WITS 2019

Detailed Program
and Participant Information

Contents

29th Workshop on Information Technologies and Systems
December 18-20, 2019, Munich, Germany

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	December 18, 2019			
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6.00 – 8.00 pm	Welcome and Opening Keynote			
	Welcome		BISE/WISE/WITS	
	Opening Keynote		Paul Milgrom Stanford University	
8.00 - 9.30 pm	Reception, Foyer Nymphenburg, Drinks, Finger Food			
	December 19, 2019			
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9.00-10.15 am	Industry Keynote (Event Center)			
	WITS Opening		M. Bichler and W. Ketter	
	Industry Keynote		Jens Johannesson and Patrick G. Walch Telefónica Germany	
10.15-10.30 am	Coffee Break			
10.30 - 12.00 am	Machine Learning	Policy, Awareness, Sustainability and Systems	Demonstrators and Teaching Cases I	
12.00 - 1.00 pm	Lunch			
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2.45 - 4.15 pm	Auction Design I	Recommendation Systems	Healthcare I	Demonstrators and Teaching Cases II
4.15 - 4.30 pm	Coffee Break and Poster Exhibit			
4.30 - 6.00 pm	Short Paper Session I	Sharing Economy	Social Media Analytics I	
6.00 - 7.00 pm	Bus Transfer to the Hofbräuhaus **(please bring your conference badge!)**			
7.00 - 10.30 pm	Dinner at the Hofbräuhaus and Awards.			
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from 8.30 am	Registration			
9.00 - 10.30 am		Auction Design II	IT Strategies	Dissertation Proposals
10.30 - 10.45 am	Coffee Break and Poster Exhibit			
10.45 - 12.00 am	Academic Keynote (Event Center)			
	Announcement of WITS 2020		R. Padman and S. Sen	
	Academic Keynote		Wil van der Aalst RWTH Aachen	
12.00 - 1.00 pm	Lunch			
1.00 - 2.30 pm	Social Media Analytics II	Blockchain Technologies and Healthcare II		
2.30 - 2.40 pm	Coffee Break			
2.40 - 4.10 pm	Trustworthy AI/ML	Advertising	Short Paper Session II	
4.10 - 4.40 pm	WITS General Body Meeting			

Detailed Program Schedule

Wednesday, December 18

Nymphenburg Palace

5:15 – 6:00 pm   Entry at the Nymphenburg Palace (**separate registration required; bring your email invitation**)

6:00 – 6:30 pm   Welcome and Opening Remarks

6:30 – 8:00 pm   **Opening Keynote by Paul Milgrom**, Stanford University

Beyond the Vickrey Auction: Practical Design for a High-Stakes Auction.

8:00 – 9:30 pm   **Reception**, Foyer Nymphenburg Palace, Drinks, Finger Food

Thursday, December 19

H4 Hotel München Messe

from 8:15 am   Registration at the H4 Hotel München Messe

9:00 – 9:20 am   WITS Opening

9:20 - 10:15 am   **Industry Keynote by Jens Johannesson and Patrick G. Walch**, Telefónica Germany GmbH & Co. OHG

Analytics at Telefónica Germany

10:15 – 10:30 am   Coffee Break

10:30 – 12:00 pm   **Session 1a: Machine Learning**   **Room**
                     Chair: Moshe Unger   **Ludwig**

Selecting Featured Images for Restaurant Reviews with Deep Learning: A Transfer Learning Approach
Warut Khern-am-nuai* (McGill University); Akarachai Passavoranan, Ekkalak Thongthanomkul (Wongnai Media Ltd.)

Interpretable Deep Learning Approach to Churn Prediction
Daehwan Ahn* (University of Pennsylvia); Dokyun Lee (Carnegie Mellon University); Kartik Hosanagar (University of Pennsylvia)

10:30 – 12:00 pm   Few-Shot Learning for Systematic Medical Literature Review
Rong Liu*, Siwei Wang, Yu Hong, Chen Liao (Stevens Institute of Technology); Marko Zivkovic, Colin Navickas (Genesis Research)

Room Ludwig

Context-Aware Recommendations Based on Deep Learning Frameworks **(Best Paper Nominee)**
Moshe Unger*, Alexander Tuzhilin (New York University, USA)

Session 1b: Policy, Awareness, Sustainability and Systems
Chair: Marie-Louise Arlt

Room Leopold

CrocodileAgent 2018: Smart Time-of-Use Tariffs to Reduce Peak-Demand Charges
Demijan Grgić, Hrvoje Vdović, Jurica Babic, Vedran Podobnik (University of Zagreb)

A Winning Strategy for Real-Time Trading in Retail Electricity Markets: Agent Mertacor in Power TAC 2019
Lampros Makrodimitris, Andreas Symeonidis (Aristotle University of Thessaloniki)

Agent-Based Load Scheduling in Local Energy Systems with Nodal Pricing
Philipp Kienscherf (University of Cologne), Anselma Wörner (ETH Zurich), Wolfgang Ketter (University of Cologne, Erasmus University), Verena Tiefenbeck (ETH Zurich, University of Nuremberg)

Price-Based Demand Response Program Design in Constrained Electricity Systems
Marie-Louise Arlt, Gunther Gust, Dirk Neumann (University of Freiburg)

Session 1c: Demonstrators and Teaching Cases I
Chair: Tobias Brandt

Room Franz

Cyber Analysis Process (CAP) Assistant
Clinton Daniel*, Alan Hevner, Matthew Mullarkey (University of South Florida)

A Visual Analytics Tool to Support Disease Risk Assessment and Shared Decision Making
Tsipi Heart*, Ofir Ben-Assuli (Ono Academic College, Indiana University); Rema Padman (Carnegie Mellon University); Robert Klempfner (Sheba Medical Center)

Take Part Prototype: Creating New Ways of Participation Through Augmented and Virtual Reality
Jonas Fegert* (FZI Research Center for Information Technology); Jella Pfeiffer (Justus Liebig University Giessen); Anna Golubyeva (FZI Research Center for Information Technology); Nadine Pfeiffer-Leßmann (Raumtänzer GmbH); Anuja Hariharan (CAS Software AG); Patrick Renner (Raumtänzer GmbH); Thies Pfeiffer (University of Applied Sciences Emden/Leer); Mark Hefke (CAS Software AG); Tim Straub (FZI Research Center for Information Technology); Christof Weinhardt (Karlsruhe Institute of Technology)

10:30 – 12:00 pm	Architecture and implementation of a real-time cooperative modeling tool for configurable business processes *Daniel Hilpoltsteiner*, Markus Schmidtner, Julian Dörndorfer, Christian Seel, Holger Timinger (University of applied Sciences Landshut)*	**Room Franz**

Smart Electricity Market: The Case of Power TAC
Nastaran Naseri*, Muhammed Demircan (Cologne Institute of Information Systems, University of Cologne); Wolfgang Ketter (University of Cologne); John Collins (University of Minnesota)

12:00 – 1:00 pm   Lunch

1:00 – 2:30 pm   **Panel on Analytics (Chair: Amit Basu)**

2:30 – 2:45 pm   Coffee Break and Poster Exhibit

2:45 – 4:15 pm	**Session 2a: Auction Design I** *Chair: Jingbo Hou*	**Room Ludwig**

Analyzing Frictions in Generalized Second Price Auction Markets
(Best Paper Nominee)
Vandith Pamuru*, Yaroslav Rosokha, and Karthik Kannan (Purdue University)

The Declining Price Anomaly in B2B Sequential Multi-channel Auctions
Huong May Truong* (Rotterdam School of Management, Erasmus University); Alok Gupta (University of Minnesota); Wolfgang Ketter (University of Cologne); Eric van Heck (Rotterdam School of Management, Erasmus University)

Computing approximate Bayes-Nash Equilibria through Neural Self-Play
Stefan Heidekrüger*, Paul Sutterer, Martin Bichler (Technical University of Munich)

Participation Costs Reduce the Overbidding and Increase Matching Rates in Two-sided Procurement Platforms
Jingbo Hou*, Ni Huang, Yili Hong, Pei-yu Chen (Arizona State University)

	Session 2b: Recommendation Systems *Chair: Onkar Malgonde*	**Room Leopold**

Extracting User Interest Drifts in Social Networks for Time-Aware Personalized Recommendations: A Graph-based Representation Learning Approach
Jessica Q Sheng* (University of Utah); Xiao Liu (Arizona State University); Paul Hu (University of Utah)

Formal and empirical results about the influence of recommender systems on fragmentation
Joern Grahl*, Matthias Sambale, Johannes Münster (University of Cologne)

2:45 – 4:15 pm

Optimizing Product Recommendations with Price Information: Experimental Evidence from an Online Product Recommendation System
Anuj Kumar and Xiang Wan* (University of Florida)

Room Leopold

On the Sustainability of Digital Markets using Multisided Recommender Systems
Onkar Malgonde* (Northern Illinois University), He Zhang, Balaji Padmanabhan, Moez Limayem (University of South Florida)

Session 2c: Healthcare I
Chair: Seokiun Youn

Room Franz

Neural Collaborative Filtering with Content for Personalizing Mobile Healthcare Applications
Buomsoo (Raymond) Kim* and Sudha Ram (University of Arizona)

Run for the Group: The Impacts of Offline Teambuilding, Social Comparison and Competitive Climate on Group Physical Activity - Evidence from Mobile Fitness Apps
Yuan Zhang*, Jie Zhang (University of Texas at Arlington); Zilong Liu, Xiaolong Song (Dongbei University of Finance and Economics)

Adaptive Capacity Planning for Ambulatory Surgery Centers: A Bottom-up Strategy based on Optimization combined with Data Analytics
Seokjun Youn* (The University of Arizona); Neil Geismar (Texas A&M University); Chelliah Sriskandarajah (Texas A&M University); Vikram Tiwari (Vanderbilt University Medical Center)

Session 2d: Demonstrators and Teaching Cases II
Chair: Soumya Sen

Event Center

Performance, task load and UX – An empirical exploration study in mixed reality business process guidance
Philipp Schwinn* (Ergosign GmbH); Andreas Emrich (Deutsches Forschungszentrum für Künstliche Intelligenz GmbH [DFKI]); Dieter Wallach (Ergosign GmbH); Peter Loos (DFKI)

Evaluating Regulatory Policies for the US Corporate Bond Market with Agent-Based Models
Donald Berndt* (University of South Florida); David Boogers (Finametrics.com); Saurav Chakraborty (University of South Florida)

Digital Tools for Teaching Business Model Innovation in Information Systems: A newly developed didactic approach comprising video-based peer feedback
Daniel Szopinski*, Thomas John, Dennis Kundisch (Paderborn University)

JANOS: An Integrated Predictive and Prescriptive Modeling Framework
David Bergman (University of Connecticut); Philip Brooks (Optimized Operations, LLC.); Teng Huang* (University of Connecticut); Andrea Lodi (Polytechnique Montréal); Arvind U. Raghunathan (Mitsubishi Electric Research Laboratories)

4:15 – 4:30 pm	Break and Poster Exhibit	

4:30 – 6:00 pm   **Session 3a: Short Papers Session I**   **Room**
    Chair: Xiaobai Li   **Ludwig**

Are "Helpful" Online Reviews High Quality? A Measurement of Online Review Quality and Its Relationship with Helpfulness Votes
Zhihong Ke (Clemson University); De Liu, Gediminas Adomavicius (University of Minnesota)*

Jump-start Mobile Health: The Impact of E-prescription on Online Health Consultation Demand
Sijia Zhou (City University of Hong Kong [CityU]); Yanzhen Chen (The Hong Kong University of Science and Technology); Xin Li (CityU)*

What is the Cost of Fairness? An Experimental Study in Healthcare Auditing
Lina Bouayad (Florida International University); Balaji Padmanabhan (University of South Florida)*

The Role of Batteries with Market Power in Electricity Markets
Nastaran Naseri (Cologne Institute of Information Systems, University of Cologne); Yashar Ghiassi-Farrokhfal (Erasmus Univeristy Rotterdam); Wolfgang Ketter (University of Cologne)*

How to Create a Successful Campaign: Analytics of KickStarter Projects
Xueyan Yin, Xiao Liu, Victor Benjamin, Pei-yu Chen (Arizona State University)*

Parameterizing Topic Models for Better Statistical Inference
Xiaoping Liu (Northeastern University); Xiaobai Li (University of Massachusetts Lowell)*

Session 3b: Sharing Economy   **Room**
Chair: Fan Dong   **Leopold**

The Influence of Self-Regulation of Sharing Economy: Evidence from Unstructured Data
Zixuan Meng (University of Washington); Zhijie Lin (Tsinghua University); Yingfei Wang (University of Washington); Yong Tan (University of Washington)*

Optimal Management of Free-Floating Vehicle Sharing Systems Under Competition
Karsten Schroer (University of Cologne); Micha Kahlen (Erasmus University Rotterdam); Thomas Y. Lee (University of California, Berkeley); Wolfgang Ketter (University of Cologne); Alok Gupta (University of Minnesota)*

Modeling and Prediction Bike Sharing Systems Using Heterogeneous Data Sources
Fan Dong, Faiz Currim, Sudha Ram (University of Arizona)*

Session 3c: Social Media Analysis I   **Room**
Chair: Yang Wang   **Franz**

Latent Network-Enhanced Predictive Analytics
Wei Qian, Hongzhe Zhang, Xiao Fang* (University of Delaware)

Promotional Activities and Relational Maintenance in Social Commerce:
An Empirical Study
Yidi Liu*, Xin Li (City University of Hong Kong)

Imagine It or Image It? The Effectiveness of User Generated Reviews in
Pictures
Youngeui Kim, Yang Wang (University of Wisconsin-Milwaukee);
Abhijeet Ghoshal (University of Illinois–Urbana Champaign)*

How to Get Something for Nothing? Growing Helpful Online Product
Reviews by Harnessing the Referral Channels
Yang Wang*, Atish Sinha (University of Wisconsin-Milwaukee)

6:00 – 7:00 pm	Bus transfer to the Hofbräuhaus
7:00 – 10:30 pm	Dinner at the Hofbräuhaus Best Paper Award INFORMS ISS Design Science Award

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Friday, December 20

H4 Hotel München Messe

from 7:45 am	WITS Board Meeting	**Room Ludwig**
from 8:30 am	Registration at the H4 Hotel München Messe	
9:00 – 10:30 am	**Session 4a: Dissertation Proposals** *Chair: Balaji Padmanabhan*	**Event Center**

Making Intervention Decisions Using Data Mining Models when Data is Problematic for Causal Inference
Carlos Fernandez (NYU Stern)

Big Data-Based Health Risk Analytics: A Deep Learning Approach
Jiaheng Xie (University of Arizona)

Adapting Machine Learning Solutions for Intelligent Decision Support
Yaqiong Wang (University of Minnesota)

Discrete Optimization with Objective Functions Learned Through Predictive Modeling
Teng Huang (University of Connecticut)

Session 4b: Auction Design II   **Room**
Chair: Huimin Zhao   **Leopold**

Combinatorial Exchanges for Airport Time Slots
Martin Bichler, Richard Littmann, Stefan Waldherr (Technical University of Munich)*

Budget Induced Strategic Bidding in Multiunit Online Auctions
Zihong Huang, De Liu, Alok Gupta (University of Minnesota)*

Building up Renewable Energy: A Market Design for Wind Auctions
Paul Sutterer, Martin Bichler (Technical University of Munich); Veronika Grimm, Sandra Kretschmer (University of Erlangen-Nuremberg)*

Session 4c: IT Strategies   **Room**
Chair: Haiyang Feng   **Franz**

How Would you React? A Study of Data Breach and Firm IT Investment
Chengxin Cao, Zhaoxin Lin (Iowa State University); Ali Mahdavi Adeli (The University of Memphis); Jacquelyn Rees Ulmer (Iowa State University)*

A Clickstream-Based Approach to Predict Customer Behavior and Facilitate Conversion
Wael Jabr (Georgia State University); Abhijeet Ghoshal (University of Illinois–Urbana Champaign); Yichen Cheng (Georgia State University); Paul Pavlou (Bauer College of Business University of Houston)*

9:00 – 10:30 am	Designing a Sustainable Backhaul Framework using Telematics Sensor Data and Analytics *Sudip Bhattacharjee*, Mohsen Emadikhiav, Bob Day, David Bergman (University of Connecticut)*	**Room Franz**
	Relevance or Profits? Cost- Regularized Recommender Systems Design in Digital Streaming Services **(Best Paper Nominee)** *Xinxue (Shawn) Qu (University of Notre Dame); Haiyang Feng* (Tianjin University)*	
10:30 – 10:45 am	Coffee Break and Poster Exhibit	
10:45 – 10:50 am	**Announcement of WITS 2020**	
10:50 – 12:00 pm	**Academic Keynote by Wil van der Aalst,** RWTH Aachen, Germany	**Event Center**
	Process Mining in Today's Platforms Economy: Opportunities and Challenges	
12:00 – 1:00 pm	Lunch	
1:00 – 2:30 pm	**Session 5a: Social Media Analysis II** *Chair: Youngsoo Kim*	**Room Ludwig**
	Polarizing Virtual Water Cooler Chat? An Analysis of Bot Influence on Sentiment During US Elections **(Best Paper Nominee)** *Andras Szep, Matthew J Hashim*, Sudha Ram (University of Arizona)*	
	To Ride or to Hide: The Impact of Social Media Reactions to News on Firm Performance *Julie Zhang* (University of Massachusetts, Lowell); Jing Peng, Ram Gopal (University of Connecticut)*	
	How Do Virtual Activities Lead to Real Money Spending in Online Games? *Youngsoo Kim* (Texas Tech University)*	

| 1:00 – 2:30 pm | **Session 5b: Blockchain Technologies and Healthcare II** | **Room** |
| | *Chair: Philipp Burckhardt* | **Leopold** |

A Supply and Demand Model for Bitcoin's Data Space Marketplace
Noyan Ilk* (Florida State University); Shaokun Fan (Oregon State University); Guangzhi Shang (Florida State University); J Leon Zhao (City University of Hong Kong)

A Blockchain-based Distributed Mechanism for Resource Allocation
Philipp A Kienscherf*, Niklas Reinhold, Wolfgang Ketter (University of Cologne)

Suggestion Mining for Online Health Forums
Zhengchao Yang*, Sudha Ram, Faiz Currim (University of Arizona)

Mining of Clinical Narratives: Extending an Analysis of Chronic Kidney Disease Pathways
Philipp Burckhardt*, Rema Padman, Daniel Nagin (Carnegie Mellon University)

| 2:30 – 2:40 pm | Coffee Break |

| 2:40 – 4:10 pm | **Session 6a: Trustworthy AI/ML** | **Room** |
| | *Chair: Hongyan Liu* | **Ludwig** |

Designing Algorithm to Help Machine Learning with Discrimination Issues
Hajime Shimao (Santa Fe Institute); Junpei Komiyama (New York University); Warut Khern-am-nuai* (McGill University); Kannan Karthik (Purdue University)

Perils of Location Tracking? Personalized and Interpretable Privacy Preservation in Consumer Mobile Trajectories
(Best Paper Nominee)
Meghanath Macha*, Beibei Li (Carnegie Mellon University); Natasha Zhang Foutz (University of Virginia); Anindya Ghose (New York University)

On Data-Driven Inference of Experts' Decision Qualities: New Problems & Algorithms
Wanxue Dong, Maytal Saar-Tsechansky* (University of Texas at Austin); Tomer Geva (Tel Aviv University)

Detecting Fake Reviews in the Cold Start Setting: A Deep Generative Topic Modeling Framework
Yidong Chai (Tsinghua University); Weifeng Li (University of Georgia); Bin Zhu (Oregon State University); Hongyan Liu* (Tsinghua University)

2:40 – 4:10 pm	**Session 6b: Advertising** *Chair: Yanwu Yang*	**Room** **Leopold**

Concave or S-shaped? An Empirical Investigation into the Shape of Advertising Response Function in Search Engine Advertising
Baozhu Feng and Yanwu Yang (Huazhong University of Science and Technology)*

A Randomized Field Experiment on Customer-Journey-Based Mobile Targeting
ShinY Ahn, Miyeon Jung, Daegon Cho (KAIST)*

When More is Less: The Effect of Add-on Insurance on the Consumption of Professional Services
Hongfei Li, Jing Peng, Xinxin Li, Jan Stallaert (University of Connecticut)*

Sales or Clicks? An Empirical Analysis of Search Engine Advertising Effects in E-ecommerce Markets
Yanwu Yang, Baozhu Feng (Huazhong University of Science and Technology); Yong Liu (University of Arizona)*

	Session 6c: Short Paper Session II *Chair: Veda Storey*	**Room** **Franz**

Joint Mixed Membership Clustering for Identifying Adverse Drug Events
Liu Jiang and Vaibhav Rajan (National University of Singapore)*

Conceptualizing Multidimensional Reputation Evaluation Model for Crowdsourcing Participants: Blockchain Design Perspective
Muhammad Nauman Shahid (National University of Singapore)*

Online Armies and Movements in the Social Media Age: Framing and Mobilization
Sudip Bhattacharjee, Arda Zuber, Ugochukwu Etudo (University of Connecticut)*

Financial Knowledge Graph
Yuting Xie, Tingjian Ge, Hongwei Zhu (University of Massachusset Lowell)*

Ownership, Guardianship and Theft of Digital Intellectual Property
Kurt Schmidt and Veda Storey (Georgia State University)*

4:10– 4:40 pm	**WITS General Body Meeting**

Posters

Dynamic Effects of Correcting Falsehood on Social Media: An analysis of responses during extreme events	Kelvin K King* (University of Texas, Rio Grande Valley)
Healthcare Simulation Centers Implementation in China: A Multi-Case Study	Aihua Yan* (City University of Hong Kong); Li Li (Guangzhou First People's Hospital); Jianping Lv (Guangzhou First People's Hospital)
Digital Transformation in Military Organizations: The Effect of Information Quality on Organizational Performance	Mylene Struijk* (Tilburg University)
Learning From the Crowd: Quantitative Analysis for Cooperative and Competitive Cases	Wangcheng Yan* (The University of Tennessee, Knoxville); Wenjun Zhou ("University of Tennessee, Knoxville, USA")
Modeling SDL-based Service System Graphs - A hypergraph-based model for unified service and production information systems	Mahei Li* (University of Kassel); Jan Marco Leimeister (University of St. Gallen)

Presenting at WITS: Participant Information

All accepted papers are available for download at https://wits2019.in.tum.de/files/
(user: wits2019, password: wits2019)

Information for presenters of regular papers, demonstrators, and teaching cases:

- The duration of each session is 90 minutes.
- For each talk there is a time limit of 15 minutes plus 5 minutes for questions and answers, except for short-paper and demonstrator sessions.
- Please be available at least 15 minutes before the session starts.
- The last presenter of each session will be the session chair.
- Introduce yourself to the session chair as presenter in the break before your session starts.
- Copy your presentation file to the prepared laptop and check if it works. If you want to use your own laptop, please make sure that you test the presentation and the projector setup before.
- While approaching the time limit of your presentation, you will be informed by the session chair about the time left.

For poster presenters:

- There will be boards where you can fix your poster. Please be present during the breaks of the conference for questions (see program schedule).

For demonstrators:

- Each demonstrator has a table with a European power plug available to position your laptop for demonstrations. Please be present during the breaks of the conference for questions (see program schedule).
- Ideally, you provide a live presentation of your tool during the talk and shape your talk around that.
- If required, we can additionally provide you with a poster board. Please send an email to wits2019@in.tum.de until November 30 if you need one.

Please inform us as soon as possible, if you are not able to present so we can announce the cancellation to the other participants and update our schedule.

Opening Keynote: Wednesday 6:00 pm, Nymphenburg Palace

Beyond the Vickrey Auction: Practical Design for a High-Stakes Auction.

Paul Milgrom
Stanford University

Abstract

In 2017, the US completed a successful reallocation of some $20 billion worth of radio spectrum from broadcast television to mobile broadband uses while also reassigning the continuing TV stations to new channels. The combination of incentive complexity, computational complexity, and budgetary constraints made the design problem particularly challenging. Solving it required new economic theory and new computational algorithms that hold lessons for future complex market designs. This lecture explains the economics of the reallocation.

Short biography

Paul Milgrom is the Shirley and Leonard Ely professor of Humanities and Sciences in the Department of Economics at Stanford University and professor, by courtesy, at both the Department of Management Science and Engineering and the Graduate School of Business. He is a member of the National Academy of Sciences and the American Academy of Arts and Sciences, and winner of the 2008 Nemmers Prize in Economics, the 2012 BBVA Frontiers of Knowledge award, and the 2017 CME-MSRI prize in Innovative Quantitative Applications, and the 2018 Carty Award for the Advancement of Sciences from the National Academy of Sciences.

Milgrom is best known for his contributions to the microeconomic theory, his pioneering innovations in the practical design of multi-item auctions, and the extraordinary successes of his students and academic advisees. According to his BBVA Award citation: *"Paul Milgrom has made seminal contributions to an unusually wide range of fields of economics including auctions, market design, contracts and incentives, industrial economics, economics of organizations, finance, and game theory."* According to a count by Google Scholar, Milgrom's books and articles have received more than 86,000 citations.

Industry Keynote: Thursday 9 am, H4 Hotel
Analytics at Telefónica Germany

Jens Johannesson and Patrick Walch
Telefónica Germany

Abstract

Telefónica Deutschland's Digital & Data Competence Center (DDC) is an internal data & analytics consultancy, that offers services to every single business unit of the company, from Finance to Networks, from Marketing to HR. In this keynote, Dr. Jens Johannesson (Head of Data Intelligence) and Dr. Patrick Walch (Lead Data Scientist) are going to share interesting insights about the application of Analytics & AI at Telefónica Deutschland. Why is Telefónica doing Analytics & AI, which are concrete projects they finished or they're working on, what are the main challenges? The talk will combine theoretical parts with a practical Live-Demo of Telefónica Deutschland's analytical infrastructure that enables Data Analysts, Engineers & Scientists inside the DDC as well as Data Workers and Citizen Data Scientists in the Business Units.

Short biography

Dr. Jens Johannesson received his doctorate in theoretical physics from Leibniz Universität Hannover. After starting his post-graduate career as a strategy consultant at Monitor Company, he worked as a project manager at Bertelsmann's data center before joining Telefónica 20 years ago.
Since then, Jens has been working on the more technical aspects of data integration, driven by the vision of a truly data-driven enterprise.
As Head of Data Intelligence, he is currently responsible for Telefónica Deutschland's Data Warehouse, Big Data Cluster and Cloud-based Data-Lake Initiative.

Dr. Patrick Walch is the Lead Data Scientist in the Digital & Data Competence Center at Telefónica Germany. In his studies of Economathematics at Ulm University he specialized in Operations Research, Game Theory and Heuristic Algorithms. After his diploma, he joined the German Research Foundation's research group "Modeling, Analysis and Simulation in Economathematics" where he was applying Game Theory in Financial Mathematics.
After his studies, in 2008 he started working for a Munich based consultancy in data analytics and one of his first projects was for Telefónica Germany. In 2010 he joined Telefónica's Business Analytics unit as data analyst, then became functional lead for analytical models and later manager of the Advanced Analytics & Data Science team. Since July 2016, he holds the position of the Lead Data Scientist.

Academic Keynote: Friday 10:45 am, H4 Hotel

Process Mining In Today's Platforms Economy: Opportunities and Challenges

Wil van der Aalst

RWTH Aachen University

Abstract

Process mining is rapidly becoming a standard way to analyze performance and compliance problems based on event data. Currently, there are more than 30 commercial process-mining tools based on the research by prof. Van der Aalst and his team. The primary enabler for process mining is the increasing digitization of society and business. Tech companies such as Uber, Airbnb, Amazon, Booking, and Alibaba and were able to grow extremely fast due to the digital platforms they provide. Smart homes, production facilities, and energy networks also build on platforms recording the actual behavior or people and machines. All digital platforms have in common that they record event data at an unprecedented level. This allows for all forms of process mining (process discovery, conformance checking, prediction, etc.). Particularly interesting are comparative process mining techniques, i.e., comparing variants of the same process for different groups of customers, periods, locations, etc. However, there are also challenges related to confidentiality and other aspects of responsible data science. In his talk, Wil van der Aalst ("the godfather of process mining") reflects on the capabilities and limitations of today's process mining tools and the opportunities and challenges provided by digital platforms.

Short biography

Prof.dr.ir. Wil van der Aalst is a full professor at RWTH Aachen University leading the Process and Data Science (PADS) group. He is also part-time affiliated with the Fraunhofer-Institut für Angewandte Informationstechnik (FIT) where he leads FIT's Process Mining group and the Technische Universiteit Eindhoven (TU/e). Until December 2017, he was the scientific director of the Data Science Center Eindhoven (DSC/e) and led the Architecture of Information Systems group at TU/e. Since 2003, he holds a part-time position at Queensland University of Technology (QUT). Currently, he is also a distinguished fellow of Fondazione Bruno Kessler (FBK) in Trento and a member of the Board of Governors of Tilburg University. His research interests include process mining, Petri nets, business process management, workflow management, process modeling, and process analysis. Wil van der Aalst has published over 220 journal papers, 20 books (as author or editor), 500 refereed conference/workshop publications, and 75 book chapters. Many of his papers are highly cited (he one of the most cited computer scientists in the world; according to Google Scholar, he has an H-index of 144 and has been cited over 96,000 times) and his ideas have influenced researchers, software developers, and standardization committees working on process support. Next to serving on the editorial boards of over ten scientific journals, he is also playing an advisory role for several companies, including Fluxicon, Celonis, Processgold, and Bright Cape. Van der Aalst received honorary degrees from the Moscow Higher School of Economics (Prof. h.c.), Tsinghua University, and Hasselt University (Dr. h.c.). He is also an elected member of the Royal Netherlands Academy of Arts and Sciences, the Royal Holland Society of Sciences and Humanities, and the Academy of Europe. In 2018, he was awarded an Alexander-von-Humboldt Professorship.

Getting Around in Munich

Conference Buses

Transport via chartered buses free of charge for registered participants will be provided on the following routes between conference venues.

- Wednesday, 18th Dec,   4:15 pm   **H4 Hotel → Nymphenburg Palace**
               ca. 9:45 pm   **Nymphenburg Palace → H4 Hotel**
- Thursday, 19th Dec,   6:10 pm   **H4 Hotel → Hofbräuhaus**
               ca. 11:00 pm   **Hofbräuhaus → H4 Hotel**

Public Transportation

The most affordable and convenient way to get around Munich individually is the public transport system **MVV**. The MVV system consists of metro trains (S-Bahn), subway trains (U-Bahn), trams and buses. Although these modes are operated by several different companies, tickets are valid across these modes.

Tickets and timetables Tickets need to be bought in advance. There's no systematic ticket check procedure like turnstiles or entry gates, but personnel may ask you to present your ticket at any time. Tickets can be bought at vending machines in metro stations, on board of buses and trams or digitally via an app (see below). Most physical tickets need to be *validated* at the beginning of the ride using stamp machines found at the platform entrances or on-board buses and trams.

Prices depend on *tariff zones* that you cross during your trip and is independent of mode of transport. All conference venues (H4, Nymphenburg, Hofbräuhaus), Hauptbahnhof (main train station), the city center and major tourist attractions are located inside zone **M**. The airport is located in zone 5. Selected Ticket prices:

- **Zone M** (rides within Munich city, *incl. H4, Nymphenburg, Hofbräu, City Center*)
  Single Trip Ticket   3.30€
  Single Day Ticket   7.80€ (unlimited rides for 1 person until 6am on next day)
  Group Day Ticket   14.80€ (unlimited rides for a group of up to 5 ppl)
- **Zones M-5** (Munich and surrounding areas, including airport)
  Single Trip Ticket   11.50€
  Single Day Ticket   13.00€ (unlimited rides for 1 person until 6am on next day)
  Group Day Ticket   24.30€ (unlimited rides for a group of up to 5 ppl)

Getting home at night

Most S- and U-Bahn services shut down around 1:00 am. During the night, there's a system of trams and buses. You can find the night system map at https://tinyurl.com/munich-night

Public Transport Apps

There are several apps that allow you to check real-time timetables and connections. After registering for an account, you can also buy digital MVV tickets using credit cards or SEPA direct debit (for European bank accounts). We recommend the '**MVG Fahrinfo**' app, as it offers the simplest UI and best English language experience among the available options. You can find the AppStore/PlayStore link to the right.

http://goo.gl/bmNE7L

Ride Hailing Apps and Taxis

While **Uber** is available in Munich, you should not expect the same convenience that you may be used to internationally: UberX prices in Munich are very much in line with those for metered taxis and as a result there's lower demand and supply for Ride Hailing, so longer waiting times than elsewhere should be expected.
Metered taxis are abundantly available. Please note that payment in most taxis is cash-only when flagged down in the street or ordered via phone, hotel concierge, etc.

A popular local app for hiring both metered taxis and fixed-price rideshares that offers in-app credit card payment is '**FREE NOW'** (formerly mytaxi). It's available in English on Android and iOS. Please note that you need to register an account and *add a payment method* to it **before** ordering a taxi using the app – otherwise the driver will expect you to pay cash.

Expected durations and prices for taxis and hailed rides (depending on traffic):

- Airport ↔ H4 Hotel: 35 – 50 min,   60€ – 70€
- Airport ↔ Nymphenburg Palace   45 – 75 min,   70€ – 90€
    or Airport ↔ City Center
    Expect rush hour traffic if leaving the airport later than 4 pm!

- H4 Hotel ↔ City Center   15 – 30 min,   20€ – 30€

Venues – Nymphenburg Palace
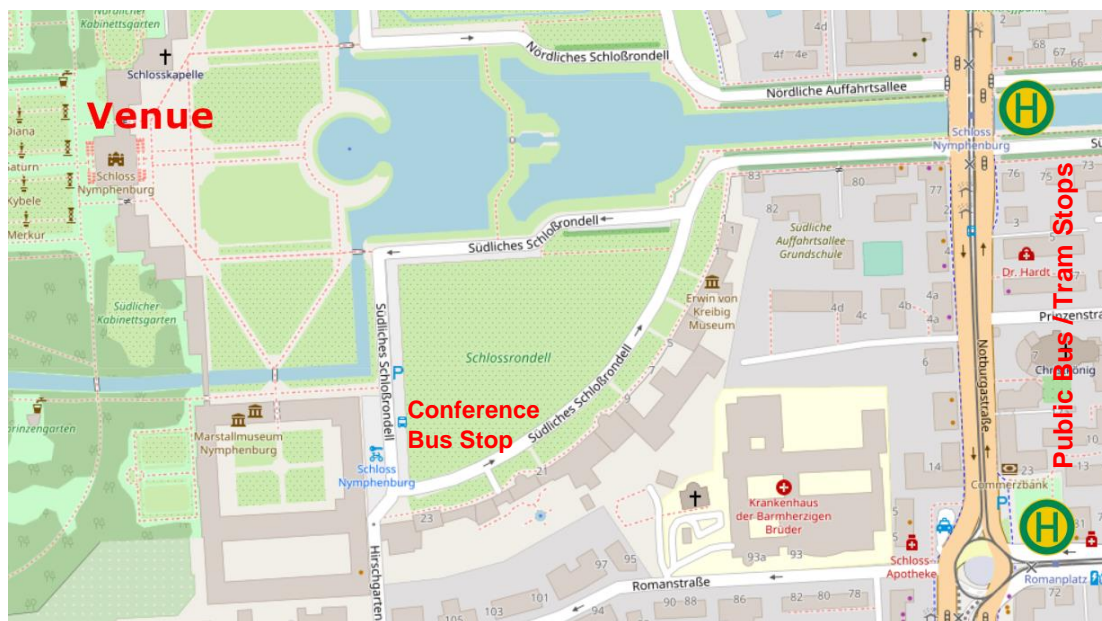*Wednesday – Opening Keynote and Reception*

Image by Wolfgang Pehlemann (CC BY-SA 3.0 de)

*The keynote and reception will be held at **Hubertus Hall** in the Orangery (north) wing of the palace.*
***Street Address**:*   Schloss Nymphenburg 1, 80638 München

Closest Public Transport Stops

- Schloss Nymphenburg *(8min walk)*   Tram 17, Bus 51
- Romanplatz *(12 min walk)*   Trams 12, 16, 17, Buses 51, 151

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How to get there

*Due to **scheduled construction work** on the tram network, please check live timetable information on the day of arrival on the MVG app or at https://mvv-muenchen.de!*

- From the airport: *(duration: 55 mins, runs every 20 mins)*
  Take **S1** (**light blue** line) towards the city center. Change at *Moosach*, then take **Bus 51** towards *Aidenbachstraße*. Exit at stop **Schloß Nymphenburg**
- From H4 Hotel (via Hauptbahnhof):   *(duration: 55 mins, runs every <10 mins)*
  From *Messestadt West* take **U2** towards city center. At *Hauptbahnhof* change to **Tram 16/17** towards Romanplatz. Exit at **Romansplatz** or **Schloß Nymphenburg**

Venues – H4 Hotel
Main conference venue and conference hotel

©H-Hotels   *©Openstreetmap Contributors*

Street Address: Konrad-Zuse-Platz 14, 81829 München

Phone Contact: +49 89 9400830

Closest Public Transport Stops

- *Messestadt West* metro station *(6 min walk)*   **U2** (‚red line')
  (*Finding the correct exit*: On the platform, follow the signs for bus and bicycle sharing, then in the concourse level take the exit leading to buses *"190 Messestadt Ost, 234 Feldk.-Unterföhring, 263 Kirchheim-Feldk., 264 Dornach Riem Bf, N74 Messestadt Ost"*.
  Once outside, follow *Olof-Palme St.* for 2 blocks on the west side of the Messesee lake.*)
- *Am Messesee* bus stop (3 min walk)   Bus 190, 183, 263, 264,
          Night Bus **N74** (2:00 – 5:00 am)

How to get there

- From main station / city center *(duration 25 mins, runs every 10 mins)*
  Take **U2** (**red** line) towards Messestadt Ost. *Messestadt West* is the penultimate stop.
- From the airport: *(duration: 45 – 60 mins, runs every 20 mins)*
  Take **S8** (**yellow**) towards the city center. At *Daglfing* *change to Bus* **183** towards Messestadt West. Exit at **Am Messesee.**

  Check live timetables at https://mvv-muenchen.de or in MVG app for alternatives.

Venues – Hofbräuhaus
Thursday, Dinner and Awards Ceremony

The dinner will be held in the **Wappensaal** on the first floor of Hofbräuhaus. Please use the **left street entrance**; the right entrance only serves the public areas in the ground floor.

Street Address: Platzl 9, 80331 München
Phone Contact: +49 89 290136100

We will provide transportation from H4 Hotel to Hofbräuhaus and back via chartered buses.
The buses will leave at 6:10 pm at H4. Return buses will leave at 11 pm from **Alfons-Goppel Strasse** (behind the Opera house; about 3 min walk from Hofrbräuhaus)

How to get there on your own

    From H4 Hotel   *(duration 35 mins, runs every 5-10 mins)*
    Take **U2** ('red line') towards city center. At **Sendlinger Tor** change onto U3 (orange) or U6 (blue) towards Marienplatz. Exit at **Marienplatz** (first stop), take **exit H** (to the front of the train)

- The last return train leaves at Marienplatz 1:15 am.
- From 1:35 am the following night-line connection back to the H4 hotel is availble once per hour: Take night tram **N19** at *Nationaltheater* (North of Hofbräuhaus) heading towards St.-Veit-Str. At *Haidenauplatz*, change onto night bus **N74** toward Messestadt Ost. Get off at Am Messesee or Paul-Henri-Spaak-Straße. This trip will take around 45 minutes, so ride hailing or taxis might be more attractive when returning late.

Exact times are subject to change, as MVV will release a new timetable in December. Please Confirm before your trip and check live updates.

Guided City Tour Offer

We have organized two guided walking tours through Munich for the evening of Friday, December 20. Both tours begin at 5:30 pm.

- **"Tour Old Town",** a tour through Munich's historical city center (about 1.5 hours). Starting point is the Marian column at Marienplatz.
- **"Tour Christmas Habits",** a tour across the Christmas market with emphasis on German Christmas customs (about 2 hours). Starting point is under the Christmas tree at Marienplatz.

Both tours are offered free of charge for registered WITS participants and limited to 25 participants each. If you wish to participate in one of the tours, please register at
https://wits2019.in.tum.de/tour_form (login: tour, password: tour).

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