Decision Analytics, Mobile Services, and Service Science Track (DA)
Co-Chairs: Christer Carlsson and Haluk Demirkan

Addressing Grand Challenges with Systems Sciences
Minitrack Chair: Daniel Soper

DA 1  Grand Ballroom 4  Thursday, 4:00 - 5:30 pm

Life Coach: Using Big Data and Analytics to Facilitate the Attainment of Life Goals
Joseph A. Cazier, Jennifer A. Green

Analytics, Information Systems and Decision Technologies for Sustainability
Minitrack Chairs: Omar El-Gayar, PingSun Leung, Arno Scharl

DA 2  Grand Ballroom 6  Wednesday, 2:00 - 3:30 pm

**Energy Points: A New Approach to Optimizing Strategic Resources by Leveraging Big Data
Nigel P. Melville, Ory Zik

Decision Model for Sustainable Electricity Procurement Using Nationwide Demand Response
Joscha Märkle-Huß, Stefan Feuerriegel, Dirk Neumann

Engaging Consumers in Ethical Consumption: The Effect of Real-time Environmental Information on Eco-friendly Consumer Choice
Laurie Giddens, Lazaros Goutas, Dorothy Leidner, Juliana Sutanto

DA 3  Grand Ballroom 6  Wednesday, 4:00 - 5:30 pm

Towards Ecological Workflow Patterns as an Instrument to Optimize Business Processes with Respect to Ecological Goals
Patrick Lübbecke, Peter Fettke, Peter Loos

Extracting Opinion Targets from Environmental Web Coverage and Social Media Streams
Albert Weichselbraun, Arno Scharl, Stefan Gindl

Big Data Analytics: Concepts, Methods, Techniques
Minitrack Chairs: Stephen Kaisler, Frank Armour, Alberto Espinosa

DA 4  Grand Ballroom 6  Wednesday, 8:00 - 9:30 am

Analysis of How Underlying Topics in Financial News Affect Stock Prices Using Latent Dirichlet Allocation
Stefan Feuerriegel, Antal Ratku, Dirk Neumann

Information Processing in Securitized Real Estate Markets
Jan-Otto Jandl

How Do Investor Relations Related Disclosures on Facebook Contribute to a Company’s Information Environment?
Tawei Wang, Hsiao-Lun Lin, Ju-Chun Yen

DA 5  Grand Ballroom 6  Wednesday, 10:00 - 11:30 am

**Latticing and Device-Histories: Dynamic Customer Profiling for Mobile Advertising Campaigns
Donald Kridel, Daniel Dolk

** Best Paper Nomination
A Framework of Value Creation from Business Intelligence and Analytics in Competitive Sports
Olivier Caya, Adrien Bourdon

The Big Data Analytics Gold Rush: A Research Framework for Coordination and Governance
J. Alberto Espinosa, Frank Armour

**Business Value of the Internet of Things**
Minitrack Chairs: Fred Riggins, Samuel Fosso Wamba, Matthias Dehmer

DA 6              Garden Isle 1               Friday, 10:00 - 11:30 am

Big Data Analytics-enabled Supply Chain Transformation: A Literature Review
Mondher Feki, Imed Boughzala, Samuel Fosso Wamba

A Structuring Approach for the Identification of Risks in the Industrial Internet
Michael Hertel

**Data, Text and Web Mining for Business Analytics**
Minitrack Chair: Dursun Delen

DA 7              Grand Ballroom 6               Thursday, 8:00 - 9:30 am

**Detecting Negation Scopes for Financial News Sentiment Using Reinforcement Learning**
Nicolas Pröllochs, Stefan Feuerriegel, Dirk Neumann

Augmenting Text Mining Approaches with Social Network Analysis to Understand the Complex Relationships among Users’ Requests: A Case Study of the Android Operating System
Chan Won Lee, Sherlock A. Licorish, Bastin Tony Roy Savarimuthu, Stephen G. MacDonell

A Unified Framework for Fine-Grained Opinion Mining from Online Reviews
Hao Wang, Chen Zhang, Hongzhi Yin, Wei Wang, Jun Zhang, Fanjiang Xu

Using Semi-supervised Learning for the Creation of Medical Systematic Review: An Exploratory Analysis
Prem Timsina, Jun Liu, Omar El-Gayar, Yanyan Shang

DA 8              Grand Ballroom 6               Thursday, 10:00 - 11:30 am

Enhancing Retrieval and Ranking Performance for Media Search Engine by Deep Learning
Xugang Ye, Jingjing Li, Zijie Qi, Xiaodong He

Research on Stock Network Modeling and Risk Propagation Based on Complex Network Analysis
Xin Jin, Ying Wu, Chu Jin

Comparing European and North American IS Research Using Concept Frequency Analysis: Methods and Preliminary Findings
Daniel S. Soper, Ofir Turel

Firm Failure Timeline Prediction: Math Programming Approaches
Young U. Ryu

** Best Paper Nomination
Decision Support for Smart City and E-Society Services
Minitrack Chairs: Wei Xu, Jian Ma

DA 9  Garden Isle 1  Friday, 3:00 - 4:30 pm
Predicting Travel Volumes for Long-Distance Coach Services through Big Data Analytics - A Case Study on German Public Viewing Events during the UEFA EURO 2016
Corinna Fohrholz, Christian Glaschke

Person-Oriented Modeling Methodology: A Case Study on Personal Credit Scoring
Qingyuan Xu, Ningchen Wang

Digital and ICT-Enabled Services
Minitrack Chairs: Tuure Tuunanen, Tilo Boehmann, Ola Henfridsson

DA 10  Garden Isle 2  Friday, 1:00 - 2:30 pm
**From Fuzzy Exploration to Transparent Advice: Insights into Mobile Advisory Services**
Tino Comes, Gerhard Schwabe

Value Co-Creation and Co-Destruction in an IS Artifact: Contradictions of Geocaching
Tero Vartiainen, Tuure Tuunanen

A Purpose-Based Typology for Systemic Features Enabling Value Co-Creation in Consumer Information Systems
Karri Mikkonen, Jose Teixeira, Mikko Pynnönen, Kari Korpela, Jukka Hallikas

DA 11  Garden Isle 2  Friday, 3:00 - 4:30 pm
Exploring vs. Enjoying: The Choice between Hedonic IS in Post-Adoption Scenarios
Philipp Hechler, Friedrich Born, Julia Kroenung

A Taxonomy of Industrial Service Systems Enabled by Digital Product Innovation
Matthias M. Herterich, Thilo Buehn, Falk Uebernickel, Walter Brenner

Digital Service Innovations based on "Open" Phenomena and Practices
Minitrack Chairs: Juho Lindman, Matti Rossi, Virpi Kristiina Tuunainen

DA 12  Garden Isle 2  Friday, 10:00 - 11:30 am
The Dynamics of Digital Platform Innovation: Apple's Strategy to Control Modular and Architectural Innovation in iOS
Ben Eaton

**Digital Service Innovation from Open Data: Exploring the Value Proposition of an Open Data Marketplace**
Göran Smith, Hosea Ayaba Ofe, Johan Sandberg

The Evolution of a Sharing Platform into a Sustainable Business
Ioanna Constantiou, Ben Eaton, Virpi Kristiina Tuunainen

** Best Paper Nomination
Gamification: Motivations, Effects, and Analytics
Minitrack Chairs: Juho Hamari, Petri Parvinen

DA 13  Garden Isle 5  Friday, 8:00 - 9:30 am
Design Strategies for Gamified Physical Activity Applications for Older Adults
Dennis L. Kappen, Lennart E. Nacke, Kathrin M. Gerling, Lia E. Tsotsos
The Impact of Gamification-Induced Emotions on In-Car IS Adoption – The Difference between Digital Natives and Digital Immigrants
Carolin Ebermann, Everlin Piccinini, Benjamin Brauer, Sebastian Busse, Lutz Kolbe

**When Competition is the Loser
Robin Stefan Brouwer

DA 14  Garden Isle 5  Friday, 10:00 - 11:30 am
Reimagining gamification through the lens of Activity Theory
Hendranus Vermeulen, James Gain, Patrick Marais, Siobhan O’Donovan
Monitoring Gamification in International Patent Documents: Technology Classes, Firms and Preliminary Value Indicators
Patrick J. Höflinger, Eric Zimmerling

Why do People Buy Virtual Goods? A Literature Review
Juho Hamari, Lauri Keronen

Humanitarian Operations Research - Decision Analytics for Crisis and Disaster Management
Minitrack Chairs: Erik Kropat, Silja Meyer-Nieberg

DA 15  Grand Ballroom 4  Thursday, 4:00 - 5:30 pm
Disaster Management and Social Media Use for Decision Making by Humanitarian Organizations
Alivelu Mukkamala, Roman Beck

**A Multi-layered Adaptive Network Approach for Shortest Path Planning During Critical Operations in Dynamically Changing and Uncertain Environments
Erik Kropat, Silja Meyer-Nieberg

Intelligent Decision Support for Logistics and Supply Chain Management
Minitrack Chairs: Stefan Voss, Hans-Jurgen Sebastian

DA 16  Garden Isle 2  Wednesday, 8:00 - 9:30 am
Strategic Decision Support for the Bi-objective Location-Arc Routing Problem
Sandra Huber

Integrating Side Payments into Collaborative Planning for the Distributed Multi-Level Unconstrained Lot Sizing Problem
Jörg Homberger, Hermann Gehring, Tobias Buer

Modular Modeling and Optimization of Temporal Manufacturing Processes with Inventories
Mohan Krishnamoorthy, Alexander Brodsky, Daniel A. Menascé

** Best Paper Nomination
Supply Chain Capabilities and Information Technology Characteristics: Interaction Effects on Firm Performance
Soojung Oh, Young U. Ryu, Hongsuk Yang

A Mathematical Programming Model for Matching Sequential Activities in Logistics Systems with Tolerance for Erroneous or Missing Data
L. Douglas Smith, Jan Fabian Ehmke

Open Forum on Future Perspectives of Intelligent Decision Support for Logistics and Supply Chain Management

Interactive Visual Decision Analytics
Minitrack Chairs: David S. Ebert, Brian Fisher, Kelly Gaither

Mixed-Initiative for Big Data: The Intersection of Human + Visual Analytics + Prediction
Stephen Makonin, Daniel McVeigh, Wolfgang Stuerzlinger, Khoa Tran, Fred Popowich

The Human-Computer System: Towards an Operational Model for Problem Solving
William Ribarsky, Brian Fisher

ParallelSpaces: Simultaneous Exploration of Feature and Data for Hypothesis Generation
Deokgun Park, Jungu Choi, Niklas Elmqvist

The Personal Equation of Interaction for Categorization of Composite Glyphs
Tera Marie Greensmith

Mobile Value Services
Minitrack Chairs: Pirkko Walden, Tomi Dahlberg, Esko Penttinen

Business Models for Free Digital Goods and Services
Nicole Eling, Christian Büchner, Peter Buxmann

Business Model Change and Refinement along Business Model Lifecycle: Evidences From a Multiple Case Study on Mobile Telecommunications New Ventures
Antonio Ghezzi, Andrea Cavallaro

Mobile Banking Services Continuous Usage – Case study of Finland
Aijaz A. Shaikh, Heikki Karjaluoto

Addiction to Mobile Phone or Addiction through Mobile Phone?
Behrooz Davazdahemami, Bryan Hammer, Amr Soror

The Impact of Mere Exposure Effect on Smartphone Addiction
Chongyang Chen, Kem Z.K. Zhang, Sesia J. Zhao, Matthew K.O. Lee, Tianjiao Cong

** Best Paper Nomination
Multi-Criteria Decision Analysis and Support Systems
Minitrack Chairs: Rakesh Sarin, Heinz Roland Weistroffer

DA 21  Garden Isle 4  Thursday, 8:00 - 9:30 am

**Tailoring Group Package Recommendations to Large Heterogeneous Groups Based on Multi-Criteria Optimization
Hanan Mengash, Alexander Brodsky

Improving Technology Investment Decisions at Hospitals through System Dynamics and Decision Analysis
Alba Rojas-Cordova, Arash Baghaei-Lakeh, Hui Zhang, Christian Wernz, Hazhir Rahmandad, Anthony D. Slonim, Ari Caroline

Testing Best Practices to Reduce the Overconfidence Bias in Multi-Criteria Decision Analysis
Valentina Ferretti, Sule Guneý, Gilberto Montibeller, Detlof von Winterfeldt

DA 22  Garden Isle 4  Thursday, 10:00 - 11:30 am

Multiobjective Decision Analysis with Probability Management for Systems Engineering Trade-off Analysis
Alex MacCalman, Gregory S. Parnell

Service Analytics
Minitrack Chairs: Hansjörg Fromm, Thomas Setzer, Gerhard Satzger

DA 23  Garden Isle 1  Friday, 1:00 - 2:30 pm

**Application of Hidden Markov Model to Analyze Enthusiasts’ Dynamics of A Lifestyle Brand
Stephane Cheung, Yasuyuki Shirai, Hiroyuki Morita, Hiroyuki Takashima, Masakazu Nakamoto, Edward Hak-Sing Ip

Subjective Norms and Customer Adoption of Mobile Banking: Taiwan and Vietnam
Chih-Chin Liang

Business Analysis of Digital Discourse for New Service Development: A Theoretical Perspective and a Method for Uncovering the Structure of Social Representations for Improved Service Development
Friedrich Chasin

Service Science
Minitrack Chairs: Paul Maglio, Fu-ren Lin, Michael Shaw

DA 24  Kauai 2  Wednesday, 8:00 - 9:30 am

Designing Institutional Complexity to Enable Innovation in Service Ecosystems
Kaisa Koskela-Huotari, Jaakko Siltaloppi, Stephen L. Vargo

Designing a Peer-to-Peer Sharing Service as Fuel for the Development of the Electric Vehicle Charging Infrastructure
Martin Matzner, Friedrich Chasin, Moritz von Hoffen, Florian Plenter, Jörg Becker

Lysanne Lessard, Chidinma Priscilla Okakwu

** Best Paper Nomination
In-Store Gamification: Testing a Location-Based Treasure Hunt App in a Real Retailing Environment
Marcus Olsson, Johan Högberg, Erik Wästlund, Anders Gustafsson

Digital Health Platform Complementor Motives and Effectual Reasoning
Anssi Smedlund

Decisions in Mobility Service Networks – Coordinating Demand and Supply Using a Mechanism Design Approach
Christopher Lisson, Nico Roedder, Philipp Stroehle, Christof Weinhardt

Structure, Content and Use of IT Service Catalogs – Empirical Analysis and Development of a Maturity Model
Felicitas Nord, Regine Dörbecker, Tilo Böhmann

**Smart Service Systems: Analytic, Cognition & Innovation**
Minitrack Chairs: Haluk Demirkan, Jim Spohrer, Ralph Badinelli

Learning Track Representation and Trends for Conference Analytics
Pengfei Liu, Shoaib Jameel, King Keung Wu, Helen Meng

How to Effectively Train IBM Watson: Classroom Experience
Syed Shariyar Murtaza, Paris Lak, Ayse Bener, Armen Pischdotchian

**RFPCog: Linguistic-based Identification and Mapping of Service Requirements in Request for Proposals (RFPs) to IT Service Solutions**
Hamid R. Motahari-Nezhad, Juan M. Cappi, Taiga Nakamura, Mu Qiao

Work-Life Optimization: Using Big Data and Analytics to Facilitate Work-Life Balance
James A. Westwood, Joseph A. Cazier

Out of Vocabulary Words Decrease, Running Texts Prevail and Hashtags Coalesce: Twitter as an Evolving Sociolinguistic System
Suman Kalyan Maity, Bhadreswar Ghuku, Abhishek Upmanyu, Animesh Mukherjee

Converged Reality: A Data Management Research Agenda for a Service-, Cloud-, and Data-driven Era
Michael Smit

**Soft Computing**
Minitrack Chairs: Rudolf Kruse, Gabriella Pasi, Jose Alonso

ε Constrained CCPSO with Different Improvement Detection Techniques for Large-Scale Constrained Optimization
Chen Peng, Qing Hui

Determination of Event Patterns for Complex Event Processing Using Fuzzy Unordered Rule Induction Algorithm with Multi-Objective Evolutionary Feature Subset Selection
Nijat Mehdiyev, Julian Krumeich, Dirk Werth, Peter Loos

** Best Paper Nomination
**Streaming Data Analytics and Applications**  
Minitrack Chairs: Mehmed Kantardzic, Jozef Zurada

**DA 29**  
Grand Ballroom 3  
Friday, 1:00 - 2:30 pm

Real-Time Driving Monitor System: Combined Cloud Database with GPS  
Wei-Yen Hsu, Kun-Sin Lien, Yu-Chan Wang, Yu-Ting Zheng, Guan-Han Li

Smart Preprocessing Improves Data Stream Mining  
Hanqing Hu, Mehmed Kantardzic

Epoch Persistence: Safe, Efficient, On-Demand Rendering for Streaming Data  
Joseph A. Cottam, Andrew Lumsdaine

**Systemic Financial Risk Analytics**  
Minitrack Chairs: Peter Sarlin, Tuomas Peltonen

**DA 30**  
Boardroom  
Wednesday, 8:00 - 9:30 am

**The Effect of Diversification on Financial Contagion**  
Xian Cheng, Xinbo Sun, Stephen Shaoyi Liao, Zhongsheng Hua, Xiaolu Yang, Mengshen Huang

A R-SOM Analysis of the Link between Financial Market Conditions and a Systemic Risk Index based on ICA-factors of Systemic Risk Measures  
Patrick Kouontchou, Amaury Lendasse, Yoan Miche, Alejandro Modesto, Peter Sarlin, Bertrand Maillet

**Wearables and Quantified Self**  
Minitrack Chairs: Tayfun Keskin, Deanna Kennedy, Hugo Parades

**DA 31**  
Grand Ballroom 3  
Friday, 3:00 - 4:30 pm

A Resource Complementarity View (RCV) of Value Creation in the Context of Connected Smart Devices  
Aaron Baird, Frederick J. Riggins

Crowdfunding for Financing Wearable Technologies  
Fehmi Tanrisever, Karen-Ann Wismans - Voorbraak

A Pricing Model for the Internet of Things Enabled Smart Service Systems  
Deanna Kennedy, Tayfun Keskin

** Best Paper Nomination