Workshop on Social Influence Analysis held in context of the Social Influence Analysis Network at University of Twente in May 2023.
- The CC SMA was strongly involved in the organization of the Lorentz Center Workshop on Social Influence Analysis held at Leiden University *(25–29 September 2023)*.
- The CC SMA supported the organization of the MISDOOM 2023 in Amsterdam, NL.

ERCIS TEAM

For any inquiries related to the ERCIS network, please feel free to reach out to us via email – we assure you a prompt response from our dedicated team. The team is led by Dr. Armin Stein, the managing director of the ERCIS network, and includes Julia Seither as the team assistant.

In addition to handling email correspondence, our team plays a crucial role in event organization, website maintenance, and managing network communication.

If you have an interest in the network, don't hesitate to get in touch with us! We look forward to connecting with you.

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