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News of the Cologne Institute for
INFORMATION SYSTEMS
10|2019

Editoral

The 7th edition of our newsletter is in front of you. The Cologne Institute for Information Systems has developed outstandingly since its foundation last year.

When I took up my new position in spring 2014, the situation looked quite different and the future was uncertain. We live in a world completely changed by digitalization. The web has provided us with a whole range of new services and applications that have become an indispensable part of everyday life, digital transformation has now even reached agriculture and crafts, and our students are growing up with a smartphone in their hands. Therefore, the importance of information systems is increasing.
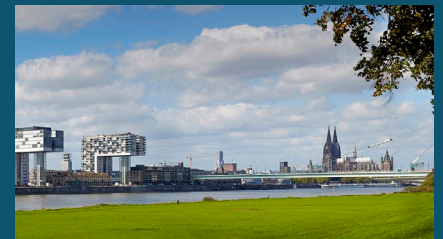
At the same time, our teaching is changing. In the winter semester, the "Systems Engineering for Digital Innovation" course will take place for the first time in the Master's program, where students work together as a team to develop innovative solutions to global sustainability problems. This is a wonderful addition to the Capstone Project in the Bachelor's program.

In December, the first CIIS Doctoral Consortium with renowned senior scholars will also take place as part of our doctoral training.

All of this is also reflected in our new strategic partnerships with industry, where we would particularly like to thank BCG Platinion, real.digital, and Meck-Fink as our new strategic collaboration partners, as well as all our practice partners in the Capstone Project.

We live in exciting times. As always, you can obtain further and always up-to-date information via the social media channels and our website at ciis.uni-koeln.de. I hope you enjoy reading it!

Christoph Rosenkranz

Christoph Rosenkranz

This and previous newsletters can be found digitally at www.ciis.uni-koeln.de/newsletter/

There you can also register for our e-mail newsletter.

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IT Entrepreneurship Bootcamp with Industry Experts

In late June, CIIS hosted a Startup Bootcamp. Over the course of an intensive three days, around 20 students developed new digital business ideas for the financial services industry as part of the module on IT entrepreneurship. We invited experts from the financial services to provide cutting-edge insights digitalization trends in the financial services industry: while Dr. Martin Deckert, COO at Merck Finck, gave an overview of FinTech innovations and challenges for incumbent financial service providers, Dr. Matthias Lange, CXO at FinLeap, presented FinLeap's approach to building and scaling new FinTech ventures. With the friendly support of Corinna Lehmann, D8 University of Cologne, students had to pitch their startup ideas in front of a panel, mimicking Dragons' Den.

We thank Martin, Matthias, and Corinna for their engagement and great support. Many thanks also go out to Tim Schumacher, CIIS alumnus, who invited us to host the bootcamp at eyeo in Cologne Ehrenfeld.

Bachelor Seminar on "Data Management & Analytics" with AXA Germany

As part of our institute's cooperation with AXA Germany the bachelor seminar „Data Management & Analytics" took place in the previous winter term for the first time.

The students got to know the company and its staff and had the opportunity to discover the IT-related opportunities and challenges that the financial services industry faces in an ongoing digital transformation. Employees from the IT department and the Data Innovation Lab took part in the seminar and supported the students as expert contacts and discussants during the semester. For AXA, the efforts paid off: several students did an internship or started at AXA as working students at the end of the seminar.

This year, we want to continue building our partnership to achieve a stronger connection between research and practice in the information systems. That is why we offer a bachelor seminar again this semester, in which the students research topics highly relevant for practitioners such as modern speech assistants, natural language processing, cloud computing or agile software development.

We wish the participants all the best for their research endeavors!

BCG Platinion Becomes the First New Sponsor of the Cologne Institute for Information Systems (CIIS)

On June 11, 2019 BCG Platinion and the Cologne Institute for Information Systems (CIIS) signed a contract for launching a new strategic collaboration to foster actionable research and education in the field of information systems and technology. BCG Platinion becomes one of the first partners entering into this new form of partnership after an extensive restructuring at the CIIS. With this new form of contract, the CIIS aims at fostering long-term relationships, benefitting practitioners, the institute, and students. This new partnership with BCG unites leading-edge IT management and strategic consulting with top-tier information systems research and teaching.

As a nationally and internationally recognized leader in information systems education and research, the CIIS is always looking for matching industry partners. BCG Platinion matches CIIS' strive for excellence and is therefore a perfect match.

CIIS Professor and Chair for Information Systems and Systems Development, Jan Recker, notes that "An important aspect of our faculty mission, 'Innovation for Society,' is to build strong strategic partnerships. We're proud to have BCG Platinion as a core institute partner to establish strong knowledge-transfer opportunities for our research; provide more real-world career opportunities for our students; and help us engage and collaborate directly with various sectors in the Cologne area and beyond."

Both CIIS and BCG Platinion are looking forward to the mutual benefits of their shared work. "By leveraging the CIIS relationship, we'll bring our university collaboration to a wider institutional base," says Jan P. Heck, Associate Director at BCG Platinion. Rolf Mäurers, Managing Director and COO of BCG Platinion Germany adds, "it's a win for all of us to share this caliber of university and research thought leadership along with practical, experiential expertise. Our alliance strengthens the appeal of education and consulting work grounded in the latest research." The cooperation also complements the range of CIIS services and BCG Platinion's own sustainable support of practice-focused teaching and research in the field of information systems.
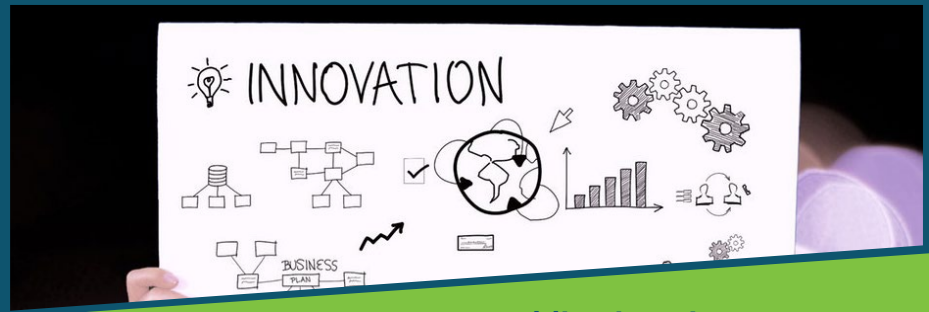

About BCG Platinion

As a seamlessly integrated part of the BCG network, BCG Platinion provides consulting services focused on the development and implementation of business-critical IT architecture and digital solutions that combine strategic perspectives and digital expertise. We help clients successfully navigate their digital journeys with a focus on IT architecture design, digital transformation technology and data platforms, cybersecurity, and implementation management.

Certificate Programme: Digital Leadership and Innovation

Technological disruption, new business models, and unexpected competition: change is the new constant in 21st century leadership. Digital innovation asks leaders to come up with new alternatives, game-changing ideas and fresh perspectives on emerging problems. Join our intensive executive program to explore how you can turn digital threats into opportunities.

Find more information on the flyer available here: http://ukoeln.de/C1REY

About the Cologne Institute for Information Systems (CIIS)

The Cologne Institute for Information Systems is one of the top information systems research groups in Europe and provides some of the most highly ranked study degrees in Germany. It offers three specializations in its Master of Science in Information Systems degree: Business Analytics and Data Science, Digital Innovation and Entrepreneurship, and Digital Sustainable Society. With four full-time and one adjunct professor, four post-doctorate and about thirty doctoral students, CIIS focuses on several core competency areas in research and teaching: artificial intelligence, digital business models, data science and business analytics, digital entrepreneurship, sustainable digital solutions, digital transformation and business process management, IT-outsourcing, systems development and cloud computing.

Publications in Management Science

A lot has been discussed about data driven decision making, role of big data and data analytics in making managerial decisions. However, how does an organization that acts as a two-sided market making platform and has traditionally relied on expertise of auctioneers to make instantaneous decisions and its thousands of partners in making long-term structural changes benefit from the "data-driven" approach and add the analytics capability to its portfolio? In this research, we develop a dynamic structural model that accounts for bidders' forward-looking behavior along with their multi-unit demand in sequential rounds. We then propose a novel, structural--based optimization framework that can account for bidders' strategic reactions towards policy interventions and guide auctioneers to choose key auction parameters appropriately under different market conditions.

This is the first study that quantifies the impact of identity disclosure on market performance and, therefore, is a critical contribution to the growing literature on information disclosure in B2B markets. Contrary to the popular view ``the more information the better'' in market design, we find that sellers do not necessarily benefit from the commitment to disclosing all the available information to bidders in sequential auctions. This highlights the need for experimentation, or more broadly, a data-driven approach to optimizing the design of real-world auctions.

Both publications are available online:

https://doi.org/10.1287/mnsc.2018.3118

https://doi.org/10.1287/mnsc.2018.3143

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International Collaborations at the CIIS

The Cologne Institute for Information Systems invites scholars from abroad to collaborate in research. Collaborations are essential in research in order to conduct high quality research and compete internationally.

The institute is proud to welcome top researchers from Europe and abroad. During the month of May, CIIS hosted different scholars in with an interest in entrepreneurship: Frederik von Briel (Queensland University of Technology), a researchers in entrepreneurship and innovation, Jeffrey Parsons (University of Newfoundland), a leading scholar in design science research, Sanja Tumbas (IESE Business School), Philipp Hukal (Copenhagen Business School), who focus on digital product innovation and entrepreneurship, Per Davidsson (Queensland University of Technology), a senior scholar in entrepreneurship research.

During the month of June, we hosted scholars with a focus toward software engineering and development: Martin Wiener (Bentley University), Mohammad Jabbari (Queensland University of Technology), Hajo Reijers (Universiteit of Utrecht), Suranjan Chakraborty (Towson

Successfull Graduations at the CIIS

In February 2019, Daniel A. Döppner, researcher at the Department of Information Systems and Information Management. completed his doctorate with honors under the supervision of Prof. Dr. Detlef Schoder. His dissertation entitled „Designing Human-Machine Symbiosis for Real-Time Dynamic Decision-Making in Air Cargo Logistics" is the result of an award-winning R&D project with Jettainer GmbH, a 100% subsidiary of Lufthansa Cargo. In his research Dr. Döppner investigated the design of artificial intelligence-based decision support systems with a particular focus on human-machine collaborative decision-making in the context of complex logistic networks. The developed software artifact is used in practice and supports the management of loading equipment in air cargo logistics worldwide. The research results of his cumulative dissertation have been published and presented at international conferences such as ICIS, ECIS, HICSS, and DESRIST.

On Monday, April 8, 2019 Robert Linden successfully defended his dissertation on the topic of „The Impact of Advisors on Clients and Vendors in Information Technology Outsourcing Projects". As part of his PhD studies, Robert Linden researched current challenges facing clients and vendors as well as the influence of external management consultancies on them in IT outsourcing projects. In addition to insights into the consultant's service portfolio, the role of the consultant in the project was examined in detail.

Open Lab for Digital Innovation - Robotics at CIIS

Science, business and industry is currently undergoing a significant change, the Digital Transformation, driven by the research and utilization of technological advancements including artificial intelligence (AI), the Internet of Things (IoT), and new forms of human-machine collaboration based on robotics and autonomous systems. It is widely anticipated that occupational profiles - not only in Information Systems - are also undergoing a big change.

In order to enrich the skillset of teachers and students and to explore the business and technological possibilities in a hands-on manner, the Cologne Institute for Information Systems (CIIS) launched a new Open Lab for Digital Innovation. It includes a broad assortment of new technological, out-of-the-box programmable robotic arms as well as several educational courses for students to apply the new knowledge.

To examine the possibilities of IoT within an air cargo logistics context, a team of students successfully developed an IoT device to recognize and track harmful impact during the loading and unloading of containers in airfreight. The generated and processed data helped to retrace potential damage events. The IoT device, which is physically connected to the container, was designed to meet the specific requirements of air freight, including easy usability and transmission and power limitations.

In the same context, a research team tackled the problem of container and pallet loading optimization. During this ongoing research project, they built from scratch and programmed a cartesian robot to palletize homogenous items

University). All scholars presented their work in our research seminar series of the summer term.

The current schedule and topics can be found online at https://www.wirtschafts-informatik.uni-koeln.de/de/research/re-search-seminar/.

onto an air cargo pallet according to a preoptimized layout.

To get in touch with the topic of human-machine collaboration, the institute acquired two robotic arms. The Hahn Sawyer, a six-axis, collaborative robot, was chosen due to his intuitive manual handling and his ability to be easily programmed and trained for new tasks. In this case, it reveals the possibilities and limitations of the state-of-the-art in robotics, as it is utilized in several industrial applications. In contrast to many other robot arms, it is not limited to the use within a security cage but can collaboratively work next to its human coworker. As it is specially designed to

handle packages with its air-compression based gripping tools, it meets the requirements for, but is not limited to the air cargo research context.

To reflect the current state in educational robotics, the Dobot Magician, a four-axis robot which can be extended in a simple way through many exposed interfaces, was acquired.

Both robots are being utilized within research projects and the newly created master-level course Open Lab for Digital Innovation (OLDI), in which students can get in touch with the technologies and creatively apply their knowledge to develop new IT based artifacts.

CIIS at ECIS 2019

The 27th European Conference on Information Systems (ECIS) 2019 took place in Stockholm and Uppsala from 8 to 14 June. Under the theme "Information Systems for a Sharing Society", the international community of Information Systems researchers met to discuss the opportunities, risks and challenges of a digital sharing economy.

The Cologne Institute for Information Systems was also represented at this year's event: Alexander Herwix introduced a framework jointly developed with Prof. Rosenkranz for the investigation of IT tool support for design science research - an established outcome-based

research method in the Information Systems discipline - and Roman Zeiss presented his research on critical information flows in circular economy business models. All conference papers can be retrieved online free of charge from the conference proceedings.

The ECIS is an annual Information Systems conference that offers academics and practitioners an international platform for the exchange and discussion of current research results. Since 2017 ECIS has been the main conference of the Association for Information Systems for the EMEA (Europe, Middle East, Africa) region.

ECIS 2019 - 27th European Conference on Information Systems
Information Systems for a Sharing Society
June 8-14 in Stockholm and Uppsala, Sweden

TERP10 SAP ERP Course

In March, the course „TERP10 SAP ERP - Integration of Business Processes" with 15 candidates from all departments was successfully held for the second time in the Pohlighaus. The course finishes with a certification exam by the SAP and results in a recognized SAP certificate. The training TERP10: SAP ERP - Integration of Business Processes is offered as a 10-day block course at the WiSo Faculty of the University of Cologne. The students learn how the essential integrative business processes in the areas of procurement, production, planning, project management, sales and distribution, customer relation-ship management, asset management, financial accounting, human resources and analytics interact within SAP ERP. Thus, a broad and well-founded basic knowledge about the core business processes, the business correlations and the integration of the individual enterprise applications in SAP ERP is taught.

Interested students will find information on the course offerings and conditions for the training event and certification on our website (https://sap-cert.uni-koeln.de/) or on request by e-mail to https://sap-cert.uni-koeln.de/

If you are interested in sponsoring a fixed group of participants as a possible cooperation partner, please also direct your inquiry directly to the e-mail sap-cert@wiso.uni-koeln.de

Did we spark your interest?

Please feel free to contact us if you have any questions.

Julian Lehmann and Phil Diegmann are at your service as contact persons - whether for questions on research, cooperations, or recruiting. You can reach us by e-mail:

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