

CAISE'20

Program at a glance

Monday, June, 8th		Tuesday, June, 9th					
EMMSAD	BPMDS	EMMSAD	BPMDS	Workshops			
10:30 – 11:30		10:30 - 11:30					
Welcome & Joint Keynote		Session 3 Evaluation- related research	Session 3 Process mining				
12:00 – 13:00		12:00-13:00			11:30 – 13:00		
Session 1 Requirements and method Engineering	Session 1 - Business process execution and monitoring	Session 4 Domain-specific modeling	Session 4 Planning and scheduling in business processes		ISESL	KET4DF	COUrT
14:00 – 15:00		14:00 – 15:00			14:00 - 16:00		
Session 2 Enterprise and Business Modeling	Session 2 Enterprise and Business Modeling	Session 5 Software- related modeling	Session 5 - Process models and visualizations		NeGIS	AREADS	AMISE
15:00 – 15:30		15:00 – 15:30					
Short Presentations		Closing, awards, and future	More discussion and future - Closing				

Wednesday, June, 10th			Thursday, June, 11th			Friday, June, 12th		
CAISE Main Conference								
10:00 - 11:30			10:30 - 11:30			10:30 - 11:30		
Welcome - Keynote E. A. Lee			Keynote T. Baudel			Keynote M. Jarke		
11:30 – 13:00			11:30 – 13:00			11:30 – 13:00		
Session 1 Distributed applications	Session 2 IoT & digital twin	Tutorial 1	Tutorial 3	Session 5 Requirements engineering	Forum Session 1	Tutorial 5	Session 7 Appl. of AI and big data in IS	Forum Session 2
14:00 – 15:30			14:00 15:30	14:00 – 16:00		14:00 – 15:30		
Session 3 Conceptual modeling, languages and design	Session 4 Blockchain	Tutorial 2	Tutorial 4	Session 6 Process Mining	DC	Session 8 BPM	Session 9 Architect ures Product lines and Privacy	Session 10 Database & NLP
						15:30 – 16:00		
						Conference Closing - Awards		

CAISE'20

Keynotes

Keynote 1

The Coevolution of Humans and Machines

Edward A. Lee

Department of Electrical Engineering and Computer Sciences
University of California



Credit: [Rusi Mchedlishvili](#)

I argue that we are less in control of the trajectory of technology than we think. Technology shapes us as much as we shape it, and it may be more defensible to think of technology as the result of a Darwinian coevolution than the result of top-down intelligent design. To understand this question requires a deep dive into how evolution works, how humans are different from computers, and how technology development today resembles the emergence of a new life form on our planet.

Biography: Edward A. Lee has been working on embedded software systems for 40 years, and after detours through Yale, MIT, and Bell Labs, landed at Berkeley, where he is now Professor of the Graduate School in EECS. His research is focused on cyber-physical systems. He is author of leading textbooks on embedded systems and digital communications, and has recently been writing books on philosophical and social implications of technology.

Keynote 2

New frontiers in decision engineering: Information Ethics as an engineering discipline

Thomas Baudel

Research Director, IBM France Lab



Decision Engineering aims at streamlining and improving decision processes in large and highly dependable businesses. In the last 20 years, at the IBM France Lab, we have delivered top of the line solutions in business rules management systems, prescriptive analytics & optimization, business process management and robotic process automation, to many of the largest organizations in the world. Leveraging new opportunities arising from technological progress, such as predictive analytics or new computer-supported collaboration practices, raises interesting new challenges for our product lines. Some of those challenges are not purely technological, they involve careful thinking on the role of technology in organizations, and ensuring fundamental properties of trustworthiness, accountability, transparency and alignment with the company's and societal values are preserved in the complex intertwining of human and automated decision processes. Addressing them involves Design Ethics, AI Ethics, Information Ethics in general, which so far were not considered part of the regular engineer's curriculum. They require introducing new approaches to software design. In this journey, we learn that while we tend to think ethical issues are mostly addressed with morality and law, many of past and present ethical challenges may also be addressed with technological solutions. In this talk, we intend to convey some of our findings regarding addressing those challenges, as our societies become more and more dependent on our information infrastructure.

Biography: Thomas Baudel is Research Director at the IBM France R&D Lab, leading research projects on a variety of decision engineering products. He holds a PhD in computer science from University of Paris-Sud. His HCI background has allowed him to contribute to a range of research domains besides decision engineering: from 3D computer graphics, with the academy award winning Maya animation software, to Information Visualization with precursor products in the area, Computer Music, Urban Informatics, and, most recently, Information Ethics as an applied domain, with the goal of designing information systems encompassing both human factors and information technologies to deliver decision systems that are fair, accountable, transparent, explainable, trustable and aligned to our societies' values. He is member of the board of the University Paris-Saclay doctoral school, where he teaches the mandatory class on Research and Computer Ethics, Member of the board of the French HCI society AFIHM and participates to several national research policy governing instances in France. He holds 21 patents and about 15 publications at international venues.

Keynote 3

Data Sovereignty in the Internet of Production

Matthias Jarke

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While the privacy of personal data has captured great attention in the public debate, resulting e.g. in the European GDPR guideline, the sovereignty of small and medium knowledge-intensive enterprises over the usage of their own data in the presence of dominant data-hungry players in the Internet needs more investigation. In Europe, even the concept of data ownership is unclear. The first part of the talk will reflect on requirements analyses, reference architectures and solution concepts pursued by the International Data Spaces Association to address these issues. The second part will more deeply explore our current interdisciplinary research in which 27 research groups from production and materials engineering, computer science, business and social sciences jointly address the analytic exploitation of data and the sovereignty of the data producers in a visionary “Internet of Production (IoP)”. In this setting, massive amounts of heterogeneous data must be exchanged and analyzed, throughout the lifecycle from (re-)engineering, to production, usage and recycling, under hard resource and time constraints. A shared metaphor, borrowed from Platon’s famous Cave Allegory, serves as the core modeling and data management approach from a conceptual, logical, physical, and business perspective

Biography: Matthias Jarke is Professor of Databases and Information Systems at RWTH Aachen University and Director of the Fraunhofer FIT Institute for Applied Information Technology. After master degrees in Computer Science and Business Administration, he received a Doctorate in Business Informatics from the University of Hamburg, and served on the faculties of the Stern School of Business at New York University and at the University of Passau prior to joining RWTH Aachen in 1991. Previous positions include President of the GI German Informatics Society, and member of the Fraunhofer Presidential Board. In his research, he investigates conceptual modeling and metadata management in business, engineering, and culture. He is currently co-speaker of the DFG-funded German national Excellence Cluster “Internet of Production”, and initiator of the Fraunhofer Center for Digital Energy in Aachen. He has served on numerous Editorial Boards, including Chief Editor of Information Systems, and as Program Chair of conferences such as CAiSE, EDBT, ER, SSDBM, and VLDB. He is a member of the acatech National Academy of Engineering and Sciences, and a Fellow of the ACM and the GI.

Tutorials

Tutorial 1

Process Performance Management

Adela del-Río-Ortega and Manuel Resinas

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Business process performance management (PPM) aims at assessing the achievement of strategic and operational goals and supporting decision-making for the continuous optimisation of business processes. To carry out this evaluation, information systems must provide mechanisms to support the modelling, gathering, visualisation and analysis of a set of indicators that evaluate performance-relevant data of one or several business processes. Unfortunately, up to date, there is not a well-established holistic standard or a set of good practices that guide these tasks. Instead, this is usually done based on the experience and intuition of the process owners, CIOs, CEOs and domain experts, often applying ad-hoc techniques and tools. This tutorial will offer participants the opportunity to get to know and use in a practical setting a set of guidelines and techniques, based on existing well-grounded literature from both academic and industrial researchers, that address the modelling, evaluation analysis and visualisation of performance indicators.

Tutorial 2

An introduction to the 4 Components/Instructional Design model (4C/ID) for teaching complex learning subjects in Information Systems

Monique Snoeck and Daria Bogdanova



In this tutorial we present 4C/ID, an instructional design model for complex learning, which was developed by Jeroen van Merriënboer (see <https://www.4cid.org/about-4cid>). The model has been widely adopted for teaching various complex learning subjects. Complex learning subjects are characterized by the fact that many solutions exist for a single problem, and that different paths can be followed to achieve a good solution.

The goal of the tutorial is to provide an overview of the 4C/ID model, its four main components, and to exemplify how it can be applied to teach requirements engineering and conceptual modelling. The tutorial will conclude with an evaluation of the benefits and difficulties associated with using this model, and advice on how to start implementing this instructional design model.

Material: <http://merode.econ.kuleuven.be/lectures/index.html>

Tutorial 3

Volunteer design of Data Warehouse

Sandro Bimonte



Data Warehouse (DW) design methodologies have been widely investigated in literature. Nowadays, with the advent of crowdsourcing systems, more and more volunteers collect data for scientific purposes (i.e. citizen science). Involving volunteers in the DW design process raises several research issues that are discussed in this tutorial. In particular, we detail our volunteer DW design methodology based on ad-hoc elicitation methods, rapid prototyping, and collaborative design"

Tutorial 4

Open Source Software and Information Systems

Anthony I. (Tony) Wasserman

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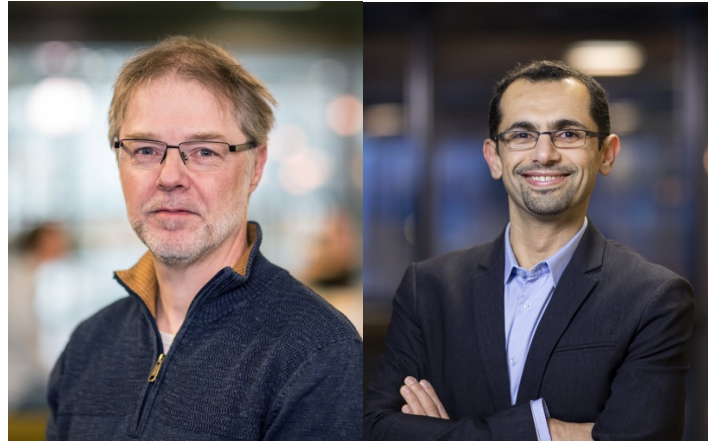
This tutorial defines free and open source software (FOSS), and gives some of its relevant history. The tutorial describes the benefits of FOSS software, and the processes used to build and maintain it. Emphasis is given to the ways by which individuals and organizations can find, evaluate, and use FOSS, as well as methods for contributing to the community for a FOSS project. We cover the concept of an Open Source Project Office, and the way that it can serve an organization or company in managing its use of FOSS.

In recent years, organizations have increasingly relied on FOSS for information system development. We review the open source components that are most relevant for building modern information systems, including content management systems, NoSQL database management systems, AI tools, containers and microservices, as well as techniques for scalable cloud deployments.

Tutorial 5

Design of Service-Dominant Business Models for a Digital World

Paul Grefen and Oktay Turetken



This tutorial provides researchers and advanced practitioners in the field of information system analysis and design with two main chunks of knowledge. The first is a thorough understanding of the nature of service-dominant business models for the specification of collaborations in business ecosystems in a digital world. The second is working knowledge about a specification technique (Business Model Radars) for this purpose in the context of a broader design methodology (BASE/X). BASE/X emphasizes the distinction between business model design and business model operationalization as flexible business processes that use stable business services for their implementation. As such the approach advocates the decoupling of strategically defined (digital) business capabilities (encapsulated in the services) and flexible deployment of these capabilities for the embodiment of agile business models. This decoupling strongly enhances the resilience of information system designs in the context of highly changeable business settings. Given this, the operational learning objectives of the tutorial for the participants are threefold: (1) be able to analyze and understand a digital business collaboration from an agile, service-dominant point of view; (2) be able to explain the role of business-resilient information systems in the facilitation of such an agile business collaboration; (3) be able to apply the BASE/X Business Model Radar (BMR) technique to design business models for such collaborations in simple scenarios, as well as being able to understand existing BMR models for more complex scenarios.

CAISE'20

Detailed program

Monday, June, 8th

10:30 - 11:30 BPMDS & EMMSAD - Joint keynote

Automated Process Improvement: Status, Challenges, and Perspectives

Speaker: Marlon Dumas

12:00 - 13:00 BPMDS – Session 1 - Business process execution and monitoring

- **Dynamically Switching Execution Context in Data-Centric BPM Approaches.**
Kevin Andrews, Sebastian Steinau, Manfred Reichert
- **Exception Handling in the Context of Fragment-based Case Management.**
Kerstin Andree, Sven Ihde, Luise Pufahl.
- **Business Process Monitoring on Blockchains: Potentials and Challenges** (idea paper).
Claudio Di Ciccio, Giovanni Meroni, Pierluigi Plebani.

12:00 - 13:00 EMMSAD – Session 1 - Requirements and Method Engineering

- **A Multi-Concern Method for Identifying Business Services: A Situational Method Engineering Study.**
Onat Ege Adali, Oktay Turetken, Baris Ozkan, Rick Gilsing and Paul Grefen.
- **Modeling Complex Business Environments for Context Aware Systems.**
Prince Singh, Luuk Veelenturf and Tom van Woensel.
- **Towards Automating the Synthesis of Chatbots for Conversational Model Query** (short paper).
Sara Perez-Soler, Gwendal Daniel, Jordi Cabot, Esther Guerra and Juan De Lara.

14:00 - 15:00 BPMDS – Session 2 - BPM applications in industry and practice

- **Factors Impacting Successful BPMS Adoption and Use: A South African Financial Services Case Study.**
Ashley Koopman, Lisa Seymour
- **Chatting about processes in digital factories: A model-based approach.**
Donya Rooein, Devis Bianchini, Francesco Leotta, Massimo Mecella, Paolo Paolini, Barbara Pernici.

- **Enforcing a Cross-organizational Workflow: An Experience Report.**
Susanne Stahnke, Klym Shumaiev, Jorge Cuellar, Prabhakaran Kasinathan.

14:00 - 15:00 EMMSAD – Session 2 - Enterprise & business modeling

- **Conceptualizing Capability Change.**
Georgios Koutsopoulos, Martin Henkel and Janis Stirna.
- **Supporting Early Phases of Digital Twin Development with Enterprise Modeling and Capability Management: Requirements from Two Industrial Cases.**
Kurt Sandkuhl and Janis Stirna.
- **Integrated On-demand Modeling for Configuration of Trusted ICT Supply Chains** (short paper).
Jānis Grabis.

15:00 - 15:30 EMMSAD – Session of short presentations

- **Applying Facets of Work as a Source of Knowledge and Insight for Requirements Determination.**
Steven Alter.
- **Automatically Identify Requirements-oriented Reviews Using a Hybrid Feature Extraction Approach.**
Rui Song, Tong Li and Zhiming Ding.

Tuesday, June, 9th

10:30 - 11:30 BPMDS – Session 3 - Process mining

- **Cherry-picking from Spaghetti: Multi-range Filtering of Event Logs.**
Maxim Vidgof, Djordje Djurica, Saimir Bala, Jan Mendling.
- **Truncated Trace Classifier. Removal of Incomplete Traces from Event Log.**
Gaël Bernard, Periklis Andritsos.
- **Secure Multi-Party Computation for Inter-Organizational Process Mining.**
Gamal Elkoumy, Stephan A. Fahrenkrog-Petersen, Marlon Dumas, Peeter Laud, Alisa Pankova, Matthias Weidlich.

10:30 - 11:30 EMMSAD – Session 3 - Evaluation-related research

- **An Evaluation of the Intuitiveness of the PGA Modeling Language Notation.**
Ben Roelens and Dominik Bork.
- **Does Enterprise Architecture support Customer Experience Improvement? Towards a Conceptualization in Digital Transformation Context.**
Mouaad Hafsi and Said Assar.
- **A Formal Basis for Business Model Evaluation with Linguistic Summaries.**
Rick Gilsing, Anna Wilbik, Paul Grefen, Oktay Turetken and Baris Ozkan.

11:30 - 13:00 Workshop ISESL

- **The Machine with a Human Face: From Artificial Intelligence to Artificial Sentience**
Sylvain Lavelle
- **Medical Dialogue Summarization for Automated Reporting in Healthcare**
Sabine Molenaar; Lientje Maas; Verónica Burrie; Fabiano Dalpiaz; Sjaak Brinkkemper
- **Towards the integration of agricultural data from heterogeneous sources: perspectives for the French agricultural context using semantic technologies**
Shufan Jiang; Rafael Angarita; Raja Chiky ; Stéphane Cormier; Francis Rousseaux
- **Combination of Topic Modelling and Decision Tree Classification for Tourist Destination Marketing**
Evrripides Christodoulou ; Andreas Gregoriades ; Maria Pampaka ; Herodotos Herodotou

- **Social Participation Network: Linking things, services and people to support participatory**
Grigorios Piperagkas ; Rafael Angarita ; Valerie Issarny
- **EcoSoft: Proposition of an Eco-label for Software Sustainability**
Rébecca Deneckere ; Gregoria Rubio
- **An Exploratory Approach for Governance of Society for Smarter Life.**
Michel Léonard ; Anastasiya Yurchyshyna

11:30 - 13:00 Workshop KET4DF

- **Integration Framework of MES toward Data Security Interoperation.**
Shuangyu Wei, Yuewei Bai, Lai Xu, Hua Mu, Kai Liu and Xiaogang Wang.
- **An architecture for predictive maintenance of railway points based on Big Data analytics.**
Giulio Salierno, Sabatino Morvillo, Letizia Leonardi and Giacomo Cabri.
- **Toward Predictive Maintenance for Flexible Manufacturing Using FIWARE.**
Go Sang, Lai Xu and Paul de Vrieze.
- **Machine Learning for Predictive and Prescriptive Analytics of Operational Data in Smart Manufacturing.**
Katerina Lepenioti, Minas Pertselakis, Alexandros Bousdekis, Andreas Louca, Fenareti Lampathaki, Dimitris Apostolou, Gregoris Mentzas and Stathis Anastasiou.
- **Towards smart manufacturing with dynamic dataspace alignment.**
Donatella Firmani, Francesco Leotta, Massimo Mecella and Federica Mandreoli.

11:30 - 13:00 Workshop COURt

- **Predicting the Amount of GDPR Fines.**
Jukka Ruohonen and Kalle Hjerpe.
- **The LATO Knowledge Model for Automated Knowledge Extraction and Enrichment from Court Decisions Corpora.**
Silvana Castano, Mattia Falduci, Alfio Ferrara and Stefano Montanelli.
- **A Decision Support System for Handling Traffic Fine Cases at the Dutch Court.**
Floris Bex (Invited Speaker).
- **Exploring network analysis in a corpora-based approach to legal texts: a case study.**
Emilio Sulis, Llio Humphreys, Fabiana Vernerio, Iliana Angela Amantea, Luigi Di Caro, Davide Audrito and Stefano Montaldo.
- **Exploring the use of Topic Analysis in Latvian Legal Documents.**
Rinalds Vīksna, Mārīte Kirikova and Daiga Kiopa
- **Programming the nationality identity in the Federal Constitution of Brazil.**
José Palazzo Moreira de Oliveira and Rhuan Paulo Lopes Barros.

12:00 - 13:00 BPMDS – Session 4 - Planning and scheduling in business processes

- **Automated Planning for supporting Knowledge-intensive Processes.**
Sheila Katherine Venero, Bradley Schmerl, Leonardo Montecchi, Julio Cesar Dos Reis, Cecilia Mary Fischer Rubira.
- **Scheduling Processes without Sudden Termination.**
Johann Eder, Marco Franceschetti, Josef Lubas.

12:00 - 13:00 EMMSAD – Session 4 - Domain-specific modeling

- **A journey to BSO: Evaluating Earlier and More Recent Ideas of Mario Bunge as a Foundation for Information and Software Development.**
Roman Lukyanenko.
- **A New DEMO Modelling Tool that Facilitates Model Transformations.**
Thomas Gray, Dominik Bork and Marne De Vries.
- **Reference Method for the Development of Domain Action Recognition Classifiers: the Case of Medical Consultations.**
Sabine Molenaar, Laura Schiphorst, Metehan Doyran, Albert Salah, Fabiano Dalpiaz and Sjaak Brinkkemper.

14:00 - 15:00 BPMDS – Session 5 - Process models and visualizations

- **Visualizing Business Process Evolution** (Short idea paper).
Anton Yeshchenko, Dina Sayed Sobh, Steven Gross, Jan Mendling.
- **Mining BPMN Processes on GitHub for Tool Validation and Development.**
Thomas Heinze, Viktor Stefanko, Wolfram Amme.
- **An Empirical Investigation of the Intuitiveness of Process Landscape Designs.**
Gregor Polancic, Mateja Kocbek Bule, Pavlo Brin, Lucineia Heloisa Thom, Encarna Sosa.

14:00 - 15:00 EMMSAD – Session 5 - Software-related modeling

- **A Modeling Method for Systematic Architecture Reconstruction of Microservice-Based Software Systems.**
Florian Rademacher, Sabine Sachweh and Albert Zündorf.
- **Can We Design Software as We Talk?** (short paper).
Marcela Ruiz and Björn Hasselman.
- **Non-Functional Requirements Orienting the Development of Socially Responsible Software.** (short paper).
Luiz Marcio Cysneiros and Julio Cesar Leite.

14:00 - 16:00 Workshop NeGIS

- **Keynote: Prof. Haris Mouratidis**
- **Invited talks:**

- **Ushering VNF Chains Through the Fog.**
Antonio Brogi, Stefano Forti, and Federica Paganelli.
- **Secure Life Cycle Assessment in Complex Supply Chains.**
Sakine Yalman and Achim Brucker
- **A Cognitive Enabled, Edge-Computing Architecture for Future Generation IoT Environments.**
Franco Cicirelli, Antonio Guerrieri, Carlo Mastroianni, Giandomenico Spezzano and Andrea Vinci.
- **DRACeo: A smart simulator to deploy energy saving methods in a services/microservices based network.**
Hernan Humberto Alvarez Valera, Marc Dalmau, Philippe Roose, Christina Herzog, and Jorge Larracochea.
- **An Efficient mechanism for mitigating the impact of gray-hole attack in MANETs.**
Muhammad Salman Pathan.
- **Automatic Hyperparameter Optimization for Information System Neural Networks in Serverless Cloud.**
Alex Kaplunovich and Yelena Yesha.

14:00 - 16:00 Workshop AREADS

- **A fuzzy logic-based decision support system (DSS) for the container stacking problem under the effect of disruptive events**
Jana Ries ; Leonardo Maretto ; Rosa G. González-Ramírez ; Mauricio Faccio
- **Robustness and Disturbances in Public Transport**
Liping Ge ; Stefan Voß ; Lin Xie
- **Advancing Resilience in Logistics with Smart IoT Pallets**
Jean Paul Sebastian Piest; Rob Bemthuis; Martijn Koot; Maria Eugenia Iacob;
- **Assessing Resilience in Enterprise Architectures: A Systematic Review**
Adina Aldea; Eglé Vaicekauskaitė; Maya Daneva

14:00 - 16:00 Workshop AMISE

- **Using Action Design Research for Co-creating Service-Dominant Business Artifacts between Academia and Industry.**
Egon Lüftenegger.
- **Co-innovation in a University-Industry Partnership: A Case Study in the Field of Data Science.**
Fareed Zandkarimi, Janina Nakladal, Josua Vietnen and Jerome Geyer-Klingeberg.
- **Predictive Process Monitoring: A Use-Case-Driven Literature Review.**
Florian Sopree

15:00 - 15:30 BPMDS – More discussion and future – Closing

15:00 - 15:30 EMMSAD – Closing, awards and future

Wednesday, June, 10th

10:00 - 10:30 Welcome

10:30 - 11:30 Keynote - The Coevolution of Humans and Machines

Speaker: Edward A. Lee, Department of Electrical Engineering and Computer Sciences, University of California

11:30 - 13:00 Session 1 - Distributed applications

- **Remodularization Analysis for Microservice Discovery Using Syntactic and Semantic Clustering**
Adambarage Anuruddha Chathuranga De Alwis; Alistair Barros; Colin Fidge; Artem Polyvyanyy
- **Decentralized Cross-Organizational Application Deployment Automation: An Approach for Generating Deployment Choreographies Based on Declarative Deployment Models**
Karoline Wild; Uwe Breitenbücher; Kálmán Képes; Frank Leymann ; Benjamin Weder
- **Modeling and Analyzing Architectural Diversity of Open Platforms**
Bahar Jazayeri; Simon Schwichtenberg; Jochen Küster; Olaf Zimmermann; Gregor Engels
- **Co-destruction Patterns in Crowdsourcing.**
Reihaneh Bidar; Arthur ter Hofstede; Renuka Sindhgatta

11:30 - 13:00 Session 2 - IoT & digital twin

- **Model-Driven Development of a Digital Twin for Injection Molding**
Manuela Dalibor, Ben Mainz; Bernhard Rumpe; David Schmalzing; Andreas Wortmann; Pascal Bibow; Christian Hopmann; Mauritius Schmitz
- **Information Systems Engineering with Digital Shadows: Concept and Case Studies**
Martin Liebenberg, Matthias Jarke
- **SIoTPredict: A Framework for Predicting Relationships in the Social Internet of Things.**
Abdulwahab Aljubairy; Wei Emma Zhang; Quan Z. Sheng; Ahoud Alhazmi

11:30 - 13:00 Tutorial - Process Performance Management

Adela del-Río-Ortega and Manuel Resinas, Universidad de Sevilla, Dpto. de Lenguajes y Sistemas Informáticos, Sevilla.

14:00 - 15:30 Session 3 - Conceptual modeling, languages and design

- **Evaluating the Benefits of Model-Driven Development**
África Domingo; Jorge Echeverría; Óscar Pastor; Carlos Cetina
- **Workarounds in Business Processes: a Goal-based Analysis**
Nesi Outmazgin; Pnina Soffer; Irit Hadar

- **Digging into Business Process meta-models: a first ontological analysis**
Greta Adamo; Chiara Di Francescomarino; Chiara Ghidini

14:00 - 15:30 Session 4 - Blockchain

- **B-MERODE: A Model-Driven Engineering and Artifact-Centric Approach to Generate Smart Contracts**
Victor Amaral de Sousa; Corentin Burnay; Monique Snoeck
- **Smart Contract Invocation Protocol (SCIP): A Protocol for the Uniform Integration of Heterogeneous Blockchain Smart Contracts**
Ghareeb Falazi; Uwe Breitenbücher; Florian Daniel; Andrea Lamparelli; Frank Leymann; Vladimir Yussupov

14:00 - 15:30 Tutorial - An introduction to the 4 Components/Instructional Design model (4C/ID) for teaching complex learning subjects in Information Systems

Monique Snoeck; Daria Bogdanova

Thursday, June, 11th

10:30 - 11:30 Keynote - New frontiers in decision engineering: Information Ethics as an engineering discipline

Speaker: Thomas Baudel, Research Director, IBM France Lab

11:30 - 13:00 Session 5 - Requirements engineering

- **Mining User Opinions To Support Requirement Engineering: An Empirical Study**
Jacek Dąbrowski; Emmanuel Letier; Anna Perini; Angelo Susi
- **Designing patterns for certification standards and guidelines**
Kevin Delmas; Claire Pagetti; Thomas Polacsek
- **Information Extraction and Graph Representation for the Design of Formulated Products**
Sagar Sunkle; Krati Saxena; Ashwini Patil; Vinay Kulkarni; Deepak Jain; Rinu Chacko; Beena Rai

11:30 - 13:00 Tutorial - Volunteer design of Data Warehouse

Sandro Bimonte

11:30 - 13:00 Forum – Session Enterprise Modeling and Business Processes

- **Capability Management of Digital Business Ecosystems – a Case of Resilience Modeling in the Healthcare Domain**
Chen Hsi Tsai, Jelena Zdravkovic and Janis Stirna
- **R-CMMN: A Tool to Design Resilient Aware Multi-Party Business Processes**
Leonardo Di Paolantonio, Andrea Marrella, Massimo Mecella, Barbara Pernici and Pierluigi Plebani
- **Flexible Integration of Blockchain with Business Process Automation: A Federated Architecture**
Michael Adams, Suriadi Suriadi, Akhil Kumar and Arthur ter Hofsted
- **Designing Decentralized Business Processes with Temporal Constraints**
Marco Franceschetti and Johann Eder
- **Extending Temporal Business Constraints with Uncertainty**
Fabrizio Maria Maggi, Marco Montali and Rafael Peñaloza
- **A Method for Managing GDPR Compliance in Business Processes**
Raimundas Matulevičius, Jake Tom, Kaspar Kala and Eduard Sing

14:00 - 15:30 Tutorial - Open Source Software and Information Systems

Anthony I. (Tony) Wasserman

14:00 - 16:00 Session 6 - Process Mining

- **Stochastic-Aware Conformance Checking: An Entropy-Based Approach**
Sander J.J. Leemans; Artem Polyvyanyy

- **Conformance Checking Approximation using Subset Selection and Edit Distance**
Mohammadreza Fani Sani; Sebastiaan J. van Zelst; Wil M.P. van der Aalst
- **Quantifying the Re-identification Risk of Event Logs for Process Mining**
Saskia Nuñez von Voigt; Stephan A. Fahrenkrog-Petersen; Dominik Janssen; Agnes Koschmider; Florian Tschorsch; Felix Mannhardt; Olaf Landsiedel; Matthias Weidlich
- **Process Model Extraction via Multi-Grained Text Classification**
Chen Qian; Lijie Wen; Yanan Zheng; Jianmin Wang; Akhil Kumar
- **LoGo: Combining Local and Global Techniques for Predictive Business Process Monitoring**
Kristof Böhmer; Stefanie Rinderle-Ma
- **Business Process Variant Analysis based on Mutual Fingerprints of Event Logs**
Farbod Taymouri; Marcello La Rosa; Josep Carmona

14:00 - 16:00 Doctoral Consortium

- **Introduction and Presentation: Design Science**
Oscar Pastor
- **Preprocessing Event Data in Process Mining**
Mohammadreza Fani Sani
- **Identifying Conditions for Effective Communication with Just Enough Documentation in Continuous Software Development**
Theo Theunissen
- **Towards an agile innovation capability maturity framework to enhance inversions on ICT organizations**
Manuel Giménez Medina
- **Advancing Big Data Warehouses Management, Monitoring and Performance**
Nuno Silva
- **A Reference Model for Security Risk Management of the Blockchain-based Applications**
Mubashar Iqbal
- **Decision process for blockchain architectures based on requirements**
Six Nicolas

Friday, June, 12th

10:30 - 11:30 Keynote - Data Sovereignty in the Internet of Production

Speaker: Matthias Jarke

Informatik 5, RWTH Aachen University & Fraunhofer FIT

11:30 - 13:00 Session 7 - Application of AI and big data in IS

- **Hierarchical State Machine based Conversation Model and Services**
Shayan Zamanirad; Boualem Benatallah; Carlos Rodriguez; Mohammad-Ali Yaghoub-Zadeh-Fard; Sara Bouguelia; Hayet Brabra
- **A System Framework for Personalized and Transparent Data-Driven Decisions**
Sarah Oppold; Melanie Herschel
- **Online Reinforcement Learning for Self-Adaptive Information Systems**
Alexander Palm; Andreas Metzger; Klaus Pohl

11:30 - 13:00 Forum - Session Applications, Tests and Data

- **TOSCA Lightning: An Integrated Toolchain for Transforming TOSCA Light into Production-Ready Deployment Technologies**
Michael Wurster, Uwe Breitenbücher, Lukas Harzenetter, Frank Leymann and Jacopo Soldani
- **QBMetrics: a tool for evaluating and comparing document schemas**
Evandro Kuszera, Marcos Didonet Del Fabro and Leticia M. Peres
- **Seed Model Synthesis for Testing Model-based Mutation Operators**
Pablo Gómez-Abajo, Esther Guerra, Juan de Lara and Mercedes G. Merayo
- **Building Data Curation Processes with Crowd Intelligence**
Tianwa Chen, Lei Han, Gianluca Demartini, Marta Indulska and Shazia Sadiq
- **PROCLAIM: An Unsupervised Approach to Discover Domain-Specific Attribute Matchings from Heterogeneous Sources**
Molood Arman, Sylvain Wlodarczyk, Nacéra Bennacer Seghouani and Francesca Bugiotti
- **Why it is Time for yet another Schema Evolution Benchmark**
Mark Lukas Möller, Stefanie Scherzinger, Meike Klettke and Uta Störl

11:30 - 13:00 Tutorial - Design of Service-Dominant Business Models for a Digital World

Paul Grefen and Oktay Turetken

14:00 - 15:30 Session 8 - BPM

- **DeepAlign: Alignment-based Process Anomaly Correction using Recurrent Neural Networks**
Timo Nolle; Alexander Seeliger; Nils Thoma; Max Mühlhäuser
- **Resource-based Adaptive Robotic Process Automation**
Renuka Sindhgatta; Arthur Hm ter Hofstede; Aditya Ghose

- **Workforce Upskilling: a History-Based Approach for Recommending Unfamiliar Process Activities**
Anastasiia Pika; Moe T. Wynn

14:00 - 15:30 Session 9 - Architectures, Product Lines and Privacy

- **A Variability-Driven Analysis Method for Automatic Extraction of Domain Behaviors**
Iris Reinhartz-Berger; Sameh Abbas;
- **Mutation Operators for Large Scale Data Processing Programs in Spark**
João Batista de Souza Neto; Anamaria Martins Moreira; Genoveva Vargas-Solar; Martin Alejandro Musicante

14:00 - 15:30 Session 10 - Database & NLP

- **Recommendations for Evolving Legacy Databases**
Julien Delplanque; Anne Etien; Nicolas Anquetil; Stéphane Ducasse
- **A Combined Method for Usage of NLP Libraries towards Analyzing Software Documents**
Xinyun Cheng; Xianglong Kong; Li Liao; Bixin Li
- **Query-based metrics for evaluating and comparing document schemas**
Evandro Kuszera; Marcos Didonet Del Fabro; Leticia M. Peres
- **Aspect Term Extraction using Deep Learning Model with Minimal Feature Engineering**
Felipe Zschornack Rodrigues Saraiva; José Antônio Fernandes de Macêdo; Ticiana Linhares Coelho da Silva

15:30 - 16:00 Awards and Conference Closing