

THE HAWAII INTERNATIONAL CONFERENCE ON SYSTEM SCIENCES



JANUARY 7-10, 2020 | GRAND WAILEA, MAUI

[hicss.hawaii.edu](http://hicss.hawaii.edu)

PLATINUM



SILVER



BRONZE



ACADEMIC



MEDIA



# HICSS-53, A CO-CREATION BY

---

**3** Keynote Speakers

**94** Symposia, Workshops,  
and Tutorials Leaders

**1,890** Authors from **665** Papers

**2,255** Reviewers

**384** Minitrack Chairs

**19** Track Chairs

**1** Conference Chair

**12** HICSS Staff and Helpers

**1,100** Conference Attendees  
from over 40 Countries and Counting



**CONFERENCE CHAIR**

Tung Bui, University of Hawai'i at Mānoa

**SCIENTIFIC ADVISOR**

John Seely Brown, Deloitte Center for the Edge

**CONFERENCE PROGRAM COORDINATOR**

Thayanan Phuaphanthong, University of Hawai'i at Mānoa

**TRACK CHAIRS****Collaboration Systems and Technology**

Robert Briggs, San Diego State University  
Jay Nunamaker, University of Arizona

**Information Technology in Healthcare**

William Chismar, University of Hawai'i at Mānoa  
Thomas Horan, University of Redlands

**Decision Analytics and Service Science**

Christer Carlsson, Abo Akademi University, Finland  
Haluk Demirkan, University of Washington-Tacoma

**Internet and the Digital Economy**

Alan Dennis, Indiana University  
Joe Valacich, University of Arizona

**Digital and Social Media**

Kevin Crowston, Syracuse University

**Knowledge Innovation & Entrepreneurial Systems**

Murray Jennex, San Diego State University  
David Croasdell, University of Nevada, Reno

**Digital Government**

Hans Jochen Scholl, University of Washington  
John Bertot, University of Maryland College Park

**Organizational Systems and Technology**

Hugh J. Watson, University of Georgia  
Dorothy Leidner, Baylor University

**Electric Energy Systems**

Thomas Overbye, Texas A&M University  
Lindsay Anderson, Cornell University

**Software Technology**

Rick Kazman, University of Hawai'i at Mānoa  
Gul Agha, University of Illinois at Urbana-Champaign

# HICSS-54 CALL FOR PARTICIPATION

**JANUARY 5-8, 2021 | GRAND HYATT KAUAI**



The Hawai'i International Conference on System Sciences (HICSS) invites submission of:

- Symposium, Workshop, and Tutorial (SWT) Proposals;
- Minitrack Proposals;
- Papers;
- Applications for Pre-Conference Doctoral Consortium

Please check [hicss.hawaii.edu](http://hicss.hawaii.edu) for more information.

## **Important Dates for Symposium, Workshop, and Tutorial (SWT) Proposals**

**February 28, 2020 | 11:59 pm HST:** Deadline for SWT Proposal Submission

**March 28, 2020:** Notification of Acceptance/Rejection

## **Important Dates for Minitrack Proposals**

**February 12, 2020 | 11:59 pm HST:** Submission Deadline for Minitrack Proposal

**February 21, 2020:** Notification of Acceptance/Rejection

## **Important Dates for Paper Submission**

**June 15, 2020 | 11:59 pm HST:** Paper Submission Deadline

**August 17, 2020:** Notification of Acceptance/Rejection

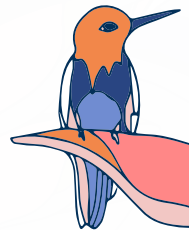
**September 22, 2020:** Deadline for Authors to Submit Final Manuscript for Publication

**October 1, 2020:** Deadline for at least one author of each paper to register for HICSS-54

## **Important Dates for Pre-Conference Doctoral Consortium Application**

**July 15, 2020:** Application deadline (11:59 pm HST)

**August 17, 2020:** Notification of Acceptance/Rejection



**Monday | January 6**

- 09:00 - 07:00** Pre-Conference Doctoral Consortium
- 12:00 - 05:00** Registration
- 03:00 - 04:30** Board Meeting
- 06:00 - 07:00** Conference Organizers Meeting at Grand Dining, by invitation only

**Tuesday | January 7**

- 08:00 - 05:00** Registration
- 09:00 - 10:15** Symposia, Workshops, and Tutorials
- 10:15 - 10:45** Coffee Break
- 10:45 - 12:00** Symposia, Workshops, and Tutorials
- 12:00 - 01:00** Lunch, available for purchase at Haleakala Pre-function
- 01:00 - 02:15** Symposia, Workshops, and Tutorials
- 02:15 - 02:45** Coffee Break
- 02:45 - 04:00** Symposia, Workshops, and Tutorials
- 04:20 - 05:00** Meeting - Track Chairs and Minitrack Chairs (See pp. 14-15 for location)
- 05:00 - 05:30** Meeting - Minitrack Chairs and Authors (See pp. 14-15 for location)
- 06:00 - 07:00** Welcome Reception with 1-hour Hosted Bar, Courtesy of Grand Wailea at Molokini Garden

**Wednesday | January 8**

- 07:30 - 05:00** Registration
- 08:00 - 09:30** Professional Development Panel at Haleakala 3 | Paper Sessions
- 09:30 - 10:00** Coffee Break
- 10:00 - 11:30** Paper Sessions
- 11:30 - 12:30** Lunch at Haleakala Pre-function
- 12:45 - 01:50** Keynote Address
- 02:00 - 03:30** Q&A on Quantum Computing | Paper Sessions
- 03:30 - 04:00** Coffee Break
- 04:00 - 05:30** Paper Sessions
- 06:00 - 07:00** Meet the Editors at Haleakala Pre-function

**Thursday | January 9**

- 07:30 - 05:00** Registration
- 08:00 - 09:30** Professional Development Panel at Haleakala 3 | Paper Sessions
- 09:30 - 10:00** Coffee Break
- 10:00 - 11:30** Paper Sessions
- 11:30 - 12:30** Lunch at Haleakala Pre-function
- 12:45 - 01:50** Keynote Address
- 02:00 - 03:30** Paper Sessions
- 03:30 - 04:00** Coffee Break
- 04:00 - 05:30** Women's Networking at Haleakala 4 | Paper Sessions
- 06:00 - 07:00** Women's Networking continued at Haleakala Pre-function

**Friday | January 10**

- 07:30 - 05:00** Registration
- 08:00 - 09:30** Professional Development Panel at Haleakala 3 | Paper Sessions
- 09:30 - 10:00** Coffee Break
- 10:00 - 11:30** Paper Sessions
- 11:30 - 12:30** Lunch at Haleakala Pre-function
- 12:45 - 01:50** Keynote Address
- 02:00 - 03:30** Paper Sessions
- 03:30 - 04:00** Coffee Break
- 04:00 - 05:30** Paper Sessions
- 06:00 - 07:00** Best Paper Award Ceremony and Luau at Molokini Garden

**WiFi Internet Connection  
at HICSS-53**

Network ID: **HICSS**  
Password: **hicss2020**



**14** Event Matrices

**22** Plenary Talks

**26** HICSS-53 Special

**27** Symposia, Workshops, and Tutorials

**28** Big Data: Analytics and Governance

**29** Curriculum Development

**30** Deep Learning and Artificial Intelligence

**31** Emerging Technologies

**31** Health IT

**31** IT and Society

**33** Scientific Inquiry and Research Methods

**34** Security

**35** System Implementation

**37** Schedule of Paper Presentations by Tracks

**38** Collaboration Systems and Technologies Track

**43** Decision Analytics and Service Science Track

**49** Digital Government Track

**53** Digital and Social Media Track

**56** Electric Energy Systems Track

**59** Information Technology in Healthcare Track

**63** Internet and the Digital Economy Track

**67** Knowledge Innovation and Entrepreneurial Systems Track

**70** Organizational Systems and Technology Track

**77** Software Technology Track

**81** Index of Authors

**88** Floor Plan of Meeting Space

**EVENT MATRICES**

- 14** Tuesday January 7, 2020
- 16** Wednesday January 8, 2020
- 18** Thursday January 9, 2020
- 20** Friday January 10, 2020

**KEYNOTE ADDRESSES**

- 22** Software Development for Quantum Computers: Applications in Financial and Chemical Engineering Sectors  
Kohei Itoh, Professor, Department of Applied Physics, Keio University
- 24** Calling BS in an Age of Misinformation  
Jevin West, Director of the Center for an Informed Public, University of Washington
- 25** Enabling a Broadband Future, One Community at a Time  
Ajit Pai, Chairman, Federal Communications Commission

**HICSS-53 SPECIAL**

- 23** **Q&A about Quantum Computing - Birds of a Feather Session**
- 26** **Women's Networking**
- 26** **Professional Development Panels**
  - 26** Your first job is preparing for your next job - what things should I do in the next five years?
  - 26** Service - A Necessary Distraction or Tempting Trap?
  - 26** Best Practices to Pursue Work/Life Balance in Academia
- 36** **Meet the Editors**

**SYMPOSIA, WORKSHOPS, AND TUTORIALS**

- 28** **Big Data: Analytics and Governance**
  - 28** Big Data and Analytics (BDA): Modeling, Capabilities, and Management
  - 28** Cybersecurity Big Data Analytics
  - 28** Fundamentals and Applications of Visual Analytics
  - 28** GIS and Location Analytics in Systems Science Research
  - 28** Governing Big Data as Shared Societal Resources: Beyond Privacy and Security to Value, Ethics, and Goals
  - 29** Opportunities and Challenges in Text Analytics



- 29 Curriculum Development**
  - 29** A Hands-On Exploration of Business Analytics Curricula Resources with Insights on AACSB Curriculum Design
  - 29** An Integrated Experiential Approach to Teaching Blockchain and Hashing Concepts
  - 29** Blockchain: A Hands-on Introduction Blockchain with Insights into Curriculum Design
  - 29** Recent Advances in Teaching and Learning Analytics/Data Science through Teradata University Network and Teradata Vantage
  - 30** A Hands-On Exploration of In-Memory Enterprise Systems: Insights on ERP Systems Curriculum Design and Research
  
- 30 Deep Learning and Artificial Intelligence**
  - 30** AI in Network Infrastructure and Management Applications
  - 30** Computing in Companion Robots and Smart Toys
  - 30** Machine Aided Work: Harnessing the Power of Augmented Intelligence and Augmented Cognition
  - 30** Optimization or Machine Learning: Eternal Enemies or Soulmates?
  - 31** SMART IoT - How Artificial Intelligence Helps Devices “Tell Their Story”
  
- 31 Emerging Technologies**
  - 31** Quantum is here - and it’s real!
  
- 31 Health IT**
  - 31** Improving Healthcare Management and Patient Safety through System Modeling and Simulation
  
- 31 IT and Society**
  - 31** Exploring the Ethics of Digital Government: How Will Emerging Technologies Impact Society and Human Rights?
  - 33** Future of Work: HR Innovation Driving Intelligence Augmentation in the Age of AI
  - 33** Inter-Disciplinary Studies on Technology and its Impact on Business, Regulation, Law, and Social Welfare
  - 33** Sustainable Energy and Computing

- 33 Scientific Inquiry and Research Methods**
  - 33** Coding on the Brain: Towards a Research Roadmap for NeuroSE
  - 33** Decision Paradigms and Support in the Digital Transformation Age
  - 34** Evaluation of Artifacts in Design Science
  - 34** Field Experimentation as a Method of Inquiry in a Highly Interconnected Human-Machine World
  - 34** Fundamentals of Eye Tracking in User Experience Design
  
- 34 Security**
  - 34** Credibility Assessment and Screening Technologies (CAST)
  - 35** Cyber Psychology Aids National Security
  - 35** NSA and Industry Perspectives: Holistic Solutions for Cyber Security
  - 35** User Controlled Privacy in Next Generation Mobile (5G)
  
- 35 System Implementation**
  - 35** Forensic Analysis and Recovery Strategies for Failed Software Projects
  - 36** Open Source Software Risk Mitigation: Ecosystem or Supply Chain?
  - 36** Simulation and Verification of Cyber-physical Systems

## **SCHEDULE OF PAPER PRESENTATIONS BY TRACKS AND MINITRACKS**

- 38 Collaboration Systems and Technologies**
  - 38** Advances in Teaching and Learning Technologies
  - 38** AI and Cognitive Assistants in Collaboration
  - 39** Business Intelligence and Big Data for Innovative and Sustainable Development of Organizations
  - 39** Collaboration for Data Science
  - 39** Collaboration with Automation: Machines as Teammates
  - 39** Creativity: Research and Practice
  - 40** Cross-Organizational and Cross-Border IS/IT Collaboration
  - 40** Design and Development of Collaboration Technologies
  - 40** Developing Visual Collaborative Tools
  - 40** Distributed Collaboration in Organizations and Networks
  - 41** Emerging Issues in e-Collaboration Distributed Group Decision-Making: Opportunities and Challenges
  - 41** Human-Robot Interactions
  - 41** Information and Communication Technologies for Crisis and Emergency Management

- 41 IT Enabled Collaboration for Development
- 42 Social and Psychological Perspectives in Collaboration Research
- 42 Social Media and e-Business Transformation
- 42 Technology Mediated Collaborations for the Professional Service Sector
- 42 Text Analytics
- 42 The Sharing Economy

### 43 **Decision Analytics and Service Science Track**

- 43 Accountability and Evaluation of AI Algorithms
- 43 Analytics and Decision Support for Green IS and Sustainability Applications
- 43 Big Data and Analytics: Pathways to Maturity
- 44 Business Intelligence, Analytics and Cognitive Technologies for Industry - Specific Applications
- 44 Data, Text, and Web Mining for Business Analytics
- 44 Decision Support for Smart Cities
- 44 Digital Mobile Services for Everyday Life
- 45 Digital Services and The Digitalization of Services
- 45 Gamification
- 45 Intelligent Decision Support and Big Data for Logistics and Supply Chain Management
- 46 Interactive Visual Analytics and Visualization for Decision Making - Making Sense of a Growing Digital World
- 46 Internet of Things: Providing Services Using Smart Devices, Wearables, and Quantified Self
- 46 Machine Learning and Predictive Analytics in Accounting, Finance and Management
- 47 Machine Learning, Robotic, and Toy Computing
- 47 Mixed, Augmented, and Virtual Reality: Co-designed Services and Applications
- 47 Service Analytics
- 47 Service Science
- 48 Smart City Digital Twins
- 48 Smart Service Systems with Analytics and Open Tech Artificial Intelligence
- 48 Soft Computing: Theory Innovations and Problem Solving Benefits
- 48 Panel Discussion - Future Decision Analysis and MCDM in the Age of Big Data, AI, and Social Media

### 49 **Digital Government Track**

- 49 Blockchain, DLT, Tokenization, and Digital Government

- 49 Challenged Democracies: The Impact of Digital Government on Democracy and Democratic Institutions
- 49 Cyber Deception for Defense
- 50 Cybersecurity and Privacy in Government
- 50 Data-driven Government and Artificial Intelligence
- 50 Digital Government and Business Process Management (BPM)
- 50 Digital Government and the Internet of Things (IoT)
- 51 Digital Government Theory: Development and Application
- 51 Digital Government: Social and Service Innovation
- 51 Digital Transformation and Government: Empowering Businesses and Citizens
- 51 Disaster Information, Technology, and Resilience
- 52 Emerging Topics in Digital Government
- 52 Inside the Insider Threat
- 52 Policies and Strategies for Digital Government
- 52 Smart and Connected Cities and Communities

### **53 Digital and Social Media Track**

- 53 Ignite Talks
- 53 Collective Intelligence and Crowds
- 53 Critical and Ethical Studies of Digital and Social Media
- 53 Culture, Identity, and Inclusion
- 53 Data Analytics, Data Mining and Machine Learning for Social Media
- 54 Decision Making in Online Social Networks
- 54 Digital and Social Media in Enterprise
- 55 Games and Gaming
- 55 Learning in Digital and Social Media
- 55 Live Streaming Services
- 55 Mediated Conversation
- 55 Network Analysis of Digital and Social Media
- 56 Social Information Systems
- 56 Social Media Management in Big Data Era
- 56 Social Networking and Communities

### **56 Electric Energy Systems Track**

- 57 Monitoring, Control, and Protection
- 56 Integrating Distributed or Renewable Resources
- 57 Policy, Markets, and Computation
- 57 Resilient Networks

- 59 Information Technology in Healthcare Track**
- 59 Big Data on Healthcare Application
  - 59 Blockchain-based Intelligent Data-Management for Healthcare (BID4Health)
  - 59 Data-Driven Smart Health in Asia Pacific
  - 60 Design and Application of Body Sensor Systems in Healthcare
  - 60 Health Behavior Change Support Systems
  - 60 Health Information Behavior and Activity Tracking Technology
  - 60 ICT-enabled Self-management of Chronic Diseases and Conditions
  - 61 Information Technology Innovations to Overcome Health Disparities
  - 61 IT Adoption, Diffusion and Evaluation in Healthcare
  - 61 IT Architectures and Implementations in Healthcare Environments
  - 62 Optimization of and the Use of IT for Healthcare Processes
  - 62 Personal Health and Wellness Management with Technologies
  - 62 Seniors' Use of Digital Resources
  - 63 Social Media and Healthcare Technology
  - 63 Unintended Negative Consequences of IT Implementations in Healthcare
- 63 Internet and the Digital Economy Track**
- 63 Behavioral Economics in the Digital Economy: Digital Nudging and Interface Design
  - 63 Crowd-based Platforms
  - 64 Crowdsourcing and Digital Workforce in the Gig Economy
  - 64 Distributed Ledger Technology, The Blockchain
  - 64 Electronic Marketing
  - 64 End-user Empowerment in the Digital Age
  - 65 Firm and User Generated Content in the Digital Economy: Key Players, Management and Impact
  - 65 Human-Computer Interaction in the Digital Economy
  - 65 Innovative Behavioral IS Security and Privacy Research
  - 66 Making Digital Transformation Real
  - 66 Privacy and Economics
  - 66 Social Shopping: The Good, the Bad, and the Ugly
  - 66 The Diffusion, Impacts, Adoption and Usage of ICTs upon Society
  - 67 The Digital Supply Chain of the Future: Applications, Implications, Business Models
  - 67 The Internet of Everything
  - 67 Transforming Traditional Production Systems into Smart Production Systems

## **67 Knowledge Innovation and Entrepreneurial Systems Track**

- 67** 2020 Vision of Crowd Science
- 68** Culture, International Business, and Knowledge Systems
- 68** Design and Appropriation of Knowledge and AI Systems
- 68** Illuminating the Dark Side of Knowledge
- 68** Innovation and Entrepreneurship Theory and Practice
- 69** Innovation in Organizations: Learning, Unlearning, and Intentional Forgetting
- 69** Knowledge and Innovation Management: Connecting Theory to Practice to Business Performance
- 69** Knowledge Flow, Transfer, Sharing, and Exchange
- 69** Reports from the Field: Knowledge and Learning Applications in Practice
- 70** Security in Knowledge Systems and Knowledge Management
- 70** The Technical, Socio-Economic and Ethical Aspects of AI
- 70** Value, Success and Performance Measurements of Knowledge, Innovation and Entrepreneurial Systems

## **70 Organizational Systems and Technology Track**

- 70** Advances in Design Science Research
- 71** Advances in Research on Trust, Trusted Systems, and Digital Technologies
- 71** AI and Organizing
- 71** AI and Sustainability: The Use of AI in Sustainability Initiatives
- 71** Analyzing the Impact of Digitization on Business Operations
- 72** Artificial Intelligence and Big Data Analytics Management, Governance, and Compliance
- 72** Blockchain Cases and Innovations
- 72** Business Intelligence, Business Analytics and Big Data: Innovation, Deployment, and Management
- 73** Data Analytics, Control Systems, Business Risks
- 73** Designing for Digital
- 73** Digital Innovation
- 73** Enterprise Ecosystem: Integrating Systems Within and Between Organizations
- 73** Integration to Digital Platforms and Infrastructures
- 74** IT Governance and its Mechanisms
- 74** Knowing What We Know: Theory, Meta-analysis, and Review
- 74** Managing the Dynamics of Platforms and Ecosystems

- 75** Practice-based IS Research
- 75** Promises and Perils of Artificial Intelligence and Machine Learning: Disruption, Adoption, Dehumanisation, Governance, Risk and Compliance
- 75** Social Impact Organizing and Collaborating
- 76** Social-Technical Issues in Organizational Information Technologies
- 76** Strategy, Information, Technology, Economics, and Society (SITES)
- 76** Sustainable Transformation
- 77** The Dark Side of Information Technology Use
- 77** Topics in Organizational Systems and Technology

**77 Software Technology Track**

- 77** Agile and Lean: Organizations, Products and Development
- 78** Blockchain Engineering
- 78** Cellular and Wireless Networks
- 78** Cybersecurity and Software Assurance
- 78** Cybersecurity Investigations and Digital Forensics
- 79** Designing Digitally Responsible System, Software and Services Engineering
- 79** Machine Learning and Cyber Threat Intelligence and Analytics
- 79** Security and Privacy Aspects of Human-Computer-Interactions
- 79** Self-Adaptive Systems: Technologies, Domains, Principles, and Practices
- 79** Smart (City) Application Development: Challenges and Experiences
- 80** Software Development for Mobile Devices, the Internet-of-Things, and Cyber-Physical Systems
- 80** Systems and Applications of Video Analytics
- 80** The Science and Engineering of Cyber Systems

**INDEX OF AUTHORS**

**FLOOR PLAN OF MEETING SPACE**

Jan 7	Haleakala 3	Haleakala 4	Haleakala 5	Ilima 1	Ilima 2	Ilima 3	Pikake 1	Pikake 2	Pikake 3
8:30 - 9:00	<b>MORNING REFRESHMENT</b>								
9:00 - 10:15	Blockchain: A Hands-on Introduction Blockchain with Insights into Curriculum Design p. 29	Big Data and Analytics (BDA): Modeling, Capabilities, and Management p. 28	NSA and Industry Perspectives: Holistic Solutions for Cyber Security p. 35	Quantum is here - and it's real! P. 31	GIS and Location Analytics in Systems Science Research p. 28	Fundamentals and Applications of Visual Analytics p. 28	Opportunities and Challenges in Text Analytics p. 29	Recent Advances in Teaching and Learning Analytics/Data Science through Teradata University Network and Teradata Vantage p. 29	Improving Healthcare Management and Patient Safety through System Modeling and Simulation p. 31
10:15 - 10:45	<b>COFFEE BREAK</b>								
10:45 - 12:00	Blockchain: A Hands-on Introduction Blockchain with Insights into Curriculum Design p. 29	Big Data and Analytics (BDA): Modeling, Capabilities, and Management p. 28	NSA and Industry Perspectives: Holistic Solutions for Cyber Security p. 35	Quantum is here - and it's real! P. 31	GIS and Location Analytics in Systems Science Research p. 28	Fundamentals and Applications of Visual Analytics p. 28	Opportunities and Challenges in Text Analytics p. 29	Recent Advances in Teaching and Learning Analytics/Data Science through Teradata University Network and Teradata Vantage p. 29	Improving Healthcare Management and Patient Safety through System Modeling and Simulation p. 31
12:00 - 1:00	<b>LUNCH AVAILABLE FOR PURCHASE AT HALEAKALA PRE-FUNCTION</b>								
1:00 - 2:15	SMART IoT - How Artificial Intelligence Helps Devices "Tell Their Story" p. 31	Cybersecurity Big-Data Analytics p.28	Future of Work: HR Innovation Driving Intelligence Augmentation in the Age of AI p. 33	Inter-Disciplinary Studies on Technology and its Impact on Business, Regulation, Law, and Social Welfare p. 33	Governing Big Data as Shared Societal Resources: Beyond Privacy and Security to Value, Ethics, and Goals p. 28	Forensic Analysis and Recovery Strategies for Failed Software Projects p. 35	Open Source Software Risk Mitigation: Ecosystem or Supply Chain? p. 36	A Hands-On Exploration of Business Analytics Curricula Resources; with Insights on AACSB Curriculum Design p. 29	A Hands-On Exploration of In-Memory Enterprise Systems: Insights on ERP Systems Curriculum Design and Research p. 30
2:15 - 2:45	<b>COFFEE BREAK</b>								
2:45 - 4:00	SMART IoT - How Artificial Intelligence Helps Devices "Tell Their Story" p. 31	Cybersecurity Big-Data Analytics p.28	Future of Work: HR Innovation Driving Intelligence Augmentation in the Age of AI p. 33	Inter-Disciplinary Studies on Technology and its Impact on Business, Regulation, Law, and Social Welfare p. 33	Governing Big Data as Shared Societal Resources: Beyond Privacy and Security to Value, Ethics, and Goals p. 28	Forensic Analysis and Recovery Strategies for Failed Software Projects p. 35	Open Source Software Risk Mitigation: Ecosystem or Supply Chain? P. 36	A Hands-On Exploration of Business Analytics Curricula Resources; with Insights on AACSB Curriculum Design p. 29	A Hands-On Exploration of In-Memory Enterprise Systems: Insights on ERP Systems Curriculum Design and Research p. 30
4:20 - 5:00 Meeting - Track Chairs and Minitrack Chairs	Collaboration Systems and Technologies	Decision Analytics, Mobile Services, and Service Science	Organizational Systems and Technology		Knowledge Innovation and Entrepreneurial Systems		Digital Government		Digital and Social Media
5:00 - 5:30 Meeting - Minitrack Chairs and Authors	Collaboration Systems and Technologies	Decision Analytics, Mobile Services, and Service Science	Organizational Systems and Technology		Knowledge Innovation and Entrepreneurial Systems		Digital Government		Digital and Social Media
6:00 - 7:00	<b>WELCOME RECEPTION AT MOLOKINI GARDEN</b>								



# TUESDAY JANUARY 7, 2020

Maile 1	Maile 2	Maile 3	Plumeria 1	Plumeria 2	Plumeria 3	Hibiscus 1	Hibiscus 2	Hibiscus 3	Silversword	Jan 7
<b>MORNING REFRESHMENT</b>										8:30 - 9:00
Sustainable Energy and Computing p. 33	Machine Aided Work: Harnessing the Power of Augmented Intelligence and Augmented Cognition p. 30	Computing in Companion Robots and Smart Toys p. 30	AI in Network Infrastructure and Management Applications p. 30	Coding on the Brain: Towards a Research Roadmap for NeuroSE p. 33	Decision Paradigms and Support in the Digital Transformation Age p. 33	Evaluation of Artifacts in Design Science p. 34	User Controlled Privacy in Next Generation Mobile (5G) p. 35		CAST: Credibility Assessment and Screening Technologies p. 31	9:00 - 10:15
<b>COFFEE BREAK</b>										10:15 - 10:45
Sustainable Energy and Computing p. 33	Machine Aided Work: Harnessing the Power of Augmented Intelligence and Augmented Cognition p. 30	Computing in Companion Robots and Smart Toys p. 30	AI in Network Infrastructure and Management Applications p. 30	Coding on the Brain: Towards a Research Roadmap for NeuroSE p. 33	Decision Paradigms and Support in the Digital Transformation Age p. 33	Evaluation of Artifacts in Design Science p. 34	User Controlled Privacy in Next Generation Mobile (5G) p. 35		Credibility Assessment and Screening Technologies (CAST) p. 34	10:45 - 12:00
<b>LUNCH AVAILABLE FOR PURCHASE AT HALEAKALA PRE-FUNCTION</b>										12:00 - 1:00
An Integrated Experiential Approach to Teaching Blockchain and Hashing Concepts p. 29	Optimization or Machine Learning: Eternal Enemies or Soulmates? P. 30	Field Experimentation as a Method of Inquiry in a Highly Interconnected Human-Machine World p. 34	Simulation and Verification of Cyber-physical Systems p. 36	Coding on the Brain: Towards a Research Roadmap for NeuroSE p. 33	Fundamentals of Eye Tracking in User Experience Design p. 34	Exploring the Ethics of Digital Government: How Will Emerging Technologies Impact Society and Human Rights? p. 31	Cyber Psychology Aids National Security p. 35		Credibility Assessment and Screening Technologies (CAST) p. 34	1:00 - 2:15
<b>COFFEE BREAK</b>										2:15 - 2:45
An Integrated Experiential Approach to Teaching Blockchain and Hashing Concepts p. 29	Optimization or Machine Learning: Eternal Enemies or Soulmates? P. 30	Field Experimentation as a Method of Inquiry in a Highly Interconnected Human-Machine World p. 34	Simulation and Verification of Cyber-physical Systems p. 36	Coding on the Brain: Towards a Research Roadmap for NeuroSE p. 33	Fundamentals of Eye Tracking in User Experience Design p. 34	Exploring the Ethics of Digital Government: How Will Emerging Technologies Impact Society and Human Rights? p. 31	Cyber Psychology Aids National Security p. 35		Credibility Assessment and Screening Technologies (CAST) p. 34	2:45 - 4:00
Internet and the Digital Economy		Information Technology in Healthcare		Electric Energy Systems		Software Technology				4:20 - 5:00 Meeting - Track Chairs and Minitrack Chairs
Internet and the Digital Economy		Information Technology in Healthcare		Electric Energy Systems		Software Technology				5:00 - 5:30 Meeting - Minitrack Chairs and Authors
<b>WELCOME RECEPTION AT MOLOKINI GARDEN</b>										6:00 - 7:00

Jan 8	Haleakala 3	Haleakala 4	Haleakala 5	Ilima 1	Ilima 2	Ilima 3	Pikake 1	Pikake 2	Pikake 3
<b>MORNING REFRESHMENT</b>									
7:30 - 8:00									
8:00 - 9:30	Professional Development Panel p. 26	DSM: Ignite Talks p. 53	ES 1: Monitoring, Control and Protection (Large Scale Dynamics and Control) p. 56	KS 9: Knowledge Flow, Transfer, Sharing, and Exchange p. 69	HC 9: ICT-enabled Self-management of Chronic Diseases and Conditions p. 60	HC 6: Design and Application of Body Sensor Systems in Healthcare p. 60	CL 13: Cross-Organizational and Cross-Border IS/IT Collaboration p. 40 CL 25: Technology Mediated Collaborations for the Professional Service Sector p. 42	DG 12: Digital Government: Social and Service Innovation p. 51	IN 18: The Diffusion, Impacts, Adoption and Usage of ICTs upon Society p. 66
<b>COFFEE BREAK</b>									
9:30 - 10:00									
10:00 - 11:30	OS 35: Strategy, Information, Technology, Economics, and Society (SITES) p. 76	HC 11: IT Adoption, Diffusion and Evaluation in Healthcare p. 61	ES 2: Resilient Networks (Testbeds and Synthetic Networks) p. 57	KS 10: Knowledge Flow, Transfer, Sharing, and Exchange p. 69	HC 7: Health Behavior Change Support Systems p. 60	DSM 19: Social Information Systems p. 56 DSM 1: Collective Intelligence and Crowds p. 53	DSM 18: Network Analysis of Digital and Social Media p. 55	DG 13: Digital Government: Social and Service Innovation p. 51	IN 19: The Diffusion, Impacts, Adoption and Usage of ICTs upon Society p. 66
<b>BUFFET LUNCH</b>									
11:30 - 12:30									
<b>KEYNOTE ADDRESS</b>									
12:45 - 1:50									
2:00 - 3:30	OS 36: Strategy, Information, Technology, Economics, and Society (SITES) p. 76	HC 12: IT Adoption, Diffusion and Evaluation in Healthcare p. 61	ES 3: Markets, Policy and Computation (Electricity Market Design and Policy) p. 57	KS 4: Illuminating the Dark Side of Knowledge p. 68 KS 1: 2020 Vision of Crowd Science p. 67	HC 8: Health Information Behavior and Activity Tracking Technology p. 60	DSM 10: Digital and Social Media in Enterprise p. 54	DSM 16: Mediated Conversation p. 55	DG 14: Digital Government: Social and Service Innovation p. 51	DG 2: Challenged Democracies: The Impact of Digital Government on Democracy and Democratic Institutions p. 49
<b>COFFEE BREAK</b>									
3:30 - 4:00									
4:00 - 5:30	OS 37: Strategy, Information, Technology, Economics, and Society (SITES) p. 76	HC 13: IT Adoption, Diffusion and Evaluation in Healthcare p. 61	ES 4: Integrating Distributed or Renewable Resources (Coordination, Communities, and Customer Engagement at the Grid's Edge) p. 57	KS 7: Innovation in Organizations: Learning, Unlearning, and Intentional Forgetting p. 69	HC 15: Optimization of and the Use of IT for Healthcare Processes p. 62	DSM 11: Digital and Social Media in Enterprise p. 54	DSM 17: Mediated Conversation p. 55	DG 15: Digital Transformation and Government: Empowering Businesses and Citizens p. 51 DG 9: Digital Government and Business Process Management (BPM) p. 50	DG 11: Digital Government Theory: Development and Application p. 51
<b>MEET THE EDITORS AT HALEAKALA PRE-FUNCTION</b>									
6:00 - 7:00									

# WEDNESDAY JANUARY 8, 2020

Maile 1	Maile 2	Maile 3	Plumeria 1	Plumeria 2	Plumeria 3	Hibiscus 1	Hibiscus 2	Hibiscus 3	Silversword	Jan 8
<b>MORNING REFRESHMENT</b>										7:30 - 8:00
DA 1: Accountability and Evaluation of AI Algorithms p. 43	IN 9: Human-Computer Interaction in the Digital Economy p. 65	DA 12: Gamification p. 45	DA 19: Machine Learning and Predictive Analytics in Accounting, Finance and Management p. 46	OS 17: Digital Innovation p. 73	OS 24: Knowing What We Know: Theory, Meta-analysis, and Review p. 74	CL 16: Distributed Collaboration in Organizations and Networks p. 40	DA 2: Analytics and Decision Support for Green IS and Sustainability Applications p. 43	ST 7: Designing Digitally Responsible System, Software and Services Engineering p. 79	Credibility Assessment and Screening Technologies (CAST) p. 34	8:00 - 9:30
<b>COFFEE BREAK</b>										9:30 - 10:00
IN 11: Innovative Behavioral IS Security and Privacy Research p. 65	IN 10: Human-Computer Interaction in the Digital Economy p. 65	DA 13: Gamification p. 45	DA 20: Machine Learning and Predictive Analytics in Accounting, Finance and Management p. 46	OS 18: Digital Innovation p. 73 OS 41: Topics in Organizational Systems and Technology p. 77	OS 25: Knowing What We Know: Theory, Meta-analysis, and Review p. 74	CL 17: Distributed Collaboration in Organizations and Networks p. 40	CL 18: Emerging Issues in e-Collaboration Distributed Group Decision-Making: Opportunities and Challenges p. 40	ST 14: Software Development for Mobile Devices, the Internet-of-Things, and Cyber-Physical Systems p. 80	Credibility Assessment and Screening Technologies (CAST) p. 34	10:00 - 11:30
<b>BUFFET LUNCH</b>										11:30 - 12:30
<b>KEYNOTE ADDRESS</b>										12:45 - 1: 50
IN 12: Innovative Behavioral IS Security and Privacy Research p. 65	IN 1: Behavioral Economics in the Digital Economy: Digital Nudging and Interface Design p. 63	DA 14: Gamification p. 45	DA 6: Data, Text, and Web Mining for Business Analytics p. 44	OS 42: Topics in Organizational Systems and Technology p. 77	CL 14: Design and Development of Collaboration Technologies p. 40	CL 9: Collaboration for Data Science p. 39	OS 6: AI and Organizing p. 71	ST 15: Software Development for Mobile Devices, the Internet-of-Things, and Cyber-Physical Systems p. 80	CL 23: Social and Psychological Perspectives in Collaboration Research p. 42	2:00 - 3:30
<b>COFFEE BREAK</b>										3:30 - 4:00
IN 13: Innovative Behavioral IS Security and Privacy Research p. 65	ST 10: Security and Privacy Aspects of Human-Computer-Interactions p. 79	DA 9: Digital Mobile Services for Everyday Life p. 44	DA 7: Data, Text, and Web Mining for Business Analytics p. 44	DA 31: Panel Discussion - Future of Decision Analysis and MCDM in the Age of Big Data, AI and Social Media p. 48	CL 15: Developing Visual Collaborative Tools p. 40	CL 19: Human-Robot Interactions p. 41	OS 10: Artificial Intelligence and Big Data Analytics Management, Governance, and Compliance p. 72 OS 7: AI and Sustainability: The Use of AI in Sustainability Initiatives p. 71	ST 11: Self-Adaptive Systems: Technologies, Domains, Principles, and Practices p. 79	IN 4: Crowdsourcing and Digital Workforce in the Gig Economy p. 64	4:00 - 5:30
<b>MEET THE EDITORS AT HALEKALA PRE-FUNCTION</b>										6:00 - 7:00

Jan 9	Haleakala 3	Haleakala 4	Haleakala 5	Ilima 1	Ilima 2	Ilima 3	Pikake 1	Pikake 2	Pikake 3
7:30 - 8:00	<b>MORNING REFRESHMENT</b>								
8:00 - 9:30	Professional Development Panel p. 26	CL 5: AI and Cognitive Assistants in Collaboration p. 38	ES 5: Markets, Policy and Computation (Power Markets Modeling and Analytics) p. 57	KS 5: Innovation and Entrepreneurship Theory and Practice p. 68	HC 18: Seniors' Use of Digital Resources p. 62	IN 22: The Internet of Everything p. 67	DSM 8: Decision Making in Online Social Networks p. 54	DG 21: Smart and Connected Cities and Communities p. 52	DG 19: Inside the Insider Threat p. 52
9:30 - 10:00	<b>COFFEE BREAK</b>								
10:00 - 11:30	OS 1: Advances in Design Science Research p. 70	CL 6: AI and Cognitive Assistants in Collaboration p. 38 CL 10: Collaboration with Automation: Machines as Teammates p. 39	ES 6: Monitoring, Control and Protection (Distributed Decision and Control) p. 58	KS 6: Innovation and Entrepreneurship Theory and Practice p. 68	HC 19: Seniors' Use of Digital Resources p. 62 HC 10: Information Technology Innovations to Overcome Health Disparities p. 61	DA 18: Internet of Things: Providing Services Using Smart Devices, Wearables, and Quantified Self p. 46	DSM 9: Decision Making in Online Social Networks p. 54	DG 22: Smart and Connected Cities and Communities p. 52 DG 10: Digital Government and the Internet of Things (IoT) p. 50	DG 3: Cyber Deception for Defense p. 49
11:30 - 12:30	<b>BUFFET LUNCH</b>								
12:45 - 1:50	<b>KEYNOTE ADDRESS</b>								
2:00 - 3:30	OS 2: Advances in Design Science Research p. 70	CL 11: Collaboration with Automation: Machines as Teammates p. 39	ES 7: Integrating Distributed or Renewable Resources (Grid-Scale Integration) p. 58	KS 8: Knowledge and Innovation Management: Connecting Theory to Practice to Business Performance p. 69	HC 16: Personal Health and Wellness Management with Technologies p. 62	DSM 21: Social Networking and Communities p. 56	DSM 12: Games and Gaming p. 55	DG 18: Emerging Topics in Digital Government p. 52 DG 8: Data-driven Government and Artificial Intelligenc p. 50	DG 4: Cyber Deception for Defense p. 49
3:30 - 4:00	<b>COFFEE BREAK</b>								
4:00 - 5:30	OS 3: Advances in Design Science Research p. 71	Women's Networking p. 26	ES 7: Resilient Networks (Data Analytics and Decision Support) p. 58	KS 14: Value, Success and Performance Measurements of Knowledge, Innovation and Entrepreneurial Systems p. 70	HC 17: Personal Health and Wellness Management with Technologies p. 62	DSM 22: Social Networking and Communities p. 56	DSM 13 : Games and Gaming p. 55 DSM 15: Live Streaming Services p. 55	DG 20: Policies and Strategies for Digital Government p. 52	DG 5: Cyber Deception for Defense p. 50
6:00 - 7:00	<b>WOMEN'S NETWORKING CONTINUED AT HALEAKALA PRE-FUNCTION</b>								

# THURSDAY JANUARY 9, 2020

Maile 1	Maile 2	Maile 3	Plumeria 1	Plumeria 2	Plumeria 3	Hibiscus 1	Hibiscus 2	Hibiscus 3	Jan 9
<b>MORNING REFRESHMENT</b>									7:30 - 8:00
IN 20: The Digital Supply Chain of the Future: Applications, Implications, Business Models p. 67		DA 22: Mixed, Augmented, and Virtual Reality: Co-designed Services and Applications p. 47	DA 25: Service Science p. 47	DA 3: Big Data and Analytics: Pathways to Maturity p. 43	CL 7: Business Intelligence and Big Data for Innovative and Sustainable Development of Organizations p. 39	HC 14: IT Architectures and Implementations in Healthcare Environments p. 61	OS 20: Integration to Digital Platforms and Infrastructures p. 73	ST 1: Agile and Lean: Organizations, Products and Development p. 77	8:00 - 9:30
<b>COFFEE BREAK</b>									9:30 - 10:00
IN 21: The Digital Supply Chain of the Future: Applications, Implications, Business Models p. 67	IN 6: Electronic Marketing p. 64	DA 21: Machine Learning, Robotic, and Toy Computing p. 47	DA 26: Service Science p. 48	DA 4: Big Data and Analytics: Pathways to Maturity p. 44 OS 13: Business Intelligence, Business Analytics and Big Data: Innovation, Deployment, and Management p. 72	CL 8: Business Intelligence and Big Data for Innovative and Sustainable Development of Organizations p. 39 DSM 20: Social Media Management in Big Data Era p. 56	HC 20: Social Media and Healthcare Technology p. 63	OS 19: Enterprise Ecosystem: Integrating Systems Within and Between Organizations p. 73	ST 2: Agile and Lean: Organizations, Products and Development p. 78	10:00 - 11:30
<b>BUFFET LUNCH</b>									11:30 - 12:30
<b>KEYNOTE ADDRESS</b>									12:45 - 1:50
IN 23: Transforming Traditional Production Systems into Smart Production Systems p. 67	IN 2: Crowd-based Platforms p. 63	DA 27: Smart City Digital Twins p. 48	DA 23: Service Analytics p. 47	OS 14: Business Intelligence, Business Analytics and Big Data: Innovation, Deployment, and Management p. 72	CL 26: Text Analytics p. 42	OS 31: Promises and Perils of Artificial Intelligence and Machine Learning: Disruption, Adoption, Dehumanisation, Governance, Risk and Compliance p. 75	ST 3: Blockchain Engineering p. 78	ST 12: Smart (City) Application Development: Challenges and Experiences p. 79	2:00 - 3:30
<b>COFFEE BREAK</b>									3:30 - 4:00
IN 24: Transforming Traditional Production Systems into Smart Production Systems p. 67 OS 38: Sustainable Transformation p. 76	IN 3: Crowd-based Platforms p. 64	DA 8: Decision Support for Smart Cities p. 44	DA 24: Service Analytics p. 47	CL 12: Creativity: Research and Practice p. 39	CL 27: Text Analytics p. 42	IN 8: Firm and User Generated Content in the Digital Economy: Key Players, Management and Impact p. 65	ST 17: The Science and Engineering of Cyber Systems p. 80	ST 13: Smart (City) Application Development: Challenges and Experiences p. 79	4:00 - 5:30
<b>WOMEN'S NETWORKING CONTINUED AT HALEAKALA PRE-FUNCTION</b>									6:00 - 7:00

Jan 10	Haleakala 3	Haleakala 4	Haleakala 5	Ilima 1	Ilima 2	Ilima 3	Pikake 1	Pikake 2	Pikake 3
<b>MORNING REFRESHMENT</b>									
7:30 - 8:00									
8:00 - 9:30	Professional Development Panel p. 26	CL 1: Advances in Teaching and Learning Technologies p. 38	ES 9: Planning Session p. 58	KS 2: Design and Appropriation of Knowledge and AI Systems p. 68 KS 13: The Technical, Socio-Economic and Ethical Aspects of AI p. 70	HC 4: Data-Driven Smart Health in Asia Pacific p. 59	DSM 3: Culture, Identity, and Inclusion p. 53	DSM 5: Data Analytics, Data Mining and Machine Learning for Social Media p. 53	OS 32: Social Impact Organizing and Collaborating p. 75	IN 7: End-user Empowerment in the Digital Age p. 64
<b>COFFEE BREAK</b>									
9:30 - 10:00									
10:00 - 11:30	CL 22: IT Enabled Collaboration for Development p. 41	CL 2: Advances in Teaching and Learning Technologies p. 38	OS 28: Practice-based IS Research p. 75	KS 11: Reports from the Field: Knowledge and Learning Applications in Practice p. 69 KS 2: Culture, International Business, and Knowledge Systems p. 68	HC 5: Data-Driven Smart Health in Asia Pacific p. 59	DSM 5: Culture, Identity, and Inclusion p. 53	DSM 6: Data Analytics, Data Mining and Machine Learning for Social Media p. 54	DG 16: Disaster Information, Technology, and Resilience p. 51	IN 16: Privacy and Economics p. 66
<b>BUFFET LUNCH</b>									
<b>KEYNOTE ADDRESS</b>									
12:45 - 1:50									
2:00 - 3:30	OS 39: The Dark Side of Information Technology Use p. 77	CL 3: Advances in Teaching and Learning Technologies p. 38	OS 29: Practice-based IS Research p. 75	KS 12: Security in Knowledge Systems and Knowledge Management p. 70	HC 1: Big Data on Healthcare Application p. 59	DSM 2: Critical and Ethical Studies of Digital and Social Media p. 53	DSM 7: Data Analytics, Data Mining and Machine Learning for Social Media p. 54	DG 17: Disaster Information, Technology, and Resilience p. 52 CL 20: Information and Communication Technologies for Crisis and Emergency Management p. 41	DG 6: Cybersecurity and Privacy in Government p. 50
<b>COFFEE BREAK</b>									
3:30 - 4:00									
4:00 - 5:30	OS 40: The Dark Side of Information Technology Use p. 77	CL 4: Advances in Teaching and Learning Technologies p. 38	OS 30: Practice-based IS Research p. 75	KS 15: Panel Discussion - Future of the Knowledge Innovation and Entrepreneurial Systems Track p. 70	HC 2: Big Data on Healthcare Application p. 59	DSM 14: Learning in Digital and Social Media p. 55	CL 24: Social Media and e-Business Transformation p. 42	CL 21: Information and Communication Technologies for Crisis and Emergency Management p. 41	DG 7: Cybersecurity and Privacy in Government p. 50
<b>BEST PAPER AWARD CEREMONY AND LUAU AT MOLOKINI GARDEN</b>									
6:30 - 9:00									

# FRIDAY JANUARY 10, 2020

Maile 1	Maile 2	Maile 3	Plumeria 1	Plumeria 2	Plumeria 3	Hibiscus 1	Hibiscus 2	Hibiscus 3	Jan 10
<b>MORNING REFRESHMENT</b>									7:30 - 8:00
<p>DG 1: Blockchain, DLT, Tokenization, and Digital Government</p> <p>p. 49</p>	<p>IN 14: Making Digital Transformation Real</p> <p>p. 66</p>	<p>DA 15: Intelligent Decision Support and Big Data for Logistics and Supply Chain Management</p> <p>p. 45</p>	<p>HC 21: Unintended Negative Consequences of IT Implementations in Healthcare</p> <p>p. 63</p>	<p>DA 16: Interactive Visual Analytics and Visualization for Decision Making - Making Sense of a Growing Digital World</p> <p>p. 46</p>	<p>OS 8: Analyzing the Impact of Digitization on Business Operations</p> <p>p. 71</p>	<p>OS 21: IT Governance and its Mechanisms</p> <p>p. 74</p>	<p>CL 28: The Sharing Economy</p> <p>p. 42</p>	<p>ST 8: Machine Learning and Cyber Threat Intelligence and Analytics</p> <p>p. 79</p>	8:00 - 9:30
<b>COFFEE BREAK</b>									9:30 - 10:00
<p>OS 11: Blockchain Cases and Innovations</p> <p>p. 72</p>	<p>IN 15: Making Digital Transformation Real</p> <p>p. 66</p>	<p>DA 5: Business Intelligence, Analytics and Cognitive Technologies for Industry - Specific Applications</p> <p>p. 44</p>	<p>HC 22: Unintended Negative Consequences of IT Implementations in Healthcare</p> <p>p. 63</p> <p>OS 16: Designing for Digital</p> <p>p. 73</p>	<p>DA 17: Interactive Visual Analytics and Visualization for Decision Making - Making Sense of a Growing Digital World</p> <p>p. 46</p>	<p>OS 9: Analyzing the Impact of Digitization on Business Operations</p> <p>p. 72</p>	<p>OS 22: IT Governance and its Mechanisms</p> <p>p. 74</p>	<p>CL 29: The Sharing Economy</p> <p>p. 43</p>	<p>ST 9: Machine Learning and Cyber Threat Intelligence and Analytics</p> <p>p. 79</p>	10:00 - 11:30
<b>BUFFET LUNCH</b>									11:30 - 12:30
<b>KEYNOTE ADDRESS</b>									12:45 - 1:50
<p>OS 12: Blockchain Cases and Innovations</p> <p>p. 72</p> <p>HC 3: Blockchain-based Intelligent Data-Management for Healthcare (BID4Health)</p> <p>p. 59</p>	<p>OS 26: Managing the Dynamics of Platforms and Ecosystems</p> <p>p. 74</p>	<p>DA 10: Digital Services and The Digitalization of Services</p> <p>p. 45</p>	<p>DA 29: Soft Computing: Theory Innovations and Problem Solving Benefits</p> <p>p. 48</p>	<p>OS 4: Advances in Research on Trust, Trusted Systems, and Digital Technologies</p> <p>p. 71</p>	<p>OS 33: Social-Technical Issues in Organizational Information Technologies</p> <p>p. 76</p>	<p>OS 23: IT Governance and its Mechanisms</p> <p>p. 74</p>	<p>ST 4: Cellular and Wireless Networks</p> <p>p. 78</p>	<p>ST 6: Cybersecurity Investigations and Digital Forensics</p> <p>p. 78</p> <p>ST 16: Systems and Applications of Video Analytics</p> <p>p. 80</p>	2:00 - 3:30
<b>COFFEE BREAK</b>									3:30 - 4:00
<p>IN 5: Distributed Ledger Technology, The Blockchain</p> <p>p. 64</p>	<p>OS 27: Managing the Dynamics of Platforms and Ecosystems</p> <p>p. 75</p>	<p>DA 11: Digital Services and The Digitalization of Services</p> <p>p. 45</p>	<p>DA 30: Soft Computing: Theory Innovations and Problem Solving Benefits</p> <p>p. 48</p>	<p>OS 5: Advances in Research on Trust, Trusted Systems, and Digital Technologies</p> <p>p. 71</p>	<p>OS 34: Social-Technical Issues in Organizational Information Technologies</p> <p>p. 76</p>	<p>IN 17: Social Shopping: The Good, the Bad, and the Ugly</p> <p>p. 66</p>	<p>OS 15: Data Analytics, Control Systems, Business Risks</p> <p>p. 73</p>	<p>ST 5: Cybersecurity and Software Assurance</p> <p>p. 78</p>	4:00 - 5:30
<b>BEST PAPER AWARD CEREMONY AND LUAU AT MOLOKINI GARDEN</b>									6:30 - 9:00

## HICSS-53 | KEYNOTE ADDRESS

WEDNESDAY JANUARY 8, 2020 | 12:45-1:50 | HALEAKALA BALLROOM



### SOFTWARE DEVELOPMENT FOR QUANTUM COMPUTERS: APPLICATIONS IN FINANCIAL AND CHEMICAL ENGINEERING SECTORS

#### Kohei M. Itoh

Professor, Department of Applied Physics, Keio University



In May 2018, Keio University in Japan has established an IBM Q Network Hub for the first time in Asia. From the Hub, researchers can access directly via cloud the world's best quantum computer, IBM Q, being developed at the IBM Thomas J. Watson Research Center in the US. In order to utilize this unique opportunity, four companies have joined our Hub as Members; Mitsubishi UFJ Financial Group, Inc., Mizuho Financial Group, Inc., JSR Corporation, and Mitsubishi Chemical Corporation. These member companies provide not only research funding but also their best researchers to work fulltime at the Hub to develop quantum-computing software together with Keio faculty members, research scientists, and students. The first half of this Keynote talk will provide a general introduction to quantum computers and an overview of state-of-the-art in quantum computer hardware and software developments. In the second

half, I will introduce a variety of outcome of research at the IBM Q Network Hub @ Keio University in the area of software developments for the financial and chemical engineering sectors. I will also introduce our efforts in connecting quantum computers to today's advanced AI technologies at the Hub.

*Kohei M. Itoh graduated from Keio University and received his M. S. and Ph. D. from the University of California, Berkeley. He joined Keio University as a faculty member in 1995 and became full professor in 2007. His main focus of research has been on physics of semiconductors, quantum computing, and quantum sensing, which led to more than 300 journal publications. He has served on a variety of executive boards including the Physical Society of Japan and the Japan Society of Applied Physics. Currently he is a Member of Science Council of Japan representing a large body of scientists in Japan. He is a recipient of the Japan IBM Prize (2006) and the JSPS (Japan Society for the Promotion of Science) Prize (2009). He is also the founder of the IBM Q Hub @ Keio University.*



# Q&A ON QUANTUM COMPUTING

## BIRDS OF A FEATHER SESSION

**WEDNESDAY JANUARY 8, 2020 | 2:00-3:30PM**  
**HALEAKALA BALLROOM**

### **Kohei M. Itoh**

Professor, Department of Applied Physics, Keio University

### **Bob Sutor**

Vice President, IBM Q Ecosystem Development

---

How to Get Started with Quantum Computing?

What are Necessary Skills?

How to Teach Quantum Computing?

How to get engaged and contribute to Quantum Computing?

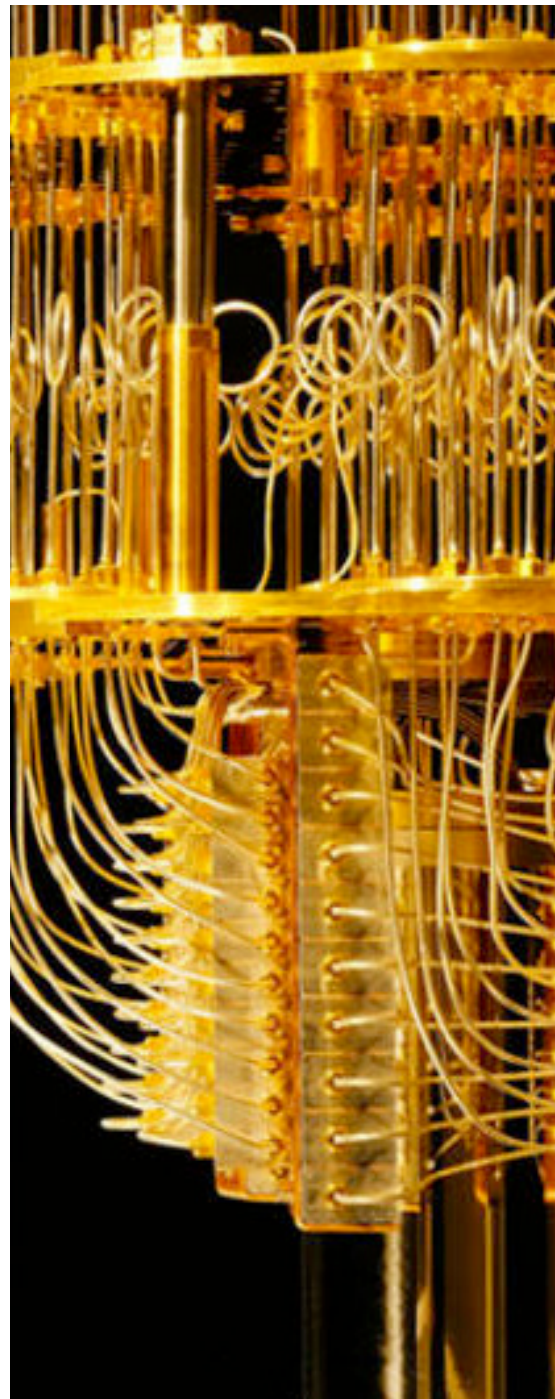
Where do Classical Computing  
and Quantum Computing intersect?

What is the intersection of Quantum Computing and AI?

How to contribute to algorithm development  
for Quantum Computing?

What about Full-Stack Software Development  
for Quantum Computing?

How to collaborate with industries on commercial applications  
of Quantum Computing?



## HICSS-53 | KEYNOTE ADDRESS

THURSDAY JANUARY 9, 2020 | 12:45-1:50 | HALEAKALA BALLROOM



### CALLING BS IN AN AGE OF MISINFORMATION



#### Jevin West

Director of the Center for an Informed Public, University of Washington

---

Over the last decade, we have seen the birth of data science as a field of study and the re-emergence of artificial intelligence as a topic researchers actually associate with. We have experienced blockchain euphoria, the cloud cover of computing, self-driving cars, and virtual assistants. My reasons for techno-optimism are plenty. But they are becoming overshadowed by the darker sides of technology. The rise of misinformation, deep fakes, bot armies, predatory journals, conspiracy-laden recommendations, addictive social media platforms, unfettered facial recognition, algorithmic bias, and the extinction of privacy have deepened my techno-pessimism. The rise of misinformation, in particular, is one of the biggest threats to democracy, human health, and global stability. It has become the focus of my research, teaching and service efforts. In this talk, I will survey a set of projects aimed at combating and better

understanding the spread of misinformation in our digital environments, in science and broadly within society.

*Jevin West is an Associate Professor in the Information School at the University of Washington. He is the co-founder of the DataLab and the Director of the new Center for an Informed Public at UW. He holds an Adjunct Faculty position in the Paul G. Allen School of Computer Science & Engineering. He is also a Data Science Fellow at the eScience Institute and Affiliate Faculty for the Center for Statistics & Social Sciences. His research and teaching focus on misinformation in and about science. He develops methods for mining the scientific literature in order to study the origins of disciplines, the social and economic biases that drive these disciplines, and the impact the current publication system has on the health of science, to include the massive HICSS data base. He co-developed a course, Calling BS, that teaches students how to combat misinformation wrapped in data, figures, and statistics. The course is now being taught at universities around the globe. More information can be found at [jevinwest.org](http://jevinwest.org).*

# HICSS-53 | KEYNOTE ADDRESS

FRIDAY JANUARY 10, 2020 | 12:45 - 1:50 | HALEAKALA BALLROOM



## ENABLING A BROADBAND FUTURE, ONE COMMUNITY AT A TIME



### Ajit Pai

Chairman, Federal Communications Commission

Recent advances in broadband and communications-based technologies are ushering in an era of global innovation in a variety of sectors. From agriculture to manufacturing, retail, and commerce, to education, entertainment, and healthcare, we are closing

the digital divide and leveraging the transformative power of broadband to give historically underserved communities a seat at the table. The Federal Communications Commission has sought to implement policies that benefit consumers and enable innovators and entrepreneurs to solve some of society's greatest challenges through the development and deployment of advanced communications services.

This keynote highlights a signature policy priority of mine that is to close the digital divide. The benefits of closing that divide are nowhere more apparent than in the area of health care and telemedicine. Today, whether it's through remote patient monitoring or mobile health applications, broadband is fundamentally transforming the way we deliver and consume health care, yielding better health outcomes and reducing costs. The Commission is focusing

on new, more effective ways to ensure that everyone has access to what I call "digital opportunity," and with it, connected care services. I will also discuss how some of the important work underway at the Commission, including its investment in rural broadband and 5G, will help level the playing field for rural Americans.

*Ajit Pai is the Chairman of the Federal Communications Commission. Earlier in his career, he served in various positions of increasing responsibility at the FCC, the U.S. Department of Justice, and the U.S. Senate. Before becoming a Commissioner, he worked as a Partner at the law firm of Jenner & Block and served as in-house counsel at a telecommunications company. Since taking the helm at the FCC, Chairman Pai has championed regulatory modernization, updating rules to match marketplace realities and aiming to deliver consumer value through market-based solutions instead of preemptive regulation. He also has made the FCC more transparent, nimble, and accessible. Chairman Pai graduated with honors from Harvard University in 1994 and from the University of Chicago Law School in 1997, where he was an editor of the University of Chicago Law Review and won the Thomas R. Mulroy Prize. In 2010, Pai was one of 55 individuals nationwide chosen for the 2011 Marshall Memorial Fellowship, a leadership development initiative of the German Marshall Fund of the United States.*



# HICSS-53 Specials

## WOMEN'S NETWORKING | HALEAKALA | THURSDAY, 4:00 - 5:30

Nanette Levinson, Cindy Riemenschneider, Gondy Leroy

Launched in 2010, HICSS Women's Network serves as an informal network focused on facilitating the advancement of women as leaders in HICCS and in the profession and contributing to overall HICCS creativity and innovation. Activities at the Women's Network includes including small group brainstorming around scenarios; panels with distinguished leaders/journal editors in our field, and the provision of informal guidance for HICSS as an organization. Examples of issues being discussed are hiring, promotion, negotiation, publication, work/life balance and professional activities. HICSS-53 Women's Networking features a 20-minute award-winning documentary about the pioneering women yet invisible programmers of ENIAC, the first ever all electronic computer, co-produced by Kathryn Kleiman.

## PROFESSIONAL DEVELOPMENT PANELS | HALEAKALA 3 | 8:00 - 9:30

Gert-Jan de Vreede, Alan Dennis, Susan Brown, Jason Thatcher, Robert Briggs

### WEDNESDAY | JAN 08

***Your first job is preparing for your next job - What things should I do in the next five years?***

An often-heard best practice for PhD students and junior faculty is that you develop your vita for your profession, not for your institution. In fact, it can be argued that your tenure clock starts ticking the moment you enter a PhD program. This panel will focus on best practices, do's & don'ts regarding long term professional development and career planning. Panelists will discuss examples of how an academic career can be facilitated by making conscious.

### THURSDAY | JAN 09

***Service - A Necessary Distraction or Tempting Trap***

This panel will present a debate between the panelists on the role of service in the professional life of junior faculty. While service can be time consuming, it can also be rewarding. At the same time, some service activities can make a significant impact on a faculty's career development, while others seem to provide no direct benefit. The panelists will argue different sides of the debate question "necessary distraction or tempting trap" and offer best practices to make informed decisions about taking on different service responsibilities as a junior faculty.

### FRIDAY | JAN 10

***Best Practices to Pursue Work/Life Balance in Academia***

The nature of academic work is likely to strain a healthy work/life balance. For many, academia is a calling a passion rather than a nine to five job. Academic work is never 'done' while ubiquitous communication capabilities and global collaboration partnerships enable non-traditional work hours. Gender issues, dual-career demands, and tenure & promotion represent further challenges to a work/life balance. The purpose of this panel is to provide an open forum for sharing - good and bad - experiences with maintaining work/life balance in academia. The panelists will present what challenges they have faced and how they dealt with them. They will engage participants to share their own experiences.

# HICSS-53

## **SYMPOSIA, WORKSHOPS, AND TUTORIALS**

**Symposia, workshops, and tutorials** present an opportunity to explore, discuss, document, and/or add to the literature base on a topic, to which invited authors may present papers that are still in development and not ready for publication. Sessions may be half-day or full-day in length.



**BIG DATA: ANALYTICS AND GOVERNANCE**



**CURRICULUM DEVELOPMENT**



**DEEP LEARNING AND ARTIFICIAL INTELLIGENCE**



**EMERGING TECHNOLOGIES**



**HEALTH IT**



**IT AND SOCIETY**



**SCIENTIFIC INQUIRY AND RESEARCH METHODS**



**SECURITY**



**SYSTEM IMPLEMENTATION**



## **BIG DATA: ANALYTICS AND GOVERNANCE**

### **Big Data and Analytics (BDA): Modeling, Capabilities, and Management**

Frank Armour, J. Alberto Espinosa

**HALEAKALA 4 TUESDAY, 9:00 - 12:00**

This tutorial will provide an overview of the key aspects that an organization should have in place to build an enterprise level BDA program as well as hands-on material to help institutions embrace BDA in an organized manner, following best practices.

### **Cybersecurity Big Data Analytics**

Mark Patton, Hsinchun Chen

**HALEAKALA 4 TUESDAY, 1:00 - 4:00**

This symposium focuses on the domain of Big-Data Analytics in the context of Cybersecurity. Critical components that will be addressed include analytics, data which can be real-time in response to incidents or pushed/pulled to central repositories, and visualization.

### **Fundamentals and Applications of Visual Analytics**

David Ebert, Kelly Gaither

**ILLIMA 3 TUESDAY, 9:00 - 12:00**

Visual Analytics combines scientific investigation of information processing in human-computer cognitive systems with the design and implementation of interactive visualization that support this processing, building upon research methods and theories from computer science, management information systems, and the cognitive, perceptual, and social sciences. This tutorial intends to inform and guide researchers and practitioners in the practice of interdisciplinary visual analytics research and development. The far-reaching and practical applications of visual analytics technologies will be discussed.

## **GIS and Location Analytics in Systems Science Research**

Thomas Horan, James Pick, Avijit Sarker

**ILLIMA 2 TUESDAY, 9:00 - 12:00**

This Symposium will focus on the development of a comprehensive research agenda for the novel and expansive area of location analytics, as it relates to systems science research. It will provide a high-level overview of Geographic Information Systems (GIS) theory and its application to enable location analytics in a variety of industry and governmental domain areas, showcase research innovations in location analytics, present the contours of a roadmap for location analytics in systems science research. It expects to open new and interesting avenues of research inquiry for the HICSS community, add novel spatial insights into existing research agendas, and forge pathways for cross-disciplinary collaboration that are key to solving complex, contemporary problems in today's government, business, and society.

### **Governing Big Data as Shared Societal Resources: Beyond Privacy and Security to Value, Ethics, and Goals**

Elizabeth Davidson, Jenifer Winter, Crystal Boyce

**ILLIMA 2 TUESDAY, 1:00 - 4:00**

This symposium will gather together researchers interested in innovative research on data governance, big data, and societal challenges. It will begin with a panel on "Governing Data for Grand Challenges" and will be followed by 5-minute TREC presentations and a discussion of key topics, issues for collaborative research, and publication opportunities including a planned special issue in Information and Organization.

## Opportunities and Challenges in Text Analytics

Derrick Cogburn, Normand Peladeau, Michael Hine

**PIKAKE 1**

**TUESDAY, 9:00 - 12:00**

This tutorial will provide participants with a solid introduction to opportunities and challenges of text mining, within the broader context of big data analytics. It focuses on one of the most powerful deductive approaches to text mining, which is categorization model (or dictionary) development and deployment. In this hands-on session (bring your own computers and data!), participants will learn to understand the power of categorization models, understand the problem and challenges using categorization models, use tools and techniques to develop a categorization model, and test and validate a categorization model.

## CURRICULUM DEVELOPMENT

### An Integrated Experiential Approach to Teaching Blockchain and Hashing Concept

G. Lawrence Sanders, Sean Sanders

**MAILE 1**

**TUESDAY, 1:00 - 4:00**

Understanding the interrelationships of blockchain, digital currency and hashing concepts are often difficult. This tutorial will present a set of experiential exercises that will facilitate the understanding of these concepts. The tutorial will consist of two sessions that are driven by experiential exercises. Participants will learn about digital currency market demand concepts, how transactions are processed and added to a blockchain ledger, the difference between proof of work and consensus concepts, and how smart contracts are created. A set of four exercises will be used to illustrate hashing concepts. Participants should bring a laptop, but a smartphone with access to the internet will also suffice.

## Blockchain: A Hands-on Introduction Blockchain with Insights into Curriculum Design

Paul Cronan, Rhonda Sylter, Ronald Freeze

**HALEAKALA 3**

**TUESDAY, 9:00 - 12:00**

This hands-on workshop is designed to allow faculty participants to learn about blockchain applications while getting introductory hands-on experience in Hyperledger and Ethereum platforms. Discussion and exchange will focus on devising curriculum strategies, building content, and navigating the challenges that blockchain curriculum integration presents. The workshop includes finding and sharing available resources for faculty and student use.

### A Hands-On Exploration of Business Analytics Curricula Resources with Insights on AACSB Curriculum Design

Paul Cronan, Ronald Freeze, Rhonda Sylter

**PIKAKE 2**

**TUESDAY, 1:00 - 4:00**

The objective of this workshop is to provide faculty participants with a forum to learn and discuss curricula strategies, as well as learn about resources and exercises for data analytics and big data for their university curricula. The discussion and exchange will focus on implemented curriculum strategies, existing content, and navigating the challenges analytic curriculum integration presents. The workshop will include practical classroom instruction methods that are available for hands-on use of faculty and students within the courses developed at the workshop participant's universities.

### Recent Advances in Teaching and Learning Analytics/Data Science through Teradata University Network and Teradata Vantage

Ramesh Sharda, Hugh Watson, Susan Baskin

**PIKAKE 2**

**TUESDAY, 9:00 - 12:00**

This tutorial session will introduce capabilities of Teradata University Network (TUN) and how the new analytics platform Vantage can be used for advanced data science teaching and learning. Specific case studies will be covered in a hand-on session.

### **A Hands-On Exploration of In-Memory Enterprise Systems: Insights on ERP Systems Curriculum Design and Research**

Pamela Schmidt, Susan Bristow, Michael Gibbs

**PIKAKE 3**

**TUESDAY, 1:00 - 4:00**

The objective of this workshop is to provide faculty participants with a forum to learn through hands-on experience with the state-of-art “in memory” ERP of S/4 HANA and the SAP User Experience (UX) interface, to discuss curricula strategies and resources, as well as learn how business processes generate big data for their research and university curricula. The workshop will included discussion and advice from panelists who do research into ERP systems and who have built Enterprise systems curriculum at both the undergraduate and graduate levels.

## **DEEP LEARNING AND ARTIFICIAL INTELLIGENCE**

### **AI in Network Infrastructure and Management Applications**

Ammar Rayes, Heather Yurko, Rich Plain

**PLUMERIA 1**

**TUESDAY, 9:00 - 12:00**

Artificial Intelligence, Machine Learning and Deep Learning have gained so much thrust in recent years. However, applying such techniques to a tangible system or service is not straightforward and can lead to misleading results. This workshop will bring together academics, practitioners and other thought leaders to explore innovative methods, tools and practices are being taken to minimize biases in AI/ML/DL systems with focus on network infrastructure and applications.

### **Computing in Companion Robots and Smart Toys**

Patrick Hung, Marcelo Fantinato,  
Farkhund Iqbal, Jean-Henry Morin

**MAILE 3**

**TUESDAY, 9:00 - 12:00**

The goal of this symposium is to crystallize the emerging computing technologies and trends into positive efforts to focus on companion robots and smart toys such as Softbank Pepper, Honda Asimo, ASUS Zenbo, Mattel Hello Barbie, Google Toy, and CogniToys Smart Dinosaur. It will investigate new best practices and directions in sociotechnical systems. Research issues of robotic and toy computing from both technical and non-technical perspectives, such as security, privacy, ethics, and data protection will be discussed.

### **Machine Aided Work: Harnessing the Power of Augmented Intelligence and Augmented Cognition**

Souren Paul, Sangseok You, Lina Zhou

**MAILE 2**

**TUESDAY, 9:00 - 12:00**

In this symposium, the conceptual and practical implications of computing technologies enhancing our work, decision-making, and cognitive process will be discussed. Invited panelists from areas of artificial intelligence, augmented intelligence, robotics, and augmented cognition will share their findings and thoughts on how to better understand and harness the power of such technologies in our workplaces.

### **Optimization or Machine Learning: Eternal Enemies or Soulmates?**

Laleh Behjat, Ismail Bustany,  
Bill Rosehart, Ivan Kissiov

**MAILE 2**

**TUESDAY, 1:00 - 4:00**

The objective of this interactive tutorial is to enable the researchers to find innovative solutions to the hard problems they were facing using interdisciplinary/combined methods. The power of the optimization and machine learning will be demonstrated through examples from different research areas.



## **SMART IoT - How Artificial Intelligence Helps Devices “Tell Their Story”**

JoAnn Winson, Naguib Attia

**HALEAKALA 3**

**TUESDAY, 1:00 - 4:00**

The future is about helping machines tell their stories as well as automating and augmenting the human experience with a connected world. In this workshop, the fully autonomous ship tracing the journey of the Mayflower across the Atlantic is among several projects to be discussed. Set to sail in September 2020, this ship is equipped with Artificial Intelligence, advanced technologies, and scientific instruments capable of gathering data for important studies including maritime cybersecurity, marine mammal monitoring, ocean microplastic analysis, and sea-level mapping.

## **EMERGING TECHNOLOGIES**

### **Quantum Is Here - And It's Real!**

JoAnn Winson, Christine Ouyang, Andrew Wack

**ILLIMA 1**

**TUESDAY, 9:00 - 12:00**

In this tutorial, participants will learn:

- How to program for Quantum computing
- How Quantum is different - REALLY different - from classic computing
- How early applications of Quantum computing for business and science
- How Quantum is relevant to faculty and students in business schools, IT programs, as well as computer science.

## **HEALTH IT**

### **Improving Healthcare Management and Patient Safety through System Modeling and Simulation**

Vijay Gehlot, Freimut Bodendorf, Elizabeth Davidson,  
Elliot Sloane, Nilmini Wickramasinghe

**PIKAKE 3**

**TUESDAY, 9:00 - 12:00**

This symposium will focus on innovative, state-of-the-art approaches for applying modeling and simulation in healthcare, and related cybersecurity/IoT/cloud/mHealth issues. It will include panel discussion and presentations of position papers centered on opportunities and benefits of modeling and simulation in healthcare as well as modeling and simulation knowledge transfer from other industries and application areas to healthcare and wellness. Of particular interest are approaches that make use of open source simulation tools, models, applied research, and case studies.

## **IT AND SOCIETY**

### **Exploring the Ethics of Digital Government: How Will Emerging Technologies Impact Society and Human Rights?**

Lemuria Carter, Elin Wihlborg, Anne Washington

**HIBISCUS 1**

**TUESDAY, 1:00 - 4:00**

In this workshop, a variety of emerging issues such as, privacy concerns introduced by IoT and big data analytics or potential algorithmic bias generated by AI-based systems will be discussed. As the impact of digital government continues to grow, it is imperative for researchers and practitioners to explore challenges (societal and ethical, and etc) of innovation in addition to the opportunities. This workshop will explore these challenges and identify a research agenda for addressing them.



## Welcome to HICSS! 2020 is the year of QUANTUM COMPUTING and SMART IoT DEVICES!

Interactively explore new technologies to assist with your research or in your classroom. IBM scientists are creating breakthroughs with **Quantum Computing** that will allow us to process information in entirely new ways. **IBM Q** is invested in the next generation of inquisitive minds ready to explore and advance the field of quantum computing. **IoT** research explores the thousands of new devices coming online every day to capitalize on the opportunity for novel applications in areas like blockchain, edge computing, and security.

Join us at these interactive sessions especially designed for HICSS:

- **KEYNOTE SPEAKER - Dr. Kohei Itoh**, Dean of the Keio Faculty of Science and Technology and the Dean of the Keio Graduate School of Science and Technology on “Software Development for Quantum Computers: Applications in Financial and Chemical Engineering Sectors”
- **BIRDS OF A FEATHER SESSION ON QUANTUM COMPUTING** - Master of Ceremonies, Dr. Bob Sutor, IBM VP, Quantum, and Dr. Kohei Itoh, Keio University, will answer questions and lead a discussion after the Keynote on Wednesday, 1/8
- **WORKSHOP - “Quantum is Here and It’s Real!” on January 7, 9:00 - 12:00 pm**, will address, “How will Quantum affect you now and what is coming soon? How to program for Quantum without a PhD in Quantum Physics, and More!” Led by Dr. Christine Ouyang, IBM Distinguished Engineer and Master Inventor, and Andrew Wack, IBM Q System Software Architect
- **WORKSHOP - “Smart IoT: How AI Helps Devices Tell Their Story” on January 7, 1:00 - 4:00 pm** Have you heard about “The Mayflower Autonomous Ship Project?” Hear about the upcoming voyage and more exciting examples from Dr. Jim Spohrer, IBM Director, Cognitive OpenTech; Grady Booch, IBM Fellow and Chief Scientist; and John Walicki, IBM CTO for IoT, and Dr. Daniel Pakkala, Principal Scientist, VTT Technical Research Centre of Finland
- **MINI-TRACK - “BI, Analytics, and Cognitive Tech for Industry”** will offer case studies of applications of data analytics and artificial intelligence based smart services and digital solutions across industries on Wednesday. Led by Dr. Jim Spohrer, IBM Director, Cognitive OpenTech; Sergey Belov, IBM University Relations in IBM Central and Eastern Europe; and Maarit Palo, IBM University Relations in the Nordics

Also, please drop by the **IBM Technology Booth** to gain access to exciting new IBM technologies such as Quantum, Blockchain, and Artificial Intelligence/Cognitive Systems. Learn how to access our free cloud environment for academics. Experiment! [ibm.com/academic](http://ibm.com/academic)

Learn about IBM university programs at <http://www.ibm.com/university/> In addition, the innovative IBM Skills Academy, featuring specific STEM career paths, can be found at <https://skills-academy.mylearnerportal.com/>

We hope to see you at the sessions and at the IBM Technology Booth. Have a great conference!

Naguib Attia, Vice President, and the IBM Team  
IBM Global University Programs

## **Future of Work: HR Innovation Driving Intelligence Augmentation in the Age of AI**

Yassi Moghaddam, Heather Yurko, Gerhard Gudergan

**HALEAKALA 5**

**TUESDAY, 1:00 - 4:00**

In this workshop, the following topics will be discussed.

- The role of technological advances such as bots, AI, intelligent assistants, IoT, AR/VR that assist employees in their daily work
- People Analytics and KPIs
- AI for re-skilling
- Education and lifelong learning
- Public-private partnerships

## **Inter-Disciplinary Studies on Technology and its Impact on Business, Regulation, Law, and Social Welfare**

Eric Clemons, Rajiv Dewan, Tung Bui

**ILLIMA 1**

**TUESDAY, 1:00 - 4:00**

This Symposium will address one of the most pressing legal and societal issues created by rapid advances in information technology and by the ICT market concentration due to the emergence of new giant platform technology companies. It will create a forum where scholars, elected officials, regulators, corporate executives, and other individuals can assemble in a global interdisciplinary environment and engage in discussions on topics within a well-structured interdisciplinary agenda.

## **Sustainable Energy and Computing**

Behrooz Shirazi, Adolfo Hoisie, Kelvin Lynn

**MAILE 1**

**TUESDAY, 9:00 - 12:00**

Sustainable computing is an emerging crucial area of national priority. A major societal goal of sustainable computing is to make the massive computing infrastructures (such as large-scale datacenters) in all private and public sectors economical and environmentally friendly. This symposium provides a forum for brainstorming and investigating issues and solutions related to sustainable computing i.e., the use of computing in achieving energy conservation in smart environments.

## **SCIENTIFIC INQUIRY AND RESEARCH METHODS**

### **Coding on the Brain: Towards a Research Roadmap for NeuroSE**

Danielle Lottridge, Randall Minas, Rick Kazman

**PLUMERIA 2**

**TUESDAY, 9:00 - 4:00**

This workshop intends to define the emerging field of NeuroSE: the neuropsychophysiological study of software engineering and of programmer practices. The workshop will bring together researchers interested in topics related to neurological and psychological assessments of software engineering practices, such as:

- Biometrics of software engineering
- Cognition and software engineering
- Cognitive load and software engineering
- Stress, emotion and software engineering
- Psychophysiological study of software engineers and programmers
- Psychophysiological study of debugging

### **Decision Paradigms and Support in the Digital Transformation Age**

Tung Bui, Robert Hanna, Jean-Charles Pomerol,  
Daniel Port, Camille Sabroux

**PLUMERIA 3**

**TUESDAY, 9:00 - 12:00**

This symposium starts with a review of basic and well-established decision-making philosophy, theories, tools and techniques. It then addresses the new realities that results in the rise of the digital transformation. Panelist will propose a number of new paradigms to adapt and adjust decision theories and best practices to deal with the new levels of uncertainty. In particular, it will address a number of OR/MS, behavioral, organizational, and I.S. approaches to include decision assurance and risk management to deal with the augmented age of uncertainty.

## Evaluation of Artifacts in Design Science

Gondy Leroy

**HIBISCUS 1**

**TUESDAY, 9:00 - 12:00**

This tutorial will present how to conduct evaluations that fit within the design science paradigm, i.e., evaluations of algorithms and entire systems. It will provide a basic overview of evaluation studies and how they are appropriate in the different phases of development life cycle that the research/development is situated in. A practical section will be added to discuss the common statistics to be used in different setups and mistakes that can be avoided. Both contribute to designing and executing a better study.

### **Field Experimentation as a Method of Inquiry in a Highly Interconnected Human-machine World**

Steve Mullins, Alex Bordetsky, Bryan Hudgens

**MAILE 3**

**TUESDAY, 1:00 - 4:00**

This theoretical and practical tutorial will demonstrate how to conduct field experiments, positioning them among other research approaches in the context of “campaigns of experimentation.” It will address field experimentation life cycle considerations, including challenges, successes, and lessons learned in designing, planning and implementing field experiments. Supporting examples of approaches to data collection and analysis, including inter alia, digital capturing, videos, screen captures, logs, and post-experiment focus group interviews will be provided.

## Fundamentals of Eye Tracking in User Experience Design

Jennifer Romano-Bergstrom, Erica Olmsted-Hawala

**PLUMERIA 3**

**TUESDAY, 1:00 - 4:00**

This tutorial will highlight when to use eye-tracking technology, how to set up and run an effective study, and well as theories and methods for analyzing results from an eye-tracking study. Participants will gain an understanding of commonly used information visualizations and techniques to understand eye-fixation data. This tutorial will cover the following topics:

- Understanding eye movements - how saccades and fixations relate to cognition
- Designing research questions that can be answered with eye-tracking technology
- Developing and moderating eye-tracking sessions
- Analyzing eye-tracking data
- Using eye-tracking results to improve product design

## **SECURITY**

### **Credibility Assessment and Screening Technologies (CAST)**

Jeffry Proudfoot, Jay Nunamaker, Judee Burgoon

**SILVERSWORD**

**TUESDAY, 9:00 - 4:00  
WEDNESDAY, 8:00 - 11:30**

This symposium offers a stimulating forum among academic researchers, local, state and federal law enforcement, intelligence experts and information security workers who are interested in assessing credibility and deception detection. New tools, technologies, processes and procedures will be discussed and debated concerning their efficiency, effectiveness, and usefulness for aiding in credibility assessment and deception detection.

## Cyber Psychology Aids National Security

Mollie McGuire, Lisa Troyer, Sunny Fugate

**HIBISCUS 2**

**TUESDAY, 1:00 - 4:00**

This symposium will explain the criticality of bringing the social sciences of human factors and psychology to the cybersecurity domain. It intends to:

- Provide introduction of cyber psychology to interested researchers across multiple fields.
- Explain the importance of social science research applied to cybersecurity and discuss the best tactics to responsibly collaborate.
- Present a panel of experts able to answer questions about the use of cyber psychology in national and computer security domains.
- Connect industry, academia and government entities interested in funding, applying, and collaborating on the science of humans in cybersecurity domains.

### User Controlled Privacy in Next Generation Mobile (5G)

Knud Erik Skouby, Lene Tolstrup Sørensen,  
Samant Khajuria

**HIBISCUS 2**

**TUESDAY, 9:00 - 12:00**

The Workshop is based on the challenges surfacing from the development of 5G technologies and infrastructures that is changing human interaction with technologies. Topic of discussion will include:

- Privacy enhancing technologies built into the service or access layer
- An ecosystem consisting of a Trusted Third Party between the end user and service provider
- Design and tools for IoT that will provide users with the functionality they require without losing control over their data or to any third party
- Privacy Risk management frameworks that can help users understand their privacy exposure
- How can usable privacy make the privacy in different activity situations more transparent to the user

## NSA and Industry Perspectives: Holistic Solutions for Cyber Security

Chad Bollman, John Roth, Jim Scrofani

**HALEAKALA 5**

**TUESDAY, 9:00 - 12:00**

This symposium focuses on the value of alternative solutions to cyber security through contrasting the need for technical- and human-based methods.

## SYSTEM IMPLEMENTATION

### Forensic Analysis and Recovery Strategies for Failed Software Projects

Stephen Kaisler, William Money, Stephen Cohen

**ILIMA 3**

**TUESDAY, 1:00 - 4:00**

This tutorial intends to identify a forensic analysis process and tools that can determine a given software project's causes of failure as well as decisions and actions that can be taken to develop a strategy to recover from failure and get the project moving towards a successful conclusion. The goal is to offer a comprehensive framework that:

- Uses a taxonomy of forensic analysis tools can aid in the identification of causes and their related symptoms and effects leading to labeling a project as failed.
- Provides a taxonomy of recovery decisions and actions that are applicable; and
- Provides a template for developing a recovery strategy that incorporates multiple recovery decisions and actions to attempt to get a project back on track toward some successful conclusion.

## Open Source Software Risk Mitigation: Ecosystem or Supply Chain?

Randy Bradley, Bogdan Bicescu,  
Russell Zaretski, Audris Mockus

**PIKAKE 1**

**TUESDAY, 1:00 - 4:00**

Through the lens of open source software supply chains, this symposium will present various approaches to mitigate risks in software development. A number of panelists will share their experience on how governance, practices, and norms affect sustainability of open source initiatives and ecosystems and lay out recommendations for actions and research in this emerging critical area. The topics of open source supply chains, risk management in open source, and the specific domain of health records management software will be discussed.

### Simulation and Verification of Cyber-physical Systems

Hermann Kaindl

**PLUMERIA 1**

**TUESDAY, 1:00 - 4:00**

This tutorial has the primary objective to provide the participants with a better understanding of simulation, both traditionally and using Affine Arithmetic Forms (AAF), and of verification of Cyber-physical Systems (CPS). It presents our investigation of (safety-critical) feature interactions and their coordination in automotive systems using traditional simulation, and our corresponding semisymbolic AAF model of a CPS and its simulation. For formal verification, this tutorial shows minimalist qualitative models for model checking (safety-critical) CPS feature coordination and, that a specification of a software coordinator can be formally verified using the Fluent Calculus (a derivative of the Situation Calculus), when combined with additional models.

## MEET THE EDITORS

**HALEAKALA PRE-FUNCTION WEDNESDAY, 6:00 - 7:00**

Join us in a special 1-hour session to meet editors / guest editors and learn more about possible journal outlets for your papers in some areas of research. Participating journals include:

- Accounting Horizons
- ACM Transactions on Social Computing
- Electronic Markets - The International Journal on Networked Business
- Information and Organization
- Information Systems Management
- Information Technology and People
- Information Technology for Development Journal
- International Journal of Accounting Information Systems
- International Journal of Climate Change Strategies and Management
- International Journal of Electronic Commerce
- International Journal of Internet of Things and Cyber-Assurance
- International Journal of Knowledge Management
- International Journal of Public Administration in the Digital Age
- Internet Research
- Journal of Information Systems
- Journal of Information, Communication and Ethics in Society
- Journal of Pervasive Computing and Communications
- Journal of Small Business and Enterprise Development
- Journal of the Association for Information Systems
- MIS Quarterly Executive
- The DATA BASE for Advances in Information Systems

# RESEARCH PAPER PRESENTATION

by Tracks

**COLLABORATION SYSTEMS  
AND TECHNOLOGIES**

**DECISION ANALYTICS AND SERVICE SCIENCE**

**DIGITAL GOVERNMENT**

**DIGITAL AND SOCIAL MEDIA**

**ELECTRIC ENERGY SYSTEMS**

**INFORMATION TECHNOLOGY IN HEALTHCARE**

**INTERNET AND THE DIGITAL ECONOMY**

**KNOWLEDGE INNOVATION  
AND ENTREPRENEURIAL SYSTEMS**

**ORGANIZATIONAL SYSTEMS AND TECHNOLOGY**

**SOFTWARE TECHNOLOGY**

## CL: Collaboration Systems and Technology

Co-Chairs: Robert Briggs, Jay Nunamaker

### Advances in Teaching and Learning Technologies

Minitrack Chairs: Conan Albrecht, Olga Scrivner,  
Gove Allen, Chad Albrecht

## CL 1 HALEAKALA 4 FRIDAY, 8:00 - 9:30

### Can Facebook Improve Students' Engagement in Flipped Classes? Community of Inquiry Approach

| Amir Talaei-Khoei, Jay Daniel, Mohsen Dokhanchi

### Exploring the Learning Outcomes with Various Technologies - Proposing Design Principles for Virtual Reality Learning Environments

| Jani Holopainen,  
Antti Lähtevänoja, Osmo Mattila, Ilona Södervik,  
Essi Pöyry, Petri Parvinen

### Towards Empowering Educators to Create their own Smart Personal Assistants

| Rainer Winkler, Matthias Söllner

### FinCraft: Immersive Personalised Persuasive Serious Games for Financial Literacy Among Young Decision-Makers

| Aldrich Rasco, Johnny Chan, Gabrielle Peko,  
David Sundaram

## CL 2 HALEAKALA 4 FRIDAY, 10:00 - 11:30

### \*Integrating Learning Analytics to Measure Message Quality in Large Online Conversations

| Evren Eryilmaz,  
Brian Thoms, Zafor Ahmed, Avneet Sandhu

### The Good and the Bad. An Evaluation of Project-based Learning with Peer Assessment in a Large Class Context

| Margit Kastner

### An Optimization Model for Group Formation in Project-based Learning

| Johan Holmgren, Zahra Ghaffari,  
Radu-Casian Mihailescu

## CL 3 HALEAKALA 4 FRIDAY, 2:00 - 3:30

### Engagement Patterns of Participants in an Online Professional Development Programme: An Application of Mixture Modelling

| Ketan Deshmukh, Vijaya Sherry Chand,  
Kathan Shukla, Arnab K Laha

### Mind the Gap: A Collaborative Competence E-learning Model between University and Industry

| Monika Hattinger,  
Kristina Eriksson

### The Impact of Motivation and Strategy Use on Course Outcome in Digital Learning Environment - A Case Analysis of a Business School Course

| Shadi Esnaashari,  
Lesley Gardner, Michael Rehm

## CL 4 HALEAKALA 4 FRIDAY, 4:00 - 5:30

### Learning Analytics in the Flipped Classroom - Learning Dashboards from the Students' Perspective

| Alena Droit,  
Bodo Rieger

### A Design Methodology for Learning Analytics Information Systems: Informing Learning Analytics Development with Learning Design

| Andy Nguyen, Lesley Gardner, Don Sheridan

### PointerViz - Towards Visualizing Pointers for Novice Programmers

| Akhila Sri Manasa Venigalla,  
Chaitanya S. Lakkundi, Sridhar Chimalakonda

### AI and Cognitive Assistants in Collaboration

Minitrack Chairs: Philipp Alexander Ebel, Eva Bittner,  
Sarah Oeste-Reiß, Matthias Söllner

## CL 5 HALEAKALA 4 THURSDAY, 8:00 - 9:30

### Cluster Analysis of Musical Attributes for Top Trending Songs

| Zayd Al-Beitawi, Mohammad Salehan, Sonya Zhang

### Factors Influencing Approval of Wikipedia Bots

| Ayse Dalgali, Kevin Crowston

### \*Studying with the Help of Digital Tutors: Design Aspects of Conversational Agents that Influence the Learning Process

| Natalie Wellnhammer, Mateusz Dolata,  
Susanne Steigler, Gerhard Schwabe

## CL 6 HALEAKALA 4 THURSDAY, 10:00 - 11:30

### My Virtual Colleague: A State-of-the-Art Analysis of Conversational Agents for the Workplace

| Shengjia Feng,  
Peter Buxmann



## Business Intelligence and Big Data for Innovative and Sustainable Development of Organizations

Minitrack Chairs: Celina Olszak, Jozef Zurada,  
Dilek Cetindamar Kozanoglu

### CL 7 PLUMERIA 3 THURSDAY, 8:00 - 9:30

#### \*Extending Loyalty Programs with BI Functionalities

| Jan-Peter Kucklick, Michael Kamm, Johannes Schneider,  
Jan vom Brocke

#### Crowdsourcing Contests: Understanding the Effect of Environment and Organization Specific Factors on Sustained Participation

| Hanieh Javadi Khasraghi,

Xuan Wang, Yaojie Li

#### User Related Challenges of Self-Service Business Intelligence

| Christian Lennerholt, Joeri van Laere,

Eva Söderström

### CL 8 PLUMERIA 3 THURSDAY, 10:00 - 11:30

#### Effects of Visualization Techniques on Understanding Inconsistencies in Automated Decision-Making

| Carl Corea, Sabine Nagel, Patrick Delfmann

#### Assessing Big Data Analytics Capability and Sustainability in Supply Chains

| Dilek Cetindamar, Baraah Shdifat,

Shadi Erfani

### Collaboration for Data Science

Minitrack Chairs: Lina Zhou, Souren Paul

### CL 9 HIBISCUS 1 WEDNESDAY, 2:00 - 3:30

#### \*WeSAL: Applying Active Supervision to Find High-quality Labels at Industrial Scale

| Mona Nashaat, Aindrila Ghosh,

James Miller, Shaikh Quader

#### Metrics for Analyzing Social Documents to Understand Joint Work

| Petra Schubert, Julian Mosen, Florian Schwade

#### \*Dissecting Moneyball: Improving Classification Model Interpretability in Baseball Pitch Prediction

| Kevin Hickey,

Lina Zhou, Jie Tao

#### Crowdsourcing Data Science: A Qualitative Analysis of Organizations' Usage of Kaggle Competitions

| Christoph Tauchert, Peter Buxmann, Jannis Lambinus

## Collaboration with Automation: Machines as Teammates

Minitrack Chairs: Douglas Derrick, Isabella Seeber,  
Joel Elson, Lena Waizenegger

### CL 10 HALEAKALA 4 THURSDAY, 10:00 - 11:30

#### Conceptualization of the Human-Machine Symbiosis - A Literature Review

| Alina Gerber, Patrick Derckx,

Daniel A. Döppner, Detlef Schoder

### CL 11 HALEAKALA 4 THURSDAY, 2:00 - 3:30

#### \*SPAM - A Process Model for Developing Smart Personal Assistants

| Rainer Winkler, Edona Elshan, Matthias Söllner,

Jan Leimeister

#### The Power of Computer-Mediated Communication Theories in Explaining the Effect of Chatbot Introduction on User Experience

| Frank Hendriks, Carol X.J. Ou,

Amin Khodabandeh Amiri, Sander Bockting

#### Practice Makes Perfect: Lesson Learned from Five Years of Trial and Error Building Context-Aware Systems

| Ryan Mullins, Adam Fouse, Gabriel Ganberg, Nathan Schurr

### Creativity: Research and Practice

Minitrack Chairs: Triparna de Vreede,

Gert-Jan de Vreede, Isabella Seeber

### CL 12 PLUMERIA 2 THURSDAY, 4:00 - 5:30

#### \*Creativity Loading - Please Wait! Investigating the Relationship between Interruption, Mind Wandering and Creativity

| Thorben Lukas Baumgart, Michael Klesel,

Frederike Marie Oschinsky, Bjoern Niehaves

#### Creativity Is Connecting Things: The Role of Network Topology in Fostering Collective Creativity in Multi-Participant Asynchronous Online Discussions

| Noa Sher, Carmel Kent, Sheizaf Rafaeli

#### Understanding how Digital Intelligence Contributes to Digital Creativity and Digital Transformation: A Systematic Literature Review

| Imed Boughzala,

Mahda Garmaki, Olfa Chourabi Tantan

## Cross-Organizational and Cross-Border IS/IT Collaboration

Minitrack Chairs: Ilsang Ko, Daniel Beimborn

### CL 13 PIKAKE 1 WEDNESDAY, 8:00 - 9:30

**\*Smart Collaboration in Global Virtual Teams: The Influence of Culture on Technology Acceptance and Communication Effectiveness** | Carolin Fleischmann, Peter Cardon, Jolanta Aritz

**Analyzing Performance of a Global Help Desk Team Operation - Country Handoffs, Efficiencies and Costs** | Akhil Kumar, Siyuan Liu

**Cultural Influence and the Effective Use of Security Awareness in Congolese Organizations** | Arnold Nzailu

**Communication and Conflict in Sino-German Global Virtual Teams** | Alexander Jurack

### Design and Development of Collaboration Technologies

Minitrack Chairs: Douglas Derrick, Ryan Schuetzler, G. Mark Grimes

### CL 14 PLUMERIA 3 WEDNESDAY, 2:00 - 3:30

**Towards Trust-Aware Human-Automation Interaction: An Overview of the Potential of Computational Trust Models** | Aya Hussein, Sondoss Elsayah, Hussein Abbass

**From Voice to Knowledge: A Proposal for a Voice Annotation System to Support Collaborative Engineering Design Processes** | Jorge D. Camba, Ferran Naya, David Perez-Lopez, Manuel Contero

**\*Capturing the Forest or the Trees: Designing for Granularity in Data Crowdsourcing** | Ryan Murphy, Jeff Parsons

## Developing Visual Collaborative Tools

Minitrack Chairs: Stéphanie Missonier, Hazbi Avdiji, Yves Pigneur, Robert Winter

### CL 15 PLUMERIA 3 WEDNESDAY, 4:00 - 5:30

**Software Tools for Supporting Reflection in Design Thinking Projects** | Thorsten Schoormann, Julien Hofer, Ralf Knackstedt

**Assessing and Changing an Organization's Innovation Culture with the Workspace Catalyst Canvas** | Katja Thoring, Roland Mueller, Petra Badke-Schaub

**Formative Evaluation of Data-Driven Business Models - The Data Insight Generator** | Babett Kühne, Tilo Böhmman

### Distributed Collaboration in Organizations and Networks

Minitrack Chairs: Derrick Cogburn, J. Alberto Espinosa, Alecia Santuzzi

### CL 16 HIBISCUS 1 WEDNESDAY, 8:00 - 9:30

**The Proximity Paradox: How Distributed Work Affects Relationships and Control** | Rebecca Downes

**Shared Workspaces of the Digital Workplace: From Design for Coordination to Coordination for Flexible Design** | Clara Nitschke, Helena Vallo Hult, Fernanda Bigolin

**Analysis of Task Management in Virtual Academic Teams** | Sabine Nagel, Florian Schwade

### CL 17 HIBISCUS 1 WEDNESDAY, 10:00 - 11:30

**A Social Network Perspective on the Success of Open Source Software: The Case of R Packages** | Gianluca Zanella, Charles Z. Liu

**Identifying Knowledge Brokers in Enterprise Social Media** | Mia Leppälä, J. Espinosa

**\*Identifying Bridge Users: the Knowledge Transfer Agents in Enterprise Collaboration Systems** | Priscilla Jimenez-Pazmino, Trenton Ford, Ronald Metoyer, Nitesh Chawla

## Emerging Issues in e-Collaboration Distributed Group Decision-Making: Opportunities and Challenges

Minitrack Chairs: A. K. Aggarwal,  
Doug Vogel, Yuko Murayama

### CL 18 HIBISCUS 2 WEDNESDAY, 10:00 - 11:30

**Towards a Wellbeing-driven System Design for Intergenerational Collaborative Innovation: A Literature Review** | Irawan Nurhas, Stefan Geisler, Arto Ojala, Jan Pawlowski

**Building Bridges, Burning Bridges: The Use of Boundary Objects in Agile Distributed ISD Teams** | Stephen McCarthy, Paidi O'Raghallaigh, Ciara Fitzgerald, Frédéric Adam

**\*Theorizing Hybrid Models of Peer Production: A Case Study of an Open Collaborative Journalism Platform** | Sheila O'Riordan, Joseph Feller, Gaye Kiely, Bill Emerson

### Human-Robot Interactions

Minitrack Chairs: Sangseok You, Lionel Robert

### CL 19 HIBISCUS 1 WEDNESDAY, 4:00 - 5:30

**Human-Machine Interaction and Human Resource Management Perspective for Collaborative Robotics Implementation and Adoption** | Krystal Libert, Elaine Mosconi, Nathalie Cadieux

**Trusting a Humanoid Robot : Exploring Personality and Trusting Effects in a Human-Robot Partnership** | Joel Elson, Douglas Derrick, Ginamarie Ligon

**Investigating the Effect of Trust Manipulations on Affect over Time in Human-Human versus Human-Robot Interactions** | Sarah Jessup, Anthony Gibson, August Capiola, Gene Alarcon, Morgan Borders

**Development of a Highly Precise Place Recognition Module for Effective Human-robot Interactions in Changing Lighting and Viewpoint Conditions** | Hermann Baumgartl, Ricardo Buettner

## Information and Communication Technologies for Crisis and Emergency Management

Minitrack Chairs: Julie Dugdale, Elsa Negre, Murray Turoff

### CL 20 PIKAKE 2 FRIDAY, 2:00 - 3:30

**\*DisasterNet: Evaluating the Performance of Transfer Learning to Classify Hurricane-Related Images Posted on Twitter** | Matthew Johnson, Dhiraj Murthy, Brett Roberstson, Roth Smith, Keri Stephens

### CL 21 PIKAKE 2 FRIDAY, 4:00 - 5:30

**Information Management in Large-scale Disaster Exercises: An Integrated Perspective** | Kenny Meesters, Yan Wang

**Epidemic Response Coordination Networks in "Living Documents"** | Chan Wang, Yushim Kim, Seong Soo Oh

**Using Audio-Logs for Analyzing the Development of a Common Operational Picture in Multi-agency Emergency Response** | Kristine Steen-Tveit, Jaziar Radianti, Bjørn Erik Munkvold

**Blockchain Technology for Emergency Response** | Carsten Siemon, David Rueckel, Barbara Krumay

### IT Enabled Collaboration for Development

Minitrack Chairs: Xusen Cheng,  
Xiangbin Yan, Deepinder Bajwa

### CL 22 HALEAKALA 3 FRIDAY, 10:00 - 11:30

**Exploring Trust in Online Ride-sharing Platform in China: A Perspective of Time and Location** | Xiangsong Meng, Xusen Cheng, Shixuan Fu, Jianshan Sun

**An Investigation on the Factors Influencing the Dissemination of WeChat Push Based on HSM and the Prediction of its Content Hotspot** | Wenjing Chen, Bo Yang, Pengfei Xie, Huayang She, Kanliang Wang

**How Do E-commerce Capabilities Influence Agricultural Firm Performance Gains? Theory and Empirical Evidence** | Jiabao Lin

**Collaborative Diabetes Management in China: A Digital Empowerment Perspective** | Hongying Tan, Mengling Yan

## Social and Psychological Perspectives in Collaboration Research

Minitrack Chairs: Triparna de Vreede,  
Gert-Jan de Vreede, Paul Spector

## Text Analytics

Minitrack Chairs: Derrick Cogburn, Michael Hine,  
Normand Peladeau, Victoria Yoon

### CL 23 SILVERSWORD WEDNESDAY, 2:00 - 3:30

#### The Optimal Experience: Social Identity and IT Identity as Antecedents of Group Flow in Social Media Use

| Eric Curley, Greta Polites

#### Influence of Culture on Reactions to Negotiation Deadline | Zhaleh Semnani-Azad, Wendi Adair, Katia Sycara, Michael Lewis

#### LeadLets: Towards a Pattern Language for Leadership Development of Human and AI Agents | Triparna de Vreede, Logan Steele, Gert-Jan de Vreede, Robert Briggs

## Social Media and e-Business Transformation

Minitrack Chairs: Christy M.K. Cheung,  
Matthew K.O. Lee, Christian Wagner

### CL 24 PIKAKE 1 FRIDAY, 4:00 - 5:30

#### \*How Game Features Give Rise to Altruism and Collective Action? Implications for Cultivating Cooperation by Gamification | Marc Riar, Benedikt Morschheuser, Juho Hamari, Rüdiger Zarnekow

#### Why Do Consumers Review Doctors Online? Topic Modeling Analysis of Positive and Negative Reviews on an Online Health Community in China | Patrick Cheong-Iao Pang, Libo Liu

#### Antecedents and Consequences of Perceived Usefulness of Smoking Cessation Online Health Communities

| Chenglong Li, Hongxiu Li, Reima Suomi

#### An Explorative Study of Creative Idea Generation Using Mobile Collaboration Platform | Stephen Choi, One-Ki Lee, Woojong Suh

## Technology Mediated Collaborations for the Professional Service Sector

Minitrack Chairs: Souren Paul, Nilmini Wickramasinghe

### CL 25 ILIMA 3 WEDNESDAY, 8:00 - 9:30

#### Critical Considerations for a Closed-loop Medication Administration System | Nilmini Wickramasinghe, Jian Qiu Kou

\* Best Paper Nomination

### CL 26 PLUMERIA 3 THURSDAY, 2:00 - 3:30

#### Trends in U.S. Foreign Policy Prioritizations, 2000 - 2019

| Frederic Lestina

#### Supporting Interview Analysis with Autocoding

| Andreas Kaufmann, Ann Barcomb, Dirk Riehle

#### Towards an Integrative Approach for Automated Literature Reviews Using Machine Learning | Christoph Tauchert, Marco Bender, Neda Mesbah, Peter Buxmann

### CL 27 PLUMERIA 3 THURSDAY, 4:00 - 5:30

#### Using Computational Text Mining to Understand Public Priorities for Disability Policy Towards Children in Canadian National Consultations | Derrick Cogburn, Keiko Shikako-Thomas, Jonathan Lai

#### Non-Exhaustive, Overlapping k-medoids for Document Clustering | Eric Kerstens

#### \*An Investigation of Predictors of Information Diffusion in Social Media: Evidence from Sentiment Mining of Twitter Messages | Mohammad Salehan, Dan Kim

## The Sharing Economy

Minitrack Chairs: Bo Sophia Xiao, Eric Lim, Chee-Wee Tan

### CL 28 HIBISCUS 2 FRIDAY, 8:00 - 9:30

#### Consumer Behavior Choice in the Era of Shared Mobility: The Role of Proximity, Competition, and Quality

| John Zhang, Daoqin Tong, Wencong Cui

#### Modelling Work Effort of Workers in the Crowdsourcing Intermediary Market | Ying Liu, Yong Mei Liu, Bo Xiao

#### \*Does a Smile Open All Doors? Understanding the Impact of Appearance Disclosure on Accommodation Sharing Platforms | Olga Abramova

#### Linking Privacy Concerns for Traceable Information and Information Privacy Protective Responses on Electric Scooter Sharing Platforms | Lin Li, Kyung Young Lee, Sung-Byung Yang, Luke Younghoon Chang

CL 29 HIBISCUS 2 FRIDAY, 10:00 - 11:30

**Tell Me What You Want: Exploring the Impact of Offering Option Repertoires on Service Performance in Gig Economy** | Shaoxiong Fu, Yuting Jiang, Zhao Cai, Fei Liu, Eric Lim, Chee-Wee Tan

**When Hosts Disclose Their Private Information on Accommodation Sharing Platforms: An Information Commercialization Perspective** | Jiang Hu, Wei He, Fred Davis

**User Roles on Peer-to-Peer Sharing Platforms: A Critical Review of the Literature and Recommended Remedies** | Sebastian Hermes, Manuel Maier, Andreas Hein, Markus Böhm, Helmut Krcmar

**Information Technology Investment, Environmental Hostility, and Firm Performance: The Roles of Family Ownership in an Emerging Economy** | Xue Ning, Jiban Khuntia, Abhishek Kathuria, Prasanna Karhade

## DA: Decision Analytics and Service Science

Co-Chairs: Christer Carlsson, Haluk Demirkan

### Accountability and Evaluation of AI Algorithms

Minitrack Chairs: Radmila Juric, Robert Steele

DA 1 MAILE 1 WEDNESDAY, 8:00 - 9:30

**A Comparison Between a Two-Feedback Control Loop and a Reinforcement Learning Algorithm for Compliant Low-Cost Series Elastic Actuators** | Filippo Sanfilippo, Hua Tuan Minh, Steven Bos

**Reliability of Training Data Sets for ML Classifiers: A Lesson Learned from Mechanical Engineering** | Radmila Juric, Natallia Danilchanka, Mehdi Gebreil Mousavi

## Analytics and Decision Support for Green IS and Sustainability Applications

Minitrack Chairs: Omar El-Gayar, Arno Scharl, PingSun Leung

DA 2 HIBISCUS 2 WEDNESDAY, 8:00 - 9:30

**\*Driving Sustainably - The Influence of IoT-based Eco-Feedback on Driving Behavior** | Alexander Bätz, Herner Gimpel, Sebastian Heger, Moritz Wöhl

**Bridging the Gap between Laboratory and Field Experiments in American Eel Detection Using Transfer Learning and Convolutional Neural Network** | Tianzhixi Yin, Xiaoqin Zang, Z. Jason Hou, Paul Jacobson, Robert Mueller, Zhiqun Deng

**Green IS Does Not Just Save Energy - Insights from a Survey on Organizations' Uses of Sustainable Technologies** | Helge Schmermbeck, Joke Thünnesen, Natalie Voss, Frederik Ahlemann

**Data Acquisition and Processing for GeoAI Models to Support Sustainable Agricultural Practices** | Agustin García Pereira, Adegboyega Ojo, Edward Curry, Lukasz Porwol

### Big Data and Analytics: Pathways to Maturity

Minitrack Chairs: Stephen Kaisler, Frank Armour, J. Alberto Espinosa

DA 3 PLUMERIA 2 THURSDAY, 8:00 - 9:30

**Easy and Efficient Hyperparameter Optimization to Address Some Artificial Intelligence "ilities"** | Trevor Bihl, Joe Schoenbeck, Daniel Steeneck, Jeremy Jordan

**\*Understanding Customer Preferences Using Image Classification - A Case Study** | Ines Bruschi

**Model Interpretation and Explainability towards Creating Transparency in Prediction Models** | Daniel Dolk, Donald Kridel, Jacob Dineen, David Castillo

**DA 4 PLUMERIA 2 THURSDAY, 10:00 - 11:30**

**A New Metric for Lumpy and Intermittent Demand Forecasts: Stock-keeping-oriented Prediction Error Costs** | Dominik Martin, Philipp Spitzer, Niklas Köhl

**Exploring Critical Success Factors in Agile Analytics Projects** | Mikhail Tsoy, D. Sandy Staples

**Business Intelligence, Analytics and Cognitive Technologies for Industry - Specific Applications**

Minitrack Chairs: Sergey Belov,  
James Spohrer, Maarit Palo

**DA 5 MAILE 3 FRIDAY, 10:00 - 11:30**

**Towards Leveraging End-of-Life Tools as an Asset: Value Co-Creation based on Deep Learning in the Machining Industry** | Jannis Walk, Niklas Köhl, Jonathan Schäfer

**\*Multicriteria Decision Analysis and Conversational Agents for Children with Autism** | Micol Spitale, Fabio Catania, Pietro Crovari, Franca Garzotto

**Data, Text, and Web Mining for Business Analytics**

Minitrack Chairs: Dursun Delen,  
Hamed Majidi Zolbanin, Behrooz Davazdahemami

**DA 6 PLUMERIA 1 WEDNESDAY, 2:00 - 3:30**

**Topic Modeling and Transfer Learning for Automated Surveillance of Injury Reports in Consumer Product Reviews** | David Goldberg, Nohel Zaman

**Use of Conventional Machine Learning to Optimize Deep Learning Hyper-parameters for NLP Labeling Tasks** | Yang Gu, GONDY Leroy

**\*Prevent Low-Quality Analytics by Automatic Selection of the Best-Fitting Training Data** | Cornelia Kiefer, Peter Reimann, Bernhard Mitschang

**DA 7 PLUMERIA 1 WEDNESDAY, 4:00 - 5:30**

**Improving Prediction Models for Mass Assessment: A Data Stream Approach** | Donghui Shi, Jian Guan, Jozef Zurada, Alan Levitan

**A Partial Least-Squares Regression Model to Measure Parkinson's Disease Motor States Using Smartphone Data** | Mevludin Memedi, Somayeh Aghanavasi

**A Qualitative Literature Review on Linkage Techniques for Data Integration** | Felix Kruse, Ahmad Pajam Hassan, Jan-Philipp Awick, Jorge Marx Gómez

**Decision Support for Smart Cities**

Minitrack Chairs: Wei Xu, Jian Ma, Jianshan Sun

**DA 8 MAILE 3 THURSDAY, 4:00 - 5:30**

**Cryptocurrency Price Prediction based on Multiple Market Sentiment** | Yu Wang, Runyu Chen

**Optimal Pricing Strategy for Multichannel Healthcare Services** | Wei Wang, Xiao Shi, Hanyu Xiao, Xiabing Zheng

**Semantic Management of Urban Traffic Congestion** | Arshad Shakil, Radmila Juric

**Digital Mobile Services for Everyday Life**

Minitrack Chairs: Pirkko Walden,  
Tomi Dahlberg, Anna Sell

**DA 9 MAILE 3 WEDNESDAY, 4:00 - 5:30**

**Gameful Self-Regulation: A Study on How Gamified Self-Tracking Features Evoke Gameful Experiences** | Lobna Hassan, Nannan Xi, Bahadır Gurkan, Jonna Koivisto, Juho Hamari

**Digital Mobile Services for Consumer Banking: Conceptualization and Implementation of Location-based Consumer Credits** | Clemens Wenzel-Ruelberg, Abayomi Baiyere, Patrick Lohmann

**Digital Coaching - An Exploratory Study on Potential Motivators** | Jozsef Mezei, Anna Sell, Pirkko Walden

## Digital Services and The Digitalization of Services

Minitrack Chairs: Tuure Tuunanen,  
Tilo Böhmann, Jan Marco Leimeister

**DA 10 MAILE 3 FRIDAY, 2:00 - 3:30**

**\*The Roles of Individual Actors in Data-Driven Service Innovation - A Dynamic Capabilities Perspective to Explore its Microfoundations** | Martin Schymanietz, Julia M. Jonas

**Actors' Dynamic Value Co-creation and Co-destruction Behavior in Service Systems: A Structured Literature Review** | Mengcheng Li, Tuure Tuunanen

**Take it Personally - The Role of Consumers' Perceived Value of Personalization on Cross-Category Use in a Smart Home Ecosystem** | Marco Hubert, Andrea Carugati, Christian Brock, Børge Obel

**DA 11 MAILE 3 FRIDAY, 4:00 - 5:30**

**An Experimental Case Study on Edge Computing Based Cyber-Physical Digital Service Provisioning with Mobile Robotics** | Daniel Pakkala, Jani Koivusaari, Pekka Pääkkönen, James Spohrer

**Semantic Shopping: A Literature Study** | Ann-Kristin Cordes, Benjamin Barann, Michael Rosemann, Jörg Becker

**How Well Do Service Concepts Apply to Digital Services and Service Digitalization?** | Steven Alter

### Gamification

Minitrack Chairs: Juho Hamari, Lobna Hassan, Mattia Thibault

**DA 12 MAILE 3 WEDNESDAY, 8:00 - 9:30**

**Flow in VR: A Study on the Relationships Between Preconditions, Experience and Continued Use** | Lobna Hassan, Henrietta Jylhä, Max Sjöblom, Juho Hamari

**\*Loot Box Purchase Decisions in Digital Business Models: The Role of Certainty and Loss Experience** | Konstantin Roethke, Martin Adam, Alexander Benlian

**Using Gamification to Support Users' Adoption of Contextual Achievement Goals** | Jian Tang, Yilin Jia, Ping Zhang

**DA 13 MAILE 3 WEDNESDAY, 10:00 - 11:30**

**Does Tailoring Gamified Educational Systems Matter? The Impact on Students' Flow Experience** | Wilk Oliveira, Armando Toda, Paula Toledo, Lei Shi, Julita Vassileva, Ig Ibert Bittencourt, Seiji Isotani

**Using the "Daily Missions" Gamification Strategy To Promote Incremental Progress on Programming Assignments** | Stephen Edwards, Andrew Goldman

**Fine-Dusty: Gamification of Particulate Matter Risk Communication** | Ju Yeon Choi, Helane Jin, Soojin Hwang, Sooyeon Kwon, Youna Ah Kang

**DA 14 MAILE 3 WEDNESDAY, 2:00 - 3:30**

**The Role of Gamification in Health Behavior Change: A Review of Theory-driven Studies** | Manuel Schmidt-Kraepelin, Simon Warsinsky, Scott Thiebes, Ali Sunyaev

**"Who cares about fireworks?" - A Study on Digital Coaching, Gamification and Exercise Motivation** | Miralem Helmefalk, Leif Marcusson, Anna Sell

### Intelligent Decision Support and Big Data for Logistics and Supply Chain Management

Minitrack Chairs: Julia Pahl, Stefan Voß

**DA 15 MAILE 3 FRIDAY, 8:00 - 9:30**

**\*Novel Data Analytics Meets Conventional Container Shipping: Predicting Delays by Comparing Various Machine Learning Algorithms** | Adrian VIELLECHNER, Stefan Spinler

**Shortening Delivery Times by Predicting Customers' Online Purchases: a Case Study in the Fashion Industry** | Jennifer Weingarten, Stefan Spinler

**Evolving Neural Networks to Solve a Two-Stage Hybrid Flow Shop Scheduling Problem with Family Setup Times** | Sebastian Lang, Tobias Reggelin, Fabian Behrendt, Abdulrahman Nahhas

**The Drone-Assisted Traveling Salesman Problem with Robot Stations** | Daniel Schermer, Mahdi Moeini, Oliver Wendt

**Interactive Visual Analytics and Visualization for Decision Making - Making Sense of a Growing Digital World**

Minitrack Chairs: David Ebert, Brian Fisher, Kelly Gaither

**DA 16 PLUMERIA 2 FRIDAY, 8:00 - 9:30**

**Industrial Production Process Improvement by a Process Engine Visual Analytics Dashboard** | Josef Suschnigg, Florian Ziessler, Markus Brillinger, Matej Vukovic, Jürgen Mangler, Tobias Schreck, Stefan Thalmann

**\*Visual Analysis for Spatio-Temporal Event Correlation in Manufacturing** | Dominik Herr, Kuno Kurzhals, Thomas Ertl  
**Visualization and Interaction for Knowledge Discovery in Simulation Data** | Niclas Feldkamp, Sören Bergmann, Steffen Strassburger

**DA 17 PLUMERIA 2 FRIDAY, 10:00 - 11:30**

**The Use of Embedded Interaction Mechanisms for Low-Level Analysis Tasks** | Kari Sandouka, Cherie Noteboom

**Comparison of Attention Behaviour Across User Sets through Automatic Identification of Common Areas of Interest** | Prithviraj Muthumanickam, Jouni Helske, Aida Nordman, Jimmy Johansson, Matthew Cooper

**Route Packing: Geospatially-Accurate Visualization of Route Networks** | Jieqiong Zhao, Morteza Karimzadeh, Hanyu Xu, Abish Malik, Shehzad Afzal, Guizhen Wang, Niklas Elmqvist, David Ebert

**Internet of Things: Providing Services Using Smart Devices, Wearables, and Quantified Self**

Minitrack Chairs: Fred Riggins, Tayfun Keskin

**DA 18 ILIMA 3 THURSDAY, 10:00 - 11:30**

**\*Toward a User Acceptance Model of Autonomous Driving** | Konstantin Garidis, Leon Ulbricht, Alexander Rossmann, Marco Schmäh

**I Spy with my Little Sensor Eye - Effect of Data-Tracking and Convenience on the Intention to Use Smart Technology** | Evgenia Princi, Nicole Krämer

**Data Extraction and Forensic Analysis for Smartphone Paired Wearables and IoT Devices** | Gokila Dorai, Shiva Houshmand, Sudhir Aggarwal

**Machine Learning and Predictive Analytics in Accounting, Finance and Management**

Minitrack Chairs: Peter Sarlin, József Mezei

**DA 19 PLUMERIA 1 WEDNESDAY, 8:00 - 9:30**

**An Explicative and Predictive Study of Employee Attrition Using Tree-based Models** | Stephen Taylor, Nesreen El-royes, Michael Smith

**Improving Credit Risk Analysis with Cluster Based Modeling and Threshold Selection** | Ajay Byanjankar

**Enhancing Customer Satisfaction Analysis with a Machine Learning Approach: From a Perspective of Matching Customer Comment and Agent Note** | Qiang Wei, Xiaowei Shi, Quan Li, Guoqing Chen

**DA 20 PLUMERIA 1 WEDNESDAY, 10:00 - 11:30**

**Towards Optimal Free Trade Agreement Utilization through Deep Learning Techniques** | Johannes Lahann, Martin Scheid, Peter Fettke

**A CNN Based System for Predicting the Implied Volatility and Option Prices** | Xiangyu Wei, Zhilong Xie, Rui Cheng, Qing Li

**Automating Lead Scoring with Machine Learning: An Experimental Study** | Robert Nygård, József Mezei



## Machine Learning, Robotic, and Toy Computing

Minitrack Chairs: Patrick Hung,  
Shih-Chia Huang, Sarajane Marques Peres

## Service Analytics

Minitrack Chairs: Hansjoerg Fromm,  
Niklas Kühl, Gerhard Satzger, Thomas Setzer

**DA 21 MAILE 3 THURSDAY, 10:00 - 11:30**

**Assessing Mission Performance for Technology Reliant Missions** | Noah DeMoes, Trang Nguyen, Jaime Pena, Neal Wagner

**IoT4Fun Rapid Prototyping Toolkit for Smart Toys**  
| Anna Priscilla de Albuquerque, Judith Kelner,  
Thiago Dias Nogueira, Railton Silva Rocha Junior

**A Literature Survey on Smart Toy-related Children's Privacy Risks** | Marcelo Fantinato, Otávio de Paula Albuquerque, Anna Priscilla de Albuquerque, Judith Kelner, Benjamin Yankson

**Automatic Segmentation of Grammatical Facial Expressions in Sign Language: Towards an Inclusive Communication Experience** | Maria Eduarda de Araújo Cardoso, Sarajane Peres, Fernando de Almeida Freitas, Felipe Venância Barbosa, Clodoaldo Aparecido de Moraes Lima, Patrick Hung

### Mixed, Augmented, and Virtual Reality: Co-designed Services and Applications

Minitrack Chairs: Jani Holopainen,  
Essi Pöyry, Juho Hamari, Osmo Mattila

**DA 22 MAILE 3 THURSDAY, 8:00 - 9:30**

**Lose Yourself in VR: Exploring the Effects of Virtual Reality on Individuals' Immersion** | Nane Winkler, Konstantin Roethke, Nils Siegfried, Alexander Benlian

**Stakeholder Strategy and Design Alignment Framework for Design Science Research - A Study in the Context of VR-Aided Marketing and Sales** | Jani Holopainen, Osmo Mattila, Essi Pöyry, Petri Parvinen, Tuure Tuunanen

**\*Agency and Body Ownership in Immersive Virtual Reality Environments: A Laboratory Study** | Henrik Freude, Caroline Rassing, Marius Müller, Bjoern Niehaves, Michael Knop

**DA 23 PLUMERIA 1 THURSDAY, 2:00 - 3:30**

**A Next Click Recommender System for Web-based Service Analytics with Context-aware LSTMs** | Sven Weinzierl, Matthias Stierle, Sandra Zilker, Martin Matzner

**Applying Optimal Weight Combination in Hybrid Recommender Systems** | Nicolas Haubner, Thomas Setzer

**Towards More Robust Uplift Modeling for Churn Prevention in the Presence of Negatively Correlated Estimation Errors** | Frank Oechsle, David Schönleber

**DA 24 PLUMERIA 1 THURSDAY, 4:00 - 5:30**

**Optimizing the Cloud Data Center Availability Empowered by Surrogate Models** | Glauco Gonçalves, Demis Gomes, Guto Leoni Santos, Daniel Rosendo, André Moreira, Judith Kelner, Djamel Sadok, Patricia Takako Endo

**Towards Predictive Part Quality and Predictive Maintenance in Industrial Machining - A Data-Driven Approach** | Laura Rudolph, Jennifer Schoch, Hansjoerg Fromm

**Establishing an Extendable Benchmarking Framework for E-Fulfillment** | Magdalena Lang, Catherine Cleophas

## Service Science

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

**DA 25 PLUMERIA THURSDAY, 8:00 - 9:30**

**\*Moving towards a Non-Dyadic View on Service Systems and its Operationalization - Applying the Hypergraph-based Service System Model** | Mahei Li, Christoph Peters, Jan Leimeister

**Explaining how Platforms Foster Innovation in Service Ecosystems** | Bård Tronvoll, Bo Edvardsson

**AI Technologies & Value Co-Creation in Luxury Context**  
| Clara Bassano, Sergio Barile, Marialuisa Saviano,  
Maria Cristina Pietronudo, Silvia Cosimato

**DA 26 PLUMERIA 1 THURSDAY, 10:00 - 11:30**

**Analysis of Localized Actors' Behaviors in Service Ecosystem Simulation** | Satoru Fujita

**The Role of Emergence in Service Systems**  
| Francesco Polese, Debora Sarno, Stephen Louis Vargo

**Visualizing the Alliance Network Structure of Service Industries** | Rahul Basole

**Smart City Digital Twins**

Minitrack Chairs: John Taylor, Gisele Bennett, Neda Mohammadi

**DA 27 MAILE 3 THURSDAY, 2:00 - 3:30**

**Knowledge Discovery in Smart City Digital Twins**  
| Neda Mohammadi, John Taylor

**Rethinking Infrastructure Resilience Assessment with Human Sentiment Reactions on Social Media in Disasters** | Chao Fan, Hamed Farahmend, Ali Mostafavi

**\*A Digital Twin City Model for Age-Friendly Communities: Capturing Environmental Distress from Multimodal Sensory Data** | Changbum Ahn, Youngjib Ham, Jinwoo Kim, Jaeyoon Kim

**Smart Service Systems with Analytics and Open Tech Artificial Intelligence**

Minitrack Chairs: Haluk Demirkan, James Spohrer, Ralph Badinelli

**DA 28 MAILE 3 FRIDAY, 10:00 - 11:30**

**\*Smart Service Systems in Manufacturing: An Investigation of Theory and Practice** | Markus Heuchert, Yannick Verhoeven, Ann-Kristin Cordes, Jörg Becker

**Soft Computing: Theory Innovations and Problem Solving Benefits**

Minitrack Chairs: Enrique Herrera-Viedma, Francisco Javier Cabrerizo, Ignacio Javier Pérez

**DA 29 PLUMERIA 1 FRIDAY, 2:00 - 3:30**

**Applying Feature Selection to Improve Predictive Performance and Explainability in Lung Cancer Detection with Soft Computing** | Nicolas Potie, Stavros Giannoukagos, Michael Hackenberg, Alberto Fernandez

**Rough Sets: A Bibliometric Analysis from 2014 to 2018**  
| Ruben Heradio, David Fernandez-Amoros, Jose A. Moral-Muñoz, Manuel J. Cobo

**\*Similarity-based and Iterative Label Noise Filters for Monotonic Classification** | José Ramón Cano, Julian Luengo, Salvador García

**DA 30 PLUMERIA 1 FRIDAY, 4:00 - 5:30**

**Determining Project Contingency Reserve Using a Fuzzy Arithmetic-Based Risk Analysis Method**  
| Seyed Hamed Fatemina, Nasir Bedewi Siraj, Aminah Robinson Fayek, Andrew Johnston

**An Approach Toward a Feedback Mechanism for Consensus Reaching Processes Using Gamification to Increase the Experts' Experience** | Ignacio Pérez, Pablo Garcia-Sanchez, Francisco Cabrerizo, Enrique Herrera-Viedma

**Adaptive and Concurrent Garbage Collection for Virtual Machines** | Md. Enamul Haque, SM Zobaed, Razin Farhan Hussain, Aminul Islam

**Panel Discussion - Future of Decision Analysis and MCDM in the Age of Big Data, AI and Social Media**

Minitrack Chairs: Robin Keller, Gregory Parnell, Rakesh Sarin

**DA 31 PLUMERIA 2 WEDNESDAY, 4:00 - 5:30**

The purpose of this panel is to explore how decision analysis and multi-criteria decision-making can play an important role in data science and analytics.

## DG: Digital Government

Co-Chairs: Hans Jochen Scholl, John Bertot

### Blockchain, DLT, Tokenization, and Digital Government

Minitrack Chairs: Manuel Pedro Rodríguez Bolívar, Svein Ølnes

#### DG 1 MAILE 1 FRIDAY, 8:00 - 9:30

##### Early Regulations of Distributed Ledger Technology/Blockchain Providers: A Comparative Case Study

| Hans Jochen Scholl, Roman Pomeshchikov,  
Manuel Pedro Rodríguez Bolívar

##### New Kid On The Block! Understanding Blockchain Adoption in the Public Sector

| Fay Koster, Hans Borgman

**\*The Intelligible Contract** | Luca Cervone, Monica Palmirani,  
Fabio Vitali

### Challenged Democracies: The Impact of Digital Government on Democracy and Democratic Institutions

Minitrack Chairs: John Bertot, Karine Nahon, Paul Jaeger

#### DG 2 PIKAKE 3 WEDNESDAY, 2:00 - 3:30

##### Does Online Political Participation Reinforce Offline Political Participation?: Using Instrumental Variable

| WookJoon Sung, Changki Jang

##### Municipal Government Use of Social Media: An Analysis of Three Chinese Cities

| Tiejun Gu, Teresa M. Harrison,  
Yani Zhu

##### Vice or Virtue? Exploring the Dichotomy of an Offensive Security Engineer and Government “Hack Back” Policies

| Kim Withers, James Parrish, Timothy Ellis, James Smith

## Cyber Deception for Defense

Minitrack Chairs: Kimberly Ferguson-Walter,  
Sunny Fugate, Cliff Wang

#### DG 3 PIKAKE 3 THURSDAY, 10:00 - 11:30

##### Design of Dynamic and Personalized Deception: A Research Framework and New Insights

| Cleotilde Gonzalez,  
Palvi Aggarwal, Christian Lebiere, Edward Cranford

##### Delivering Honeypots as a Service

| Jafar Haadi Jafarian,  
Amirreza Niakanlahiji

##### Creating Convincing Industrial-Control-System Honeypots

| Neil Rowe, Thuy Nguyen, Marian Kendrick,  
Zaky Rucker, Dahae Hyun, Justin Brown

#### DG 4 PIKAKE 3 THURSDAY, 2:00 - 3:30

##### Invasion of the Botnet Snatchers: A Case Study in Applied Malware Cyberdeception

| Jared Chandler, Kathleen Fisher,  
Erin Chapman, Eric Davis, Adam Wick

##### Toward a Holistic Model of Deception: Subject Matter Expert Validation

| Rob Black, Iain Reid

##### The Moonraker Study: An Experimental Evaluation of Host-Based Deception

| Temmie Shade, Andrew Rogers,  
Kimberly Ferguson-Walter, Sara Beth Elsen, Daniel Fayette,  
Kristin Heckman

##### \*Adaptive Cyber Deception: Cognitively Informed Signaling for Cyber Defense

| Edward Cranford, Cleotilde Gonzalez,  
Palvi Aggarwal, Sarah Cooney, Milind Tambe, Christian Lebiere

**DG 5      PIKAKE 3      THURSDAY, 4:00 - 5:30**

**HoneyBug: Personalized Cyber Deception for Web Applications** | Amirreza Niakanlahiji, Jafar Haadi Jafarian, Bei-Tseng Chu, Ehab Al-Shaer

**A Deception Planning Framework for Cyber Defense**  
| Jafar Haadi Jafarian, Amirreza Niakanlahiji

**Concealing Cyber-Decoys using Two-Sided Feature Deception Games** | Mohammad Sujan Miah, Marcus Gutierrez, Oscar Veliz, Omkar Thakoor, Christopher Kiekintveld

**Automating Cyberdeception Evaluation with Deep Learning**  
| Gbadebo Ayoade, Frederico Araujo, Khaled Al-naarni, Ahmad Mustafa, Yang Gao, Kevin Hamlen, Latifur Khan

**Cybersecurity and Privacy in Government**

Minitrack Chairs: Greg White, Arthur Conklin, Keith Harrison

**DG 6      PIKAKE 3      FRIDAY, 2:00 - 3:30**

**Topological Data Analysis for Enhancing Embedded Analytics for Enterprise Cyber Log Analysis and Forensics** | Trevor Bihl, Robert Gutierrez, Kenneth Bauer, Brad Boehmke, Cade Saie

**Towards an Evaluation Framework for Threat Intelligence Sharing Platforms** | Sara Bauer, Daniel Fischer, Clemens Sauerwein, Simon Latzel, Dirk Stelzer, Ruth Breu

**Maritime Cybersecurity: Meeting Threats to Globalization's Great Conveyor** | Robert Bronk, Paula deWitte

**DG 7      PIKAKE 3      FRIDAY, 4:00 - 5:30**

**Understanding the Stakeholder Roles in Business Continuity Management Practices - A Study in Public Sector** | Jonna Järveläinen

**An Accurate and Scalable Role Mining Algorithm based on Graph Embedding and Unsupervised Feature Learning**  
| Masoumeh Abolfathi, Zohreh Raghebi, Jafar Haadi Jafarian, Farnoush Banaei-Kashani

**The Role of Consequences in Securing Cyber-Physical Systems** | Wm. Arthur Conklin

**Data-driven Government and Artificial Intelligence**

Minitrack Chairs: Charalampos Alexopoulos, Erwin Folmer, Thomas Lampoltshammer

**DG 8      PIKAKE 2      THURSDAY, 2:00 - 3:30**

**Negotiating Personalization in Dynamic User Interfaces for the Public Sector: Domain Specificity and Algorithmic Explainability** | Cody Dodd

**Digital Government and Business Process Management (BPM)**

Minitrack Chairs: Andrea Delgado, Aurelie Montarnal, Hernán Astudillo

**DG 9      PIKAKE 2      WEDNESDAY, 4:00 - 5:30**

**Controlling Compliance of Collaborative Business Processes through an Integration Platform within an E-government Scenario** | Laura González, Raúl Ruggia

**Towards a Metamodel Supporting E-government Collaborative Business Processes Management within a Service-based Interoperability Platform** | Andrea Delgado, Daniel Calejari, Laura González, Aurélie Montarnal, Frédérick Bénaben

**Digital Government and the Internet of Things (IoT)**

Minitrack Chairs: Hans Jochen Scholl, John Bertot, Euripidis Loukis

**DG 10      PIKAKE 2      THURSDAY, 10:00 - 11:30**

**Here, there, but not everywhere: Adoption and Diffusion of IoT in Swedish Municipalities** | Ted Saarikko, Ulrika Westergren, Katrin Jonsson

## Digital Government Theory: Development and Application

Minitrack Chairs: Lemuria Carter,  
Elin Wihlborg, Ludwig Christian Schaupp

### DG 11 PIKAKE 3 WEDNESDAY, 4:00 - 5:30

**Towards Synthetic and Balanced Digital Government Benchmarking** | Jaromir Durkiewicz, Tomasz Janowski

**On the Narratives and Background Narratives of e-Government** | Dirk Draheim, Ingrid Pappel, Mihkel Lauk, Keegan McBride, Yuri Misnikov, Takehiko Nagumo, Florian Lemke, Florian Hartleb

### Digital Government: Social and Service Innovation

Minitrack Chairs: Gianluca Misuraca,  
Ulf Melin, Shuhua Monica Liu

### DG 12 PIKAKE 2 WEDNESDAY, 8:00 - 9:30

**\*Mapping the Evolving Intellectual Structure of Digital Innovation Research on the Public Sector: A Document Co-citation Analysis** | Hugo Hedlund

**Problem Conceptualization as a Foundation of Data Analytics in Local Governments: Lessons from the City of Syracuse, New York** | Felipe Cronemberger, J. Gil-Garcia

### DG 13 PIKAKE 2 WEDNESDAY, 10:00 - 11:30

**Impacts of Digitalization: Many Agendas on Different Levels** | Pasi Hellsten, Samuli Pekkola

**Open Data Standards: Vertical Industry Standards to Unlock Digital Ecosystems** | Daniel Rudmark

### DG 14 PIKAKE 2 WEDNESDAY, 2:00 - 3:30

**The Impact of Information Technology Evolution on the Forms of Knowledge in Public Sector Social Work: Examples from Canada and the UK** | Thomas Vogl

**E-participation with Social media in Science, Technology and Innovation: Brazilian States Research Support Foundations Case** | Vitor Andrade, André Grützmann

**The Influence of Public Values on User Participation in e-Government: An Exploratory Study** | Anthony Simonofski, Maxim Chantillon, Joep Crompvoets, Benoît Vanderose, Monique Snoeck

### Digital Transformation and Government: Empowering Businesses and Citizens

Minitrack Chairs: Margit Scholl, Jerald Hughes, Suha AlAwadhi

### DG 15 PIKAKE 2 WEDNESDAY, 4:00 - 5:30

**\*Co-creating Digital Government Service: An Activity Theory Perspective** | Nina Helander, Jari Jussila, Anik Bal, Virpi Sillanpää, Annamajja Paunu, Salvatore Ammirato, Alberto Felicetti

**Facilitating Digital Transformation through Education: A Case Study in the Public Administration** | Birgit Schenk, Mateusz Dolata

### Disaster Information, Technology, and Resilience

Minitrack Chairs: Frederick Benaben,  
Mihoko Sakurai, Andrea Tapia

### DG 16 PIKAKE 2 FRIDAY, 10:00 - 11:30

**\*The Behavior of Spontaneous Volunteers: A Discrete Choice Experiment on the Decision to Help** | Sebastian Lindner, Christoph Herrmann

**Framing Crisis Information Systems: The Case of WIS** | Ted Saarikko, Urban Nuldén, Pär Meiling, Kalevi Pessi

**The Structure of Citizen Bystander Offering Behaviors Immediately After the Boston Marathon Bombing** | Nicolas LaLone, Z Toups, Andrea Tapia

**DG 17      PIKAKE 2      FRIDAY, 2:00 - 3:30**

**A Physics-Based Theory to Navigate Across Risks and Opportunities in the Performance Space: Application to Crisis Management** | Frederick Benaben, Benoit Montreuil, Louis Faugere, Matthieu Lauras, Juanqiong Gou, Wenxin Mu

**Refugee Camp Population Estimates Using Automated Feature Extraction** | Brandon Green, Justine Blanford

#### Emerging Topics in Digital Government

Minitrack Chairs: Robert Krimmer,  
Andriana Prentza, J. Gil-Garcia

**DG 18      PIKAKE 2      THURSDAY, 2:00 - 3:30**

**Analytics for Autonomous C4ISR within e-Government: a Research Agenda** | Trevor Bihl, Michael Talbert

**The Association between Institutional Absorptive Capacity, Electronic Procurement Assimilation and Procurement Process in Public Sector Organizations**

| John Manso Frimpong, Francis Andoh-Baidoo, David Asamoah

#### Inside the Insider Threat

Minitrack Chairs: Jason Clark, Matt Bishop, Frank Greitzer

**DG 19      PIKAKE 3      THURSDAY, 8:00 - 9:30**

**Psychological Profiling of Hacking Potential**

| Joana Gaia, Bina Ramamurthy, George Sanders, Sean Sanders, Shambhu Upadhyaya, Xunyi Wang, Chul Yoo

**\*Experimental Investigation of Demographic Factors Related to Phishing Susceptibility** | Wanru Li, James Lee, Justin Purl, Frank Greitzer, Bahram Yousefi, Kathryn Laskey

**Presentation Only: Implementation Considerations for Organizational Factors of Insider Threat Risk** | Julie Ard, Frank Greitzer

#### Policies and Strategies for Digital Government

Minitrack Chairs: Frank Bannister,  
Antonio Cordella, Kyung Ryul Park

**DG 20      PIKAKE 2      THURSDAY, 4:00 - 5:30**

**Is There Any Public Value in ICT Developmental Outcomes? A Discourse View** | Yinka Oyerinde, Felix Olu Bankole

**The Pursuit of Sustainable ICT4D: Lessons from Timor-Leste** | Abel da Silva, Walter Fernandez

**A Quality Management-Based Approach to Evaluate Public Services: A Case Study in Brazil** | Glauco Pedrosa, Vitor Menezes, Rejane Figueiredo

**\*'Escalation of Commitment' as a Force for Good? Evidence from an Indonesian Digital Government Project** | Muhammad Priandi, Walter Fernandez, M.S. Sandeep

#### Smart and Connected Cities and Communities

Minitrack Chairs: Mila Gascó, Theresa Pardo, Taewoo Nam

**DG 21      PIKAKE 2      THURSDAY, 8:00 - 9:30**

**Technological and Human Development of Smart Cities: An Empirical Characterization of EUROCITIES Case Studies** | Maria E. Cortes-Cediel, Ivan Cantador, Manuel Pedro Rodriguez Bolivar

**\*Multilevel Design for Smart Communities - The Case of Building a Local Online Neighborhood Social Community** | Christian Grotherr, Pascal Vogel, Martin Semmann

**Digital Platform-Enabled Community Development: A Case Study of a Private-Public Partnership Sustainability Initiative** | Felix Tan, Edward Hopkins, Calvin Chan, Carmen Leong, Anthony Wright

**DG 22      PIKAKE 2      THURSDAY, 10:00 - 11:30**

**Towards Designing Effective Governance Regimes for Smart City Initiatives: The Case of the City of Duisburg** | Peder Bergan, Anne-Marie Mölders, Kevin Rehring, Frederik Ahlemann, Stefan Decker, Stefan Reining

**Understanding the Role of Social, Technology, and Physical Infrastructures in Smart Communities: The Case of Rural Areas in the US** | Guangji Yuan, J. Gil-Garcia, Megan K. Sutherland-Mitzner, Mila Gascó, Theresa Pardo

## DSM: Digital and Social Media

Co-Chairs: Kevin Crowston

### Ignite Talks

Co-Chair: Kevin Crowston

### DSM HALEAKALA 4 WEDNESDAY, 8:00 - 9:30

This session hosts a series of high-energy short talks that promote a sharing of creative ideas about digital and social media research.

#### Collective Intelligence and Crowds

Minitrack Chairs: Prina Fichman,  
Donald Steiny, Jeffrey Nickerson

### DSM 1 ILIMA 3 WEDNESDAY, 10:00 - 11:30

**Effects of Stigmergic and Explicit Coordination on Wikipedia Article Quality** | Kevin Crowston, Amira Rezgoui

**\*The Role of Social Media during Social Movements - Observations from the #metoo Debate on Twitter**

| Felix Brünker, Magdalena Wischniewski, Milad Mirbabaie, Judith Meinert

#### Critical and Ethical Studies of Digital and Social Media

Minitrack Chairs: Tonia Sutherland,  
Lauren Kilgour, Stacy Wood

### DSM 2 ILIMA 3 FRIDAY, 2:00 - 3:30

**Researcher Views and Practices around Informing, Getting Consent, and Sharing Research Outputs with Social Media Users When Using Their Public Data** | Nicholas Proferes, Shawn Walker

**How do the women of Open Source support each other?** | Vandana Singh, William Brandon

**\*"Thank you, next": A Call for Intentional Design**

| Melina Garcia

#### Culture, Identity, and Inclusion

Minitrack Chairs: Nanette Levinson,  
Derrick Cogburn, Filippo Trevisan

### DSM 3 ILIMA 3 FRIDAY, 8:00 - 9:30

**Age- and Gender-dependent Differences of Asylum Seekers' Information Behavior and Online Media Usage**

| Franziska Zimmer, Katrin Scheibe

**Understanding the Influence of Cultural Dimensions on the Interpretative Ability of People to Infer Personality from the Avatars: Evidence from Cultural Dimensions of Greece, Pakistan, Russia, and Singapore**

| Muhammad Nauman Shahid, Maria Kralli

### DSM 4 ILIMA 3 FRIDAY, 10:00 - 11:30

**\*White Twitter: Tracing the Evolution of the alt-right in Retweets, 2009-2016** | Saif Shahin, Yee Man Margaret Ng

**Co-creating the 2021 Culture, Identity & Inclusion Minitrack Research Agenda** | Join in crafting a participatory research agenda highlighting emerging research arenas and opportunities for this minitrack

#### Data Analytics, Data Mining and Machine Learning for Social Media

Minitrack Chairs: David Yates,  
Dominique Haughton, Kevin Mentzer

### DSM 5 PIKAKE 1 FRIDAY, 8:00 - 9:30

**\*Detecting Political Bots on Twitter during the 2019 Finnish Parliamentary Election** | Sippo Rossi, Matti Rossi, Bikesh Upreti, Yong Liu

**Context Map Analysis of Fake News in Social Media: A Contextualized Visualization Approach** | Onur Seref, Michelle Seref, Sukhwa Hong

**Understanding the Mood of Social Media Messages**

| Robert Power, Bella Robinson, Amanda Dennett, Brian Jin, Cecile Paris

**Measuring and Unpacking Affective Polarization on Twitter: The Role of Party and Gender in the 2018 Senate Races**

| Kevin Mentzer, Kate Fallon, Janet Prichard, David Yates

**DSM 6 PIKAKE 1 FRIDAY, 10:00 - 11:30**

**Generalized Blockmodeling of Multi-Valued Networks**

| Nathanael Brown, Linda Nozick

**The New Window to Athletes' Soul - What Social Media Tells Us About Athletes' Performances**

| Arne Gruettner, Min Vitisvorakarn, Thiemo Wambsganss, Roman Rietsche, Andrea Back

**Using Data Analytics to Filter Insincere Posts from Online Social Networks A Case Study: Quora Insincere Questions**

| Mohammad Al-Ramahi, Izzat Alsmadi

**DSM 7 PIKAKE 1 FRIDAY, 2:00 - 3:30**

**Evaluation of VI Index Forecasting Model by Machine Learning for Yahoo! Stock BBS Using Volatility Trading Simulation**

| Kodai Sasaki, Hirohiko Suwa, Yuki Ogawa, Eiichi Umehara, Tatsuo Yamashita, Kota Tsubouchi

**Success Factors of Donation-Based Crowdfunding Campaigns: A Machine Learning Approach**

| Massara Alazazi, Bin Wang, Tareq Allan

**Identifying Citation Sentiment and its Influence while Indexing Scientific Papers**

| Souvick Ghosh, Chirag Shah

**Decision Making in Online Social Networks**

Minitrack Chairs: Valeria Sadovykh, Gabrielle Peko, David Sundaram

**DSM 8 PIKAKE 1 THURSDAY, 8:00 - 9:30**

**\*A Probabilistic Model for Malicious User and Rumor Detection on Social Media**

| Yihong Zhang, Takahiro Hara

**Empowering Users Regarding the Sensitivity of their Data in Social Networks through Nudge Mechanisms**

| Jose Alemany, Elena del Val, Ana Garcia-Fornes

**Do I Care Enough? Using a Prosocial Tendencies Measure to Understand Twitter Users Sharing Behavior for Minor Public Safety Incidents**

| Mashael Almoqbel, Xun Wang, Starr Roxanne Hiltz

**DSM 9 PIKAKE 1 THURSDAY, 10:00 - 11:30**

**Facebook Marketing Intelligence**

| Daan Groothuis, Ton Spil, Robin Effing

**Follow-back Recommendations for Sports Bettors: A Twitter-based Approach**

| Herman Wandabwa, Muhammad Asif Naeem, Farhaan Mirza, Russel Pears

**The Social Side of Brick and Mortar: The Impact of Brand-Related User-Generated Content on Different Consumer Typologies in Food Retailing**

| Bettina Beurer-Zuellig, Michael Klaas

**Digital and Social Media in Enterprise**

Minitrack Chairs: Xuefei Nancy Deng, Ester Gonzalez, Tawei David Wang

**DSM 10 ILIMA 3 WEDNESDAY, 2:00 - 3:30**

**Control vs Content: A Systematic Review of the Social Media Research Literature**

| Fadi Almazayad, Eleanor Loiacono

**Among Followers and Rebels: Professional Identity and Digitalization of Work**

| Karin Högberg, Sara Willermark

**Monitoring and Understanding Enterprise Collaboration Platform Outcomes and Benefits Change**

| Clara Nitschke, Susan Williams

**DSM 11 ILIMA 3 WEDNESDAY, 4:00 - 5:30**

**Who is Influencing the #GDPR Discussion on Twitter: Implications for Public Relations**

| Anatoliy Gruzd, Deena Abul-Fottouh, Atefeh Mashatan

**\*Organizational Generativity, Social Media and the Co-creation of Nonprofit Services: A Sociomateriality Perspective**

| Fatuma Namisango, Kyeong Kang, Junaid Rehman

**Understanding the Business Value of Social Information Systems - A Research Agenda**

| Rainer Schmidt, Kathrin Kirchner, Liana Razmerita



## Games and Gaming

Minitrack Chairs: Nathaniel Poor,  
Mia Consalvo, Kelly Bergstrom

### DSM 12 PIKAKE 1 THURSDAY, 2:00 - 3:30

**Too Legit to Rage Quit: Do Social Ties Impact Staying Power in eSports?** | David Weber

**The Effect of Team Choice in Ingress and Pokémon GO for Players' Social Circles and Attitudes Towards Game Slang** | Samuli Laato, Nobufumi Inaba, Mauri Paloheimo

**\*Esports and the Color Line: Labor, Skill and the Exclusion of Black Players** | Akil Fletcher

### DSM 13 PIKAKE 1 THURSDAY, 4:00 - 5:30

**Laboring Artists: Art Streaming on the Videogame Platform Twitch** | Andrew Phelps, Mia Consalvo

#### Learning in Digital and Social Media

Minitrack Chairs: Maarten De Laat, Dan Suthers

### DSM 14 ILIMA 3 FRIDAY, 4:00 - 5:30

**\*When Engagement in Course-Related Social Media Leads to Better Course Self-Efficacy** | Jean-Éric Pelet, Somayeh Zamani

**Participation Solicitation Design for Learner Engagement with Epistemic Objects and Situated, Collective Learning in Online Discussion Boards** | Susan Gasson, Jim Waters

**Learning Analytics Dashboard for Teaching with Twitter** | Anatoliy Gruzd, Nadia Conroy

#### Live Streaming Services

Minitrack Chairs: Kaja Fietkiewicz, Franziska Zimmer

### DSM 15 PIKAKE 1 THURSDAY, 4:00 - 5:30

**\*View, Play and Pay? - The Relationship between Consumption of Gaming Video Content and Video Game Playing and Buying** | Maria Törhönen, Max Sjöblom, Jukka Vahlo, Juho Hamari

## Mediated Conversation

Minitrack Chairs: Sheizaf Rafaeli, Seth Lewis, Yoram Kalman

### DSM 16 PIKAKE 1 WEDNESDAY, 2:00 - 3:30

**Knowledge Sharing Network in a Community of Illicit Practice: A Cybermarket Subreddit Case** | K. Hazel Kwon, Weiwen Yu, Stephen Kilar, Chun Shao, Kailey Broussard, Thomas Lutes

**Investigating the Impacts of Brand Social Media Posts' Linguistic Styles on Consumer Engagement** | Qi Deng, Michael Hine, Shaobo Ji, Yun Wang

**\*YouTube Children's Videos: Development of a Genre under Algorithm** | John Paolillo, Brian Harper, Clara Boothby, David Axelrod

### DSM 17 PIKAKE 1 WEDNESDAY, 4:00 - 5:30

**Mediated Communication and Customer Service Experiences: Psychological and Demographic Predictors of User Evaluations in the United States** | Kate Mays, James Katz, Jacob Groshek

**Hashtags on Instagram: Self-created or Mediated by Best Practices and Tools?** | Isabelle Dorsch

#### Network Analysis of Digital and Social Media

Minitrack Chairs: Devan Rosen, Kar-Hai Chu, George Barnett

### DSM 18 PIKAKE 1 WEDNESDAY, 10:00 - 11:30

**The Effect of Turnover Intention on Tie Formation in Online Organization Networks** | Wallace Chipidza, John Tripp

**Bucking the Trend: An Agentive Perspective of Managerial Influence on Blog'S Attractiveness** | Carlos Santos, I Castro, Silvia Onoyama, Marina Moreira

**\*Global Contagion of Non-Viral Information** | Alon Bartal, Gilad Ravid, Oren Tsur

**Does Our World "weigh" Less Right Now? The Gravitational Pull in a Scientific Collaboration Network is Getting Weaker with Time** | Guy Kelman, Moshe Levy, Eran Manes

## Social Information Systems

Minitrack Chairs: Rainer Schmidt, Rainer Alt, Selmin Nurcan

### DSM 19 ILIMA 3 WEDNESDAY, 10:00 - 11:30

**\*The Structure of Social Documents** | Susan Williams, Julian Mosen, Petra Schubert

**The Effect of Knowledge Sharing on Open Source Contribution: A Multi-platform Perspective** | Vivek Singh, Saurav Chakraborty, Arjun Kadian

### Social Media Management in Big Data Era

Minitrack Chairs: Xiangbin Yan, Mingxin Gan, Hua Jonathan Ye

### DSM 20 PLUMERIA 3 THURSDAY, 10:00 - 11:30

**A Novel Approach to Predict the Helpfulness of Online Reviews** | Morteza Namvar

**How to Meet the Diverse Needs of Consumers: Big Data Mining based on Online Review** | Wei Gu, Rui Hu, Yanan Song

### Social Networking and Communities

Minitrack Chairs: Dan Suthers, Tonia Sutherland

### DSM 21 ILIMA 3 THURSDAY, 2:00 - 3:30

**\*Quality in Peer Production Systems - Impact of Assortativity of Communication Networks on Group Efficacy**

| Agnieszka Rychwalska, Szymon Talaga, Karolina Ziembowicz

**The Anointed Son, The Hired Gun, and the Chai Wala: Enemies and Insults in Politicians' Tweets in the Run-Up to the 2019 Indian General Elections** | Andre Gonawela, Reeshma Kumar, Udit Thawani, Dina Ahmad, Ramgopal Chandrasekaran, Joyojeet Pal

**Grassroots Campaign in Technology-Enabled Elections: Madurai and Thiruvananthapuram in 2019 Indian Elections** | Drupa Charles, Azhagu Meena, Joyojeet Pal

**Learning with Comments: An Analysis of Comments and Community on Stack Overflow**

| Subhasree Sengupta, Caroline Haythornthwaite

### DSM 22 ILIMA 3 THURSDAY, 4:00 - 5:30

**From Handpress to Handheld: Rare Book and Special Collections Libraries Forming the Libraries of Instagram**

| Jillian Sparks, Kimberley Bell, Alvan Bregman

**Examining Interactions in Social Network Sites through the Lense of Social Capital** | Stephen Musembwa, Souren Paul

**Understanding the Antecedents of Consumer Brand Engagement by Managing Brand Communities on Social Media**

| Kuan-Yu Lin, Travis Huang, Yi-Ting Wang, Yung-Hao Liao

**The Role of Social Media Technologies in Service Innovation: Perceptions of Exceptional-customer-engaged Value Co-creation** | Yao Wu, Jinghua Xiao, Kang Xie

## ES: Electric Energy Systems

Co-Chairs: Thomas Overbye, Linsay Anderson

### Monitoring, Control and Protection (Large Scale Dynamics and Control)

Minitrack Chair: Joseph Eto  
Session Chair: Mani Venkatasubramanian

### ES 1 HALEAKALA 5 WEDNESDAY, 8:00 - 9:30

**\*Statistical Evaluation of New Estimators Used in Forced Oscillation Source Localization** | Jim Follum

**Voltage Control Performance Evaluation Using Synchronphasor Data** | Christoph Lackner, Joe Chow, Felipe Wilches-Bernal, Atena Darvishi

**Timestamp Error Detection and Estimation for PMU Data based on Linear Correlation between Relative Phase Angle and Frequency** | Wenpeng Yu, Wenxuan Yao, Yinfeng Zhao, Yilu Liu

**Batch Measurement Extremum Seeking Control of Distributed Energy Resources to Account for Communication Delays and Information Loss**

| Michael Sankur, Maxime Baudette, Jason MacDonald, Daniel Arnold

**Resilient Networks  
(Testbeds and Synthetic Networks)**

Minitrack Chair: Jeffery Dagle  
Session Chair: Mladen Kezunovic

**ES 2 HALEAKALA 5 WEDNESDAY, 10:00 - 11:30**

**W4IPS: A Web-based Interactive Power System Simulation Environment For Power System Security Analysis**

| Zeyu Mao, Hao Huang, Katherine Davis

**Planning Sensitivities for Building Contingency Robustness and Graph Properties into Large Synthetic Grids** | Adam Birchfield, Thomas Overbye

**Fast, Approximate State Estimation Based Approach for Cyber Threat Detection in Power Systems**

| Abhiroop Chattopadhyay, Sujay Dasgupta, Richard Macwan, Alfonso Valdes, Reynaldo Nuqui, George Gross, Pete Sauer

**Markets, Policy and Computation  
(Electricity Market Design and Policy)**

Minitrack Chair: Shmuel Oren  
Session Chair: Richard Tabors

**ES 3 HALEAKALA 5 WEDNESDAY, 2:00 - 3:30**

**RTO Governance Structures Can Affect Capacity Market Outcomes** | Kyungjin Yoo, Seth Blumsack

**Capacity Markets versus Energy-Only Markets: A Comparison under Increasing Wind Penetration** | Cody Hohl, Chiara Lo Prete

**A Merchant Transmission Approach for Uniform-Price Electricity Markets** | Philipp Staudt, Shmuel Oren

**Integrating Distributed or Renewable Resources  
(Coordination, Communities,  
and Customer Engagement at the Grid's Edge)**

Minitrack Chair: Seth Blumsack  
Session Chair: Ward Jewell

**ES 4 HALEAKALA 5 WEDNESDAY, 4:00 - 5:30**

**Electric Vehicle Charging Decisions Using Only Market Trends with Persistence** | Donlad Hammerstrom, Richard Pratt

**On Accelerated Aging of Mechanical Assets in Distribution Systems with Renewable Generation** | Miroslav M. Begovic, Aaqib Peerzada, Wesam Rohouma, Robert Balog

**Prediction of Solar Radiation Based on Spatial and Temporal Embeddings for Solar Generation Forecast**

| Mohammad Alqudah, Tatjana Djokic, Mladen Kezunovic, Zoran Obradovic

**Markets, Policy and Computation  
(Power Markets Modeling and Analytics)**

Minitrack Chair: Shmuel Oren  
Session Chairs: Masood Parvarnia and Ian Dobson

**ES 5 HALEAKALA 5 THURSDAY, 8:00 - 9:30**

**\*Leader-Follower Equilibria for Power Markets in Presence of Prosumers** | Sepehr Ramyar, Yihsu Chen

**An Efficient Multifidelity Model for Assessing Risk Probabilities in Power Systems under Rare Events** | Yijun Xu, Mert Korkali, Lamine Mili, Xiao Chen

**Exploring a Direct Policy Search Framework for Multiobjective Optimization of a Microgrid Energy Management System** | Amandeep Gupta, Mengwei Liu, David Gold, Patrick Reed, C. Lindsay Anderson

**Potential Impact of Climate Change on the New Zealand Electricity Market** | Golbon Zakeri

## Monitoring, Control and Protection (Distributed Decision and Control)

Minitrack Chair: Joseph Eto  
Session Chair: David Chassin

### ES 6 HALEAKALA 5 THURSDAY, 10:00 - 11:30

**Improving End-Use Load Modeling Using Machine Learning and Smart Meter Data** | Brandon Thayer, Dave Engel, Indrasis Chakraborty, Kevin Schneider, Leslie Ponder, Kevin Fox

**Enhancing the Spatio-Temporal Observability of Residential Loads** | Shanny Lin, Hao Zhu

**\*An Aggregate Model of the Flexible Energy Demand of Thermostatically Controlled Loads with Explicit Outdoor Temperature Dependency** | Kari Hreinsson, Anna Scaglione, Mahnoosh Alizadeh

## Integrating Distributed or Renewable Resources (Grid-Scale Integration)

Minitrack Chair: Seth Blumsack  
Session Chair: Charlie Smith

### ES 7 HALEAKALA 5 THURSDAY, 2:00 - 3:30

**Analytical Method for Energy Storage Sizing and Reliability Assessment for Power Systems with Variable Generation** | Abdullah Alamri, Maad AlOwaifeer, A.P Sakis Meliopoulos

**Co-optimizing High and Low Voltage Systems: Bi-Level vs. Single-Level Approach** | Jialin Liu, Luckny Zephyr, Judith Cardell

**The Impact of Incorporating Wind Energy in the Electric Grid** | Benjamin Carreras, Jose-Miguel Reynolds-Barredo, David Newman, Ian Dobson

**A Study of the Impact of Reduced Inertia in Power Systems** | Urmila Agrawal, James O'Brien, Abhishek Somani, Thomas Mosier, Jeff Dagle

## Resilient Networks (Data Analytics and Decision Support)

Minitrack Chair: Jeffery Dagle  
Session Chair: Le Xie

### ES 8 HALEAKALA 5 THURSDAY, 4:00 - 5:30

**Dynamics-aware Continuous-time Economic Dispatch: A Solution for Optimal Frequency Regulation** | Swaroop Guggilam, Christine Chen, Sairaj Dhople, Masood Parvania, Roohallah Khatami

**Impact of GPS Spoofing on HVDC Modulation** | Mani Venkatasubramanian, Nathan Eastlake

**Communication-free Voltage Regulation in Distribution Networks with Deep PV Penetration** | Rayan El Helou, Dileep Kalathil, Le Xie

## Planning Session

Session Chairs: Thomas Overbye, Linsay Anderson

### ES 9 HALEAKALA 5 FRIDAY, 8:00 - 9:30

## HC: Information Technology in Healthcare

Co-Chairs: William Chismar, Thomas Horan

### Big Data on Healthcare Application

Minitrack Chairs: Kelvin Tsoi,  
Simon Poon, Patrick Hung

#### HC 1 ILIMA 2 FRIDAY, 2:00 - 3:30

**Development of a Machine Learning Based Algorithm To Accurately Detect Schizophrenia based on One-minute EEG Recordings** | Ricardo Buettner, David Beil, Stefanie Scholtz, Adel Djemai

**Configurational Approach to Identify Concept Networks in selected Clinical Safety Incident Classes** | Jaiprakash Gupta, Simon Poon

**Predicting Risk of Hospital Readmission for Comorbidity Patients through a Novel Deep Learning Framework** | M Dashtban, Weizi Li

#### HC 2 ILIMA 2 FRIDAY, 4:00 - 5:30

**High-performance Diagnosis of Sleep Disorders: A Novel, Accurate and Fast Machine Learning Approach Using Electroencephalographic Data** | Ricardo Buettner, Annika Grimmeisen, Anne Gotschlich

**\*Blood Glucose Forecasting using LSTM Variants under the Context of Open Source Artificial Pancreas System** | Tianfeng Wang, Weizi Li, Dana Lewis

**Using Explainable Deep Learning and Logistic Regression to Evaluate Complementary and Integrative Health Treatments in Patients with Musculoskeletal Disorders** | Douglas Redd, Joseph Goulet, Qing Zeng-Treitler

### Blockchain-based Intelligent Data-Management for Healthcare (BID4Health)

Minitrack Chairs: Ali Sunyaev,  
Alevtina Dubovitskaya, Petr Novotny

#### HC 3 MAILE 1 FRIDAY, 2:00 - 3:30

**Beyond Data Markets: Opportunities and Challenges for Distributed Ledger Technology in Genomics** | Scott Thiebes, Niclas Kannengießner, Manuel Schmidt-Kraepelin, Ali Sunyaev

## Data-Driven Smart Health in Asia Pacific

Minitrack Chairs: Feicheng Ma, Long Lu, Jiang Wu

#### HC 4 ILIMA 2 FRIDAY, 8:00 - 9:30

**Examining the Role of Technology Anxiety and Health Anxiety on Elderly Users' Continuance Intention for Mobile Health Services Use** | Fanbo Meng, Xitong Guo, Xiaofei Zhang, Zeyu Peng, Kee-hung Lai

**An Investigation of Social Support Exchange and Communication Patterns among Chinese on Online Discussion Forum** | Xi Wang, Xing Tong, Yushan Zhu, Tianyi Tan, Bowen Zheng

**\*Service Failure and Consumers' Satisfaction with the Healthcare Industry: Moderating Role of Recommendation** | Hao Wang, Shan Liu, Baojun Gao, Jinlong Zhang

**Research and Design of Autism Smart Diagnosis Information System Based on Chinese Children's Facial Expression Data and Deep Convolution Neural Network** | Wang Zhao

#### HC 5 ILIMA 2 FRIDAY, 10:00 - 11:30

**Intermittent Continuance of Smart Health Devices: A Zone-of-Tolerance Perspective** | Xiao-Liang Shen, Yimeng Yang, Yongqiang Sun, Yang-Jun Li

**Design Of ASD Subtyping Approach based on Multi-Omics Data to Promote Personalized Healthcare** | Tao Chen, Peixin Lu, Long Lu

**Cost Optimization Estimation of Medical Institutions in Grading Diagnosis and Treatment based on System Dynamics Model** | Jiang Wu, Yao Yao, Xiao Huang

**Research on the Evolution of Health Information Behavior From a Chinese Perspective** | Nian Ding, Xiao Huang

## Design and Application of Body Sensor Systems in Healthcare

Minitrack Chairs: Peter Chai, Stephanie Carreiro

HC 6 ILIMA 3 WEDNESDAY, 8:00 - 9:30

**\*Respiratory Rate Monitoring in Clinical Environments with a Contactless Ultra-Wideband Impulse Radar-based Sensor System** | Charlotte Goldfine, Md. Farhan Tasnim Oshim, Stephanie Carreiro, Brittany Chapman, Deepak Ganesan, Tauhidur Rahman

**Understanding Academic Engagement and Context Through Multimodal Data** | Runzhi Kong, Xiao Hu, Allan H.K Yuen

### Health Behavior Change Support Systems

Minitrack Chairs: Amanda Blok, Khin Than Win, Harri Oinas-Kukkonen

HC 7 ILIMA 2 WEDNESDAY, 10:00 - 11:30

**\*Building a Digital Platform for Behavioral Intervention Technology Research and Deployment** | Jim Warren, Sarah Hopkins, Andy Leung, Sarah Hetrick, Sally Merry

**The Design of a Digital Behaviour Change Intervention for Third-Level Student Illicit Substance Use: A Persona Building Approach** | Samantha Dick, Ciara Heavin, Vasilis S. Vasilidou, Martin P. Davoren, Samantha Dockray, Conor Linehan, Michael Byrne

**The Exergame Enjoyment Questionnaire (EEQ): An Instrument for Measuring Exergame Enjoyment** | Alexander Fitzgerald, Sam Huang, Kyle Sposato, Dongjie Wang, Mark Claypool, Emmanuel Agu

**The Effects Playing Pokémon GO has on Physical Activity -A Systematic Literature Review** | Samuli Laato, Sonja Hyrynsalmi, Sampsa Rauti, Erkki Sutinen

## Health Information Behavior and Activity Tracking Technology

Minitrack Chairs: Aylin Ilhan, Yuanyuan Feng

HC 8 ILIMA 2 WEDNESDAY, 2:00 - 3:30

**Workplace Health Promotion: Effects of an mHealth Application on Employee Behaviour and Wellness** | Sophie Emerson, Ciara Heavin, Daniel J. Power

**Health Information, Human Factors and Privacy Issues in Mobile Health Applications** | Wagner Silva, Carolina Sacramento, Edenildo Silva, Ana Cristina Garcia, Simone Bacellar Leal Ferreira

**Fitness Tracking Technologies: Data Privacy Doesn't Matter? The (Un)Concerns of Users, Former Users, and Non-Users** | Kaja Fietkiewicz, Aylin Ilhan

### ICT-enabled Self-management of Chronic Diseases and Conditions

Minitrack Chairs: Majid Dadgar, Bahae Samhan, K.D. Joshi

HC 9 ILIMA 2 WEDNESDAY, 8:00 - 9:30

**Systematic Review of Social Networking Support Groups for Genetic-Disorders Pain Management** | Sadaf Ashtari, Joseph Taylor, Glen Lai

**\*Improving the Patient-Physician Dialogue through Health Information Systems (HIS): Misconceptions and Miscommunication** | Sharon Kishik, Sune Müller, Kathrine Stampe

**Games as Systems for Rehabilitation: A Design Strategy for Game-based Exercise Rehabilitation for Parkinson's Disease** | Asli Tece Bayrak, Burkhard Wuensche, Stacey A. Reading, Christof Lutteroth

**Information Technology Innovations  
to Overcome Health Disparities**

Minitrack Chairs: Sajda Qureshi,  
Nilmini Wickramasinghe, Edward Boyer

**HC 10 ILIMA 2 THURSDAY, 10:00 - 11:30**

**A Tablet-Based Memory Enhancement Application for Older Users: Design Approach** | Lua Perimal-Lewis, Anthony Maeder, Susan Gordon, Jennifer Tieman

**\*A Pilot Study of a Telemedicine-based Substance Use Disorder Evaluation to Enhance Access to Treatment Following Near-Fatal Opioid Overdose** | Jeffrey Lai, Brittany Chapman, Stephanie Carreiro, Amy Costigan, Karla Rodriguez Perez, Gerardo Gonzalez, Kavita Babu

**IT Adoption, Diffusion and Evaluation in Healthcare**

Minitrack Chairs: Ton Spil, Arnold Kamis,  
Karoly Bozan, Akshat Kapoor

**HC 11 HALEAKALA 4 WEDNESDAY, 10:00 - 11:30**

**\*Toward a Configurational Protection Motivation Theory** | Yongqiang Sun, Nan Wang, Xiao-Liang Shen

**Predicting Automation of Professional Jobs in Healthcare** | Scott Sampson

**Nurse Usage of HIS to Coordinate Work across Shifts.** | Henrike Konzag, Lars Mathiassen

**Impact of IT Investment on Hospital Performance: A Longitudinal Data Analysis** | Giridhar Reddy Bojja, Jun Liu

**HC 12 HALEAKALA 4 WEDNESDAY, 2:00 - 3:30**

**Towards a Taxonomy for the Development of Older Adults Healthcare Applications** | Ítalo Linhares de Araújo, Evilasio Costa Junior, Paulo Duarte, Ismayle de Sousa Santos, Pedro Almir Martins de Oliveira, Cicero Marcelo Oliveira Mendes, Rossana Maria de Castro Andrade

**Mobile Technology Use in a Multidisciplinary Healthcare Team - Factors and Challenges** | Pamela Spink

**Opportunities for the Implementation of Immersive Virtual Reality in Rehabilitation** | Lucy Bryant, Bronwyn Hemsley, Benjamin Bailey, Andrew Bluff, Vincent Nguyen, Peter Stubbs, Diana Barnett, Chris Jacobs, Cherie Lucas, Emma Power

**HC 13 HALEAKALA 4 WEDNESDAY, 4:00 - 5:30**

**Smart Glasses in Health Care: A Patient Trust Perspective** | Kai Klinker, Manuel Wiesche, Helmut Krcmar

**An Exploration of Trends in Patient Health Data Safety Concerns: Does Heterogeneity Matter?**

| Surma Mukhopadhyay, Ramsankar Basak, Brian Reithel

**Tracking Fitness or Sickness - Combining Technology Acceptance and Privacy Research to Investigate the Actual Adoption of Fitness Trackers** | Riccardo Reith, Christoph Buck, Bettina Lis, Torsten Eymann

**Empirical Evaluation of the Influence of EMR Alignment to Care Processes on Data Completeness** | Caihua Liu, Didar Zowghi, Amir Talaei-Khoei

**IT Architectures and Implementations  
in Healthcare Environments**

Minitrack Chairs: Radmila Juric, Karen Stendal, Sang Suh

**HC 14 HIBISCUS 1 THURSDAY, 8:00 - 9:30**

**Putting Interoperability on Health-information-systems' Implementation Agenda** | Grace Kobusinge

**The Care2Report System: Automated Medical Reporting as an Integrated Solution to Reduce Administrative Burden in Healthcare** | Lientje Maas, Mathan Geurtsen, Florian Nouwt, Stefan Schouten, Robin van de Water, Sandra van Dulmen, Fabiano Dalpiaz, Kees van Deemter, Sjaak Brinkkemper

**\*Targeting Perioperative Performance Aligned to Hospital Strategy via Digital Transformation** | Jim Ryan, Barbara Doster, Sandra Daily, Carmen Lewis

## Optimization of and the Use of IT for Healthcare Processes

Minitrack Chairs: Melanie Reuter-Oppermann,  
Niklas Kühn, Cameron Walker

**HC 15 ILIMA 2 WEDNESDAY, 4:00 - 5:30**

**Maternal Healthcare Service Transformation: Exploring Opportunities for IT Use in Task Shifting** | Hawa Nyende

**Constituting Factors of a Digitally Influenced Relationship between Patients and Primary Care Physicians in Rural Areas** | Marius Müller, Michael Knop, Caroline Rensing, Henrik Freude, Frederike Marie Oschinsky, Hans Christian Klein, Bjoern Niehaves

**Investigating Analytics Dashboards' Support for the Value-based Healthcare Delivery Model** | Mona Isazad Mashinchi, Adegboyega Ojo, Francis J. Sullivan

**Towards a Unified Understanding of Data-Driven Support for Emergency Medical Service Logistics** | Melanie Reuter-Oppermann, Clemens Wolff

## Personal Health and Wellness Management with Technologies

Minitrack Chairs: Freimut Bodendorf,  
Nilmini Wickramasinghe, Tuan Huy Ma

**HC 16 ILIMA 2 THURSDAY, 2:00 - 3:30**

**A Review on Consumer Health Information Technology Research in IS** | Yafang Li, Michelle Carter, Robert E. Crossler

**\*Identifying Quality Factors for Self-Tracking Solutions: A Systematic Literature Review** | Barbara Schiller, Tobias Brogt, J. Peter M. Schuler, Gero Strobel, Stefan Eicker

**Patient Controlled, Privacy Preserving IoT Healthcare Data Sharing Framework** | M.J.M. Chowdhury, A. S. M. Kayes, Paul Watters, Patrick Scolyer-Gray, Alex Ng

**Sharing Personal Health and Fitness Data with Health Insurance Providers: An Empirical Study Considering Trust and Risk** | Aurica Seiferth, Mario Schaarschmidt

**HC 17 ILIMA 2 THURSDAY, 4:00 - 5:30**

**A Precision Post-Operative Wellness Monitoring Solution** | Nilmini Wickramasinghe, Vijay Gehlot, Elliot Sloane, Philip Smart, Jonathan Schaffer

**Objective Measurement of Physician Stress in the Emergency Department Using a Wearable Sensor** | Eric Kaczor, Stephanie Carreiro, Joshua Stapp, Brittany Chapman, Premananda Indic

**Exploring the Possibility of Virtual Reality Exergaming as a Cognitive Screening System** | Alex Shaw, Jude Buckley, Paul Corballis, Christof Lutteroth, Burkhard Wuensche

**A Web-Based Medical Text Simplification Tool** | David Kauchak, Gondy Leroy

## Seniors' Use of Digital Resources

Minitrack Chairs: Heiko Gewalt,  
Doug Vogel, Karoly Bozan

**HC 18 ILIMA 2 THURSDAY, 8:00 - 9:30**

**\*Use of Mobile Health Technologies for Self-tracking Purposes among Seniors: A Comparison to the General Adult Population in Canada** | Mirou Jaana, Guy Pare

**Gatekeepers Rather than Helpless: An Exploratory Investigation of Seniors' Use of Information and Communication Technology in Critical Settings** | Stan Karanasios, Vanessa Cooper, Anouck Adrot, Bernadette Mercieca

**Too old to Shop? A Comparative Analysis of the Engagement of Junior and Senior Customers in Social Commerce** | Alex Wang, Heiko Gewalt, Xiaolin Lin, Catherine Prentice

**HC 19 ILIMA 2 THURSDAY, 10:00 - 11:30**

**Artificial Companions in Stroke Rehabilitation: Likeability, Familiarity and Expectations** | Marylyn Alex, Danielle Lottridge, Burkhard Wuensche

**The Moderating Effect of Different Types of Internet Use on the Relationship between Transitional Aging Changes and Self-esteem of Older Adults** | Gabriel Chun-Hei Lai, Ron Chi-Wai Kwok, Tina Rochelle, Alvin Chung-Man Leung, Yanyan Li, Shanshan Zhang, George Yui-Lam Wong, Angel Lu



## Social Media and Healthcare Technology

Minitrack Chairs: Rochelle Rosen, Beth Bock

HC 20 HIBISCUS 1 THURSDAY, 10:00 - 11:30

**Topical Mining of Malaria Using Social Media. A Text Mining Approach** | James Boit, Omar El-Gayar

**\*Insights into Adolescent Online Conflict through Qualitative Analysis of Online Messages** | Megan L. Ranney, Kyler R. Lehrbach, Nicholas A. Scott, Nicole R. Nugent, Alison Riese, Jeff Huang, Grant Fong, Rochelle Rosen

**Social Media Use and Prevention of HIV and Other Sexually Transmitted Infections among At-Risk College Students in the United States** | Jacob van den Berg, John Barnhart, Benjamin Grin, Don Operario, Philip Chan, Beth Bock

**An Exploratory Study of Social Media Analysis for Rare Diseases Using Machine Learning Algorithms: A Case Study of Trigeminal Neuralgia** | Haadi Mombini, Ruojun Li, Yixin Zhang, Dmitry Korkin, Bengisu Tulu

## Unintended Negative Consequences of IT Implementations in Healthcare

Minitrack Chairs: Virginia Ilie, Sweta Sneha, Paul Witman

HC 21 PLUMERIA 1 FRIDAY, 8:00 - 9:30

**Demigods of Technology Use - How Beating the Overconfidence Bias Can Prevent Medical Errors**

| Frederike Marie Oschinsky, Marius Müller, Bjoern Niehaves

**Points of Failure: A Systematic Review of information-flow using Medication Use Cases** | Rebecca Hermon, Patricia Williams

**\*Measuring Cyber Security Awareness within Groups of Medical Professionals in Poland** | Tomasz Hyla, Luiza Fabisiak

HC 22 PLUMERIA 1 FRIDAY, 10:00 - 11:30

**Creating a Standardized Risk Assessment Framework Library for Healthcare Information Technology** | Suzanna Schmeelk

**The Why of Abandonment: Effects of Team Diversity and Leadership Type on the Disbandment and Stagnation of Online Medical Teams** | Jiaying Li, Hong Wu, Zhaohua Deng

## IN: Internet and the Digital Economy

Co-Chairs: Alan Dennis, Joe Valacich

### Behavioral Economics in the Digital Economy: Digital Nudging and Interface Design

Minitrack Chairs: Markus Weinmann, Christoph Schneider, Jan vom Brocke

IN 1 MAILE 2 WEDNESDAY, 2:00 - 3:30

**Nudging Toward the Herd: Understanding the Multidimensional Role of Perceived Uncertainty** | Ali Vedadi, Timothy Greer

**\*Understanding User Preferences of Digital Privacy Nudges - A Best-Worst Scaling Approach** | Sofia Schöbel, Torben Barev, Andreas Janson, Felix Hupfeld, Jan Marco Leimeister

**Ethical Guidelines for the Construction of Digital Nudges** | Christian Meske, Ireti Amojó

### Crowd-based Platforms

Minitrack Chairs: Yili Kevin Hong, Bin Gu, Ni Nina Huang

IN 2 MAILE 2 THURSDAY, 2:00 - 3:30

**How to Share Prosocial Behavior without Being Considered a Braggart?** | Jane Tan, Lu (Lucy) Yan, Alfonso Pedraza-Martinez

**Professional Connections within Analyst Teams and Forecast Accuracy** | Xianjiao Wu, Hong Hong, Qiang Ye

**How Does Algorithmic Trading Influence Investor Participation in Peer-to-Peer Online Lending Markets?** | Hongchang Wang, Eric Overby

## Electronic Marketing

Minitrack Chairs: Bruce Weinberg, Ajit Kambil, Lenita Davis

### IN 3 MAILE 2 THURSDAY, 4:00 - 5:30

**Mining and Predicting Temporal Patterns in the Quality Evolution of Wikipedia Articles** | Haifeng Zhang, Yuqin Ren, Robert Kraut

**\*Fighting Abuse while Promoting Free Speech: Policies to Reduce Opinion Manipulation in Online Platforms** | Dahae Jeong, Sang Pil Han, Sungho Park, Seok Kee Lee

**Building Governance Capability in Online Communities: A Social Network Perspective** | Mohammed Harysi, Joe Nandhakumar, Bogdan Negoita

### Crowdsourcing and Digital Workforce in the Gig Economy

Minitrack Chairs: Xuefei Nancy Deng, Sara Moussaswi, Joseph Taylor

### IN 4 SILVERSWORD WEDNESDAY, 4:00 - 5:30

**Perceived Organizational Support in the Face of Algorithmic Management: A Conceptual Model** | Nura Jabagi, Anne-Marie Croteau, Luc Audebrand

**\*What Drives the Drivers? A Qualitative Perspective on what Motivates the Crowd Delivery Workforce** | Bjoern Asdecker, Florian Zirkelbach

### Distributed Ledger Technology, The Blockchain

Minitrack Chairs: Isabell Welpel, Liudmila Zavolokina, Helmut Krcmar, Pascal Mehrwald

### IN 5 MAILE 1 FRIDAY, 4:00 - 5:30

**How to Develop a GDPR-Compliant Blockchain Solution for Cross-Organizational Workflow Management: Evidence from the German Asylum Procedure** | Florian Guggenmos, Jannik Lockl, Alexander Rieger, Annette Wenninger, Gilbert Fridgen

**\*Starling: A Blockchain-based System for Coordinated Obstacle Mapping in Dynamic Vehicular Environments** | Daniel Miehle, Andreas Pfurtscheller, Bernd Bruegge

**The Effect of Information Asymmetry on Investment Behavior in Cryptocurrency Market** | Minjung Park, Sangmi Chai

**A Cross-Disciplinary Review of Blockchain Research Trends and Methodologies: Topic Modeling Approach** | Muhammad Nauman Shahid

\* Best Paper Nomination

### IN 6 MAILE 2 THURSDAY, 10:00 - 11:30

**The Effect of Promotion Integration Strategy on Sales Performance in the Context of Multiple Platforms: Considering the Moderating Effect of Platform's Market Demand** | Jie Fang, Hefu Liu

**\*The Champion of Images: Understanding the Role of Images in the Decision-Making Process of Online Hotel Bookings** | Gijs Overgoor, William Rand, Willemijn van Dolen

**Why Another Customer Channel? Consumers' Perceived Benefits and Costs of Voice Commerce** | Christine Rzepka, Benedikt Berger, Thomas Hess

**Consumer Engagement with Brand Posts on Social Media: Current State and Research Agenda** | Qi Deng, Michael Hine, Shaobo Ji, Yun Wang

### End-user Empowerment in the Digital Age

Minitrack Chairs: Rainer Alt, Gustaf Neumann, Soheil Human

### IN 7 PIKAKE 3 FRIDAY, 8:00 - 9:30

**End-user Empowerment: An Interdisciplinary Perspective** | Rita Gsenger, Soheil Human, Gustaf Neumann

**(In)escapable Affect? Exploring Factors Influencing Privacy-Related Behavioral Intentions** | Agnieszka Kitkowska, Erik Wästlund, Leonardo A. Martucci

**Design Principles for Digital Community Currencies** | Friedrich Chasin, Florian Schmolke, Jörg Becker

## **Firm and User Generated Content in the Digital Economy: Key Players, Management and Impact**

Minitrack Chairs: Michael Klaas, Bettina Beurer-Züllig

**IN 8 HIBISCUS 1 THURSDAY, 4:00 - 5:30**

**Consumers' Need for Negative Product Information Before Reading Reviews** | Stefan Hirschmeier, Roman Tilly

**\*When More is More and Less is More: Depth and Breadth of Product Reviews and Their Effects on Review Helpfulness** | Jaebong Son, Arash Negahban, Youngsu Lee, James Connolly, Dalen Chiang

**Perceived Firm Attributes, Social Identification, and Intrinsic Motivation to Voice in Brand Virtual Communities: Differentiating Brand-General and Innovation-Specific Perceptions** | Yongqiang Sun, Cailian Zhao, Xiao-Liang Shen, Nan Wang

### **Human-Computer Interaction in the Digital Economy**

Minitrack Chairs: Christoph Schneider, Joe Valacich, Jeffrey Jenkins

**IN 9 MAILE 2 WEDNESDAY, 8:00 - 9:30**

**Harder and Smoother on Touchscreens? How Interaction Mode Affects Consumer Product Judgment** | Yang Liu, Zhenhui Jiang

**Data Collection Interfaces in Online Communities: The Impact of Data Structuredness and Nature of Shared Content on Perceived Information Quality** | Mahed Maddah, Roman Lukyanenko, Debra VanderMeer, Binny Samuel

**PDF Accessibility of Research Papers: What Tools are Needed for Assessment and Remediation?** | Aravind Jembu Rajkumar, Jonathan Lazar, J. Bern Jordan, Alireza Darvishy, Hans-Peter Hutter

**IN 10 MAILE 2 WEDNESDAY, 10:00 - 11:30**

**The Effects of Ex Ante Informational Social Influence on Web Interface Design Ratings** | Daniel Soper

**The Polite Pop-Up: An Experimental Study of Pop-Up Design Characteristics and User Experience** | Sara Willermark, Anna Sigríður Ísland

**Panel Discussion - Grand Challenges for HCI Research in 2020 and Beyond**

## **Innovative Behavioral IS Security and Privacy Research**

Minitrack Chairs: Merrill Warkentin, Allen Johnston, Anthony Vance

**IN 11 MAILE 1 WEDNESDAY, 10:00 - 11:30**

**Having Two Conflicting Goals in Mind: The Tension Between IS Security and Privacy when Avoiding Threats** | Christian Olt, Amina Wagner

**The Effect of Privacy Policies on Information Sharing Behavior on Social Networks: A Systematic Literature Review** | Damion Mitchell, Omar El-Gayar

**Low Effort and Privacy - How Textual Priming Affects Privacy Concerns of Email Service Users** | Christoph Buck, Tamara Dinev

**IN 12 MAILE 1 WEDNESDAY, 2:00 - 3:30**

**Understanding the Role of Incentives in Security Behavior** | Sanjay Goel, Kevin Williams, Jingyi Huang, Merrill Warkentin

**Post Data Breach Use of Protective Technologies: An Examination of Users' Dilemma** | Emmanuel Ayaburi, Francis Andoh-Baidoo, Jae Ung Lee

**"Information Security Is Not Really My Job": Exploring Information Security Role Identity in End-Users** | Obi Ogbanufe

**IN 13 MAILE 1 WEDNESDAY, 4:00 - 5:30**

**Can Trust be Trusted in Cybersecurity?** | Daniel Pienta, Stefan Tams, Jason Thatcher

**\*Taking It Out on IT: A Mechanistic Model of Abusive Supervision and Computer Abuse** | Alaa Nehme, Joey George

**Defending Organizational Assets: A Preliminary Framework for Cybersecurity Success and Knowledge Alignment** | Mark Clark, J. Espinosa, William DeLone

## Making Digital Transformation Real

Minitrack Chairs: Elaine Mosconi,  
Luis Antonio de Santa-Eulalia, Sven Packmohr

IN 14 MAILE 2 FRIDAY, 8:00 - 9:30

**Orchestrating the Digital Transformation Process through a 'Strategy-as-Practice' Lens: A Revelatory Case Study** | Claudia Pelletier, Louis Raymond

**Implementing Scaled-Agile Frameworks at Non-Digital Born Companies - A Multiple Case Study** | Florian Schuch, Daniel Gerster, Daniel Hein, Alexander Benlian

**Competences for Digital Transformation: Insights from the Norwegian Energy Sector** | Karen Osmundsen

**\*Cycles of Innovation and Alignment in Digital Transformation: Investigating the Dynamics of Resource Recombination in a Construction Firm** | Oscar Lundberg, Johan Sandberg, Daniel Nylén

IN 15 MAILE 2 FRIDAY, 10:00 - 11:30

**Digital Transformation: The Interplay of Explorative and Exploitative Capability Development** | Shan Gao, Esko Hakanen, Risto Rajala

**Can Digital Engagement Transform the Performing Arts?** | Vince Ford, Munir Mandviwalla

**Determining Digital Transformation Success Factors** | Resego Morakanyane, Philip O'Reilly, John Mcavoy, Audrey Grace

### Privacy and Economics

Minitrack Chairs: Knud Erik Skouby,  
Lene Sørensen, Samant Khajuria

IN 16 PIKAKE 3 FRIDAY, 10:00 - 11:30

**An Inventory of International Privacy Principles: A 14 Country Analysis** | Mary Francis, Quentin Covert, Dustin Steinhagen, Kevin Streff

**\*Towards a Triad for Data Privacy** | Quentin Covert, Dustin Steinhagen, Mary Francis, Kevin Streff

**Privacy Concerns Regarding Wearable IoT Devices: How it is Influenced by GDPR?** | Chinju Paul, Kevin Scheibe, Sree Nilakanta

**The Impact on Multi Business Model Innovation Related to GDPR Regulation** | Peter Lindgren

\* Best Paper Nomination

## Social Shopping: The Good, the Bad, and the Ugly

Minitrack Chairs: Gabrielle Peko,  
Valeria Sadovykh, David Sundaram

IN 17 HIBISCUS 1 FRIDAY, 4:00 - 5:30

**How Does the Power of Crowdvoting Affect Purchase Decisions? Effects of Majority and Minority Influence in Online Rating Systems** | Chi-Wen Chen

**Double Deep Features for Apparel Recommendation System** | Yichi Lu, Yufeng Duan, Ryosuke Saga

**\*Understanding User Participation and Interaction in Online Shopping Communities from the Social and Relational Perspectives** | Yu Xu, Michael Lee

### The Diffusion, Impacts, Adoption and Usage of ICTs upon Society

Minitrack Chairs: Jyoti Choudrie,  
Sherah Kurnia, David Sundaram

IN 18 PIKAKE 3 WEDNESDAY, 8:00 - 9:30

**Gender Stereotyping's Influence on the Perceived Competence of Siri and Co.** | Claus-Peter Ernst, Nils Herm-Stapelberg

**Explaining Multidimensional Facebook Benefits: A Task-Technology Fit Approach** | Edgardo Bravo, Hugo Bayona

**Exploring the Relationship between IT Infrastructure and Income Inequality through Diffusion of Innovations Theory** | David Kocsis

**Self-Regulation, Mind Wandering, and Cognitive Absorption During Technology Use** | Yulia Sullivan, Fred Davis

IN 19 PIKAKE 3 WEDNESDAY, 10:00 - 11:30

**An Approach to Building ICT Capabilities in Nonprofits** | Mehruz Kamal

**Probing Athletes' Perceptions Towards Electronic Judging Systems - A Case Study in Gymnastics** | Elena Mazurova, Esko Penttinen

**Investigating the Use, Adoption and Diffusion of Online Social Network Adoption (Facebook vs Twitter), within the Older Adult Population (50+) in Hertfordshire UK** | Chikelue Chike-Obuekwe, Jyoti Choudrie, Amaka Nwanekezie, David Sundaram, Gabrielle Peko

## The Digital Supply Chain of the Future: Applications, Implications, Business Models

Minitrack Chairs: Alexander Pflaum, Günter Prockl, Freimut Bodendorf, Haozhe Chen

**IN 20 MAILE 1 THURSDAY, 8:00 - 9:30**

**Impact of Additive Manufacturing on Supply Chain Complexity** | Siavash Haghighat Khajavi, Inigo Flores Ituarte, Alireza Jaribion, Jia An, Chua Chee Kai, Jan Holmstrom

**Identifying Business Potentials of Additive Manufacturing as Part of Digital Value Creation in SMEs - An Explorative Case Study** | Simon Hiller, Patrick Weber, Hendrik Rust, Heiner Lasi

**\*The Foundation of Distributed Ledger Technology for Supply Chain Management** | Dominik Roeck

**IN 21 MAILE 1 THURSDAY, 10:00 - 11:30**

**Autonomous Trucks: A Supply Chain Adoption Perspective** | Henrik Steen Sternberg, Haozhe Chen, Erik Hofmann, Günter Prockl

**Digitalization of Supply Chains: Focus on International Rail Transport in the Case of the Czech Republic** | Petr Kolar, Hans-Joachim Schramm, Günter Prockl

**Behind the Blackbox of Digital Business Models** | Mashood Ahmad, Tim Botzkowski, Christoph Klötzer, Marcel Papert

### The Internet of Everything

Minitrack Chairs: Jan Kietzmann, Leyland Pitt, Constantine Katsikeas

**IN 22 ILIMA 3 THURSDAY, 8:00 - 9:30**

**\*Wearables as Augmentation Means: Conceptual Definition, Pathways, and Research Framework** | Abdul Sesay, Jacob Steffen

**Unlashing the Next Wave of Business Models in the Internet of Things Era: New Directions for a Research Agenda based on a Systematic Literature Review** | Mirheta Omerovic, Nihal Islam, Peter Buxmann

**Panel Discussion - Exploring Emerging IoE Perspectives** | Melissa Akaka, Jeremy De Beer, Hope Schau, Pierre Berthon, David Castle

## Transforming Traditional Production Systems into Smart Production Systems

Minitrack Chairs: Ole Madsen, Ulrich Berger, Volker Krueger, Sergio Cavalieri

**IN 23 MAILE 1 THURSDAY, 2:00 - 3:30**

**Digital Transformation Strategies for Achieving Operational Excellence: a Cross-Country Evaluation** | Michele Colli, Sergio Cavalieri, Chiara Cimini, Ole Madsen, Brian Vejrum Wæhrens

**Train-the-Trainer Concept for the "Industrie 4.0-CheckUp"** | Sebastian Haebeler, Fabian Behrendt

**Transformation towards Human Workforce 4.0 through the Qualification Model LTA-FIT** | Grit Rehe, Robert Schneider, Denny Thimm

**IN 24 MAILE 1 THURSDAY, 4:00 - 5:30**

**Creation of an Experimental Engineering Toolbox for the Digital Transformation of Manual Jet Engine Assembly** | Konstantinos Spanoudakis, Fabian Jonen, Carsten Wedemeyer

**\*Advances in Automated Generation of Convolutional Neural Networks from Synthetic Data in Industrial Environments** | Jan Hodapp, Markus Schiemann, Claudio Salvatore Arcidiacono, Matthias Reichenbach, Vadym Bilous

## KS: Knowledge Innovation and Entrepreneurial Systems

Co-Chairs: Murray Jennex, Dave Croasdell

### 2020 Vision of Crowd Science

Minitrack Chairs: Jan Kietzmann, Kerstin Heilgenberg, Jeannette Paschen

**KS 1 ILIMA 1 WEDNESDAY, 2:00 - 3:30**

**\*Theoretical Underpinnings and Practical Challenges of Crowdsourcing as a Mechanism for Academic Study** | António Correia, Shoaib Jameel, Daniel Schneider, Benjamim Fonseca, Hugo Paredes

**Citizen Science in Information Systems Research: Evidence From a Systematic Literature Review** | Juho-Pekka Mäkipää, Duong Dang, Teemu Mäenpää, Tomi Pasanen

## Culture, International Business, and Knowledge Systems

Minitrack Chairs: Mika Gabrielsson,  
Minna Rollins, Arto Ojala

**KS 2 ILIMA 1 FRIDAY, 10:00 - 11:30**

**The Internationalization of B2B Digital Platform Providers: The Role of Cross-National Distance and Digital Characteristics** | Arto Ojala, Minna Rollins, Sara Fraccastoro, Mika Gabrielsson

### Design and Appropriation of Knowledge and AI Systems

Minitrack Chairs: Stefan Smolnik,  
Pierre Hadaaya, W. David Holford

**KS 3 ILIMA 1 FRIDAY, 8:00 - 9:30**

**Inspired by Emotions, Guided by Knowledge: Which Emotional Cues Dominate Knowledge Management Research?** | Olivia Hornung, Nora Fteimi, Stefan Smolnik

**\*Facing the Artificial: Understanding Affinity, Trustworthiness, and Preference for More Realistic Digital Humans**

| Mike Seymour, Lingyao Yuan, Alan Dennis, Kai Riemer

### Illuminating the Dark Side of Knowledge

Minitrack Chairs: Jan Kietzmann,  
Ian McCarthy, David Hannah

**KS 4 ILIMA 1 WEDNESDAY, 2:00 - 3:30**

**Counterbalancing the Asymmetric Information Paradigm on High-Value Low-Frequency Transactions** | Mark Hoksbergen, Johnny Chan, Gabrielle Peko, David Sundaram

**\*Dishing the Deets: How Dark-Web Users Teach each other about International Drug Shipments** | Reagan Smith, Richard Frank

## Innovation and Entrepreneurship Theory and Practice

Minitrack Chairs: Katia Passerini,  
Michael Bartolacci, Cesar Bandera

**KS 5 ILIMA 1 THURSDAY, 8:00 - 9:30**

**Measuring the Effectiveness of Entrepreneurship Education** | Haibin Liu, Sadan Kulturel-Konak, Abdullah Konak

**\*The Role of IT in Innovation at the Organizational Level - A Literature Review** | Stanislav Mamonov, Richard Peterson

**Giving and Taking in Online Communities of Practice: The Role of Geography and Culture in Knowledge Sharing and Innovation** | Katia Passerini, Babajide Osatuyi, Walker Stipe

**Let the Games Begin: Finding The Nascent Entrepreneurial Mindset of Video Gamers** | Stephanie Scott, Thomas Niemand, Sasha Kraus, Raphael Oberreiner

**KS 6 ILIMA 1 THURSDAY, 10:00 - 11:30**

**Dynamic Capability, Ambidexterity, Social Network-- Empirical Evidence from SMEs in China** | Dave Croasdell, Xin He, Xia Wu, Yanhai Zhai

**Business Model Adaptation: Evidence of Lean Experimentation in Digital Startups** | Antonio Ghezzi, Silvia Sanasi, Angelo Cavallo

**How to Design a Successful Digital Product? An Analytic Hierarchy Process (AHP) Analysis of Expert Opinions from the Berlin Start-up Scene** | Muhammad Yusuf Azka, Stanislav Chankov

**Explaining Women's Level of Involvement in Nascent Entrepreneurial Activities -The Non-linear Role of R&D Investments in Different OECD Countries** | Adnane Maalaoui, Brahim Gaies

### **Innovation in Organizations: Learning, Unlearning, and Intentional Forgetting**

Minitrack Chairs: Julee Hafner, Christof Thim, Norbert Gronau

**KS 7 ILIMA 1 WEDNESDAY, 4:00 - 5:30**

**Role Assignment Adaptation: An Intentional Forgetting Approach** | Ingo J. Timm, Lukas Reuter, Jan Ole Berndt

**Retentivity Beats prior Knowledge as Predictor for the Acquisition and Adaptation of New Production Processes** | Jennifer Haase, Julia Matthiesen, Arnulf Schueffler, Annette Kluge

**How Large Manufacturing Firms Understand the Impact of Digitization: A Learning Perspective** | Stefan Thalmann, Angela Fessl, Viktoria Pammer-Schindler

### **Knowledge and Innovation Management: Connecting Theory to Practice to Business Performance**

Minitrack Chairs: Marianne Gloet, Danny Samson, Niharika Garud

**KS 8 ILIMA 1 THURSDAY, 2:00 - 3:30**

**\*Why Enjoying Your Fun Matters: The Role of Participation in Fun Activities, Positive Affect, and Citizenship Pressure on Knowledge Management Behaviors** | Jessica Good, Michael Halinski, Janet Boekhorst

**Research on the Impact of Business Strategy on Knowledge-transfer Merger and Acquisition with Innovation Level as the Mediator Variable** | Rongying Zhao, Zhuozhu Liu, Yibei Cai, Zhaoyang Zhang

**Supporting Supply Chain Innovation and Sustainability Practices through Knowledge and Innovation Management** | Marianne Gloet, Daniel Samson

### **Knowledge Flow, Transfer, Sharing, and Exchange**

Minitrack Chairs: Liana Razmerita, Mark Nissen, Lynne Cooper

**KS 9 ILIMA 1 WEDNESDAY, 8:00 - 9:30**

**Designing Knowledge Management System for Supporting Craftsmen's Collaboration beyond Temporal Boundaries** | Mika Yasuoka

**Understanding the Impact of Knowledge Sharing through Enterprise Social Networking (ESN) on Service Innovation** | Naseem Rahman

**Control vs Freedom: How Companies Manage Knowledge Sharing with Open Source Software Communities** | Juliane Wissel, Michael Zaggl, Aron Lindberg

**Psychology of Business Intelligence Tools: Needs-Affordances-Features Perspective** | Kaveh Abhari, Alessandro Vomero, Elizabeth Davidson

**KS 10 ILIMA 1 WEDNESDAY, 10:00 - 11:30**

**Extending a System for Measuring Dynamic Knowledge: Reconsidering Knowledge Flow Efficiency for Decision Support** | Mark Nissen

**\*An Automatic Ontology Generation Framework with An Organizational Perspective** | Samaa Elnagar, Victoria Yoon, Manoj Thomas

**The Effect of Implementing an SMS Messaging System to Overcome the Lack of Transmission of HPV Facts in Saudi Arabia** | Hind Bitar, Terry Ryan, Sarah Alismail

### **Reports from the Field: Knowledge and Learning Applications in Practice**

Minitrack Chairs: Julee Hafner, Alexander Kaiser

**KS 11 ILIMA 1 FRIDAY, 10:00 - 11:30**

**Why People Adopt Vr English Language Learning Systems: An Extended Perspective Of Task-Technology Fit** | Kuan-YU Lin, Yi-Ting Wang, Travis Huang

**Introducing an Artifact for the Assessment of Transversal Professional Competences** | Florian Fahrenbach, Alexander Kaiser, Andreas Schneider

## Security in Knowledge Systems and Knowledge Management

Minitrack Chairs: Alexandra, Durcikova, Murray Jennex

**KS 12 ILIMA 1 FRIDAY, 2:00 - 3:30**

**Why Should We Investigate Knowledge Risks Incidents? - Lessons from Four Cases.** | Stefan Thalmann, Ilona Ilvonen

**Knowledge Systems and Risk Management: Towards a Risk and Threat Assessment Framework** | Murray Jennex, Alexandra Durcikova

## The Technical, Socio-Economic and Ethical Aspects of AI

Minitrack Chairs: Yibai Li, Xuefei Nancy Deng, Yichuan Wang

**KS 13 ILIMA 1 FRIDAY, 8:00 - 9:30**

**Understanding the Adoption Intention of AI through the Ethics Lens** | Ohbyung Kwon, Sujin Bae, Bongsik Shin

**Toward an Understanding of Responsible Artificial Intelligence Practices** | Yichuan Wang, Mengran Xiong, Hossein Olya

## Value, Success and Performance Measurements of Knowledge, Innovation and Entrepreneurial Systems

Minitrack Chairs: Murray Jennex, Stefan Smolnik, David Croasdell

**KS 14 ILIMA 1 THURSDAY, 4:00 - 5:30**

**Developing Intellectual Capital in Professional Service Firms Using High Performance Work Practices as Toolkit** | Junaid Rehman, Igor Hawryszkiewicz, Osama Sohaib, Altaf Soomro

**\*How to Manage Crowdfunded Projects: Empirical Evidence from a Comparative Study of Game Development Projects** | Shahla Ghobadi

**Knowledge Unchained or Strategically Overseen? Knowledge Management in Open Source Software Projects** | Stefan Riembaauer, Olivia Hornung, Stefan Smolnik

## Panel Discussion - Future of the Knowledge Innovation and Entrepreneurial Systems Track

Session Chairs: Murray Jennex, David Croasdell

**KS 15 ILIMA 1 FRIDAY, 4:00 - 5:30**

## OS: Organizational Systems and Technology

Co-Chairs: Hugh Watson, Dorothy Leidner

### Advances in Design Science Research

Minitrack Chairs: Tuure Tuunanen, Richard Baskerville, Matti Rossi

**OS 1 HALEAKALA 3 THURSDAY, 10:00 - 11:30**

**\*15 Years of Information System Design Science Research: A Bibliographic Analysis** | Amandine Pascal, Alexandre Renaud

**This Paper Is an Artefact: On Open Science Practices in Design Science Research Using Registered Reports** | Cathal Doyle, Markus Luczak-Roesch

**Workshops as a Research Method: Guidelines for Designing and Evaluating Artifacts Through Workshops** | Katja Thoring, Roland Mueller, Petra Badke-Schaub

**OS 2 HALEAKALA 3 THURSDAY, 2:00 - 3:30**

**Elaborating Research Questions Along The Writing-as-Inquiry Model** | Jeremias Perez Contell, Oscar Diaz

**Criteria as a Prelude for Guiding Taxonomy Evaluation** | Daniel Szopinski, Thorsten Schoormann, Dennis Kundisch



**OS 3 HALEAKALA 3 THURSDAY, 4:00 - 5:30**

**An e-ADR (elaborated Action Design Research) Approach Towards Game-based Learning in Cybersecurity Incident Detection and Handling** | Dixon Prem Daniel Rajendran, Sundarraj Rangaraja P

**The Design of Personal Privacy and Security Risk Scores for Minimizing Consumers' Cognitive Gaps in IoT Settings** | Daeun Choi, Paul Lowry, Alan Wang

**\*Strategic Design Towards Platform Collaboration in The Newspaper Industry: A Design Science Research Study** | Erol Kazan, Tuure Tuunanen, Mengcheng Li, Hadi Ghanbari, Sanja Tumbas

**Advances in Research on Trust, Trusted Systems, and Digital Technologies**

Minitrack Chairs: Sirkka Jarvenpaa, Mareike Möhlmann, Kirsimarja Blomqvist

**OS 4 PLUMERIA 2 FRIDAY, 2:00 - 3:30**

**"Do you still trust me?" Effects of Personality on Changes in Trust during an Experimental Task with a Human or Robot Partner** | Anthony Gibson, Gene Alarcon, Sarah Jessup, August Capiola

**Understanding Organizational Stakeholder Trust Expectations for AI-Based Services** | Kirsimarja Blomqvist, Lisa van der Werff

**Takeaway Trust: A Market Data Perspective on Reputation Portability in Electronic Commerce** | Maik Hesse, Timm Teubner

**OS 5 PLUMERIA 2 FRIDAY, 4:00 - 5:30**

**Same Same But Different? A Two-Foci Perspective on Trust in Information Systems** | Matthias Söllner

**Understanding the Platform Economy: Signals, Trust, and Social Interaction** | Maik Hesse, David Dann, Fabian Braesemann, Timm Teubner

**Confirmatory Influence of Trust in E-commerce: A Data Collection Bias and Suggestion** | Obi Ogbanufe, Dan Kim

**AI and Organizing**

Minitrack Chairs: Aron Lindberg, Jeff Nickerson, Stefan Seidel

**OS 6 HIBISCUS 2 WEDNESDAY, 2:00 - 3:30**

**Algorithmic Food - How "Software is Eating the World"**

| Lauri Paavola, Kathrin Sele

**Assessing the Business Impact of Artificial Intelligence**

| Christian Dietzmann, Rainer Alt

**\*Conversational Agents - Exploring Generative Mechanisms and Second-hand Effects of Actualized Technology Affordances** | Lena Waizenegger, Isabella Seeber, Gregory Dawson, Kevin Desouza

**AI and Sustainability:**

**The Use of AI in Sustainability Initiatives**

Minitrack Chairs: Eunika Mercier-Laurent, Janusz Wojtusiak, Cindi Punihaole

**OS 7 HIBISCUS 2 WEDNESDAY, 4:00 - 5:30**

**Improving Wildlife Monitoring using a Multi-criteria Cooperative Target Observation Approach**

| Sai Krishna Munnangi, Praveen Paruchuri

**How Artificial Intelligence Improves Agricultural Productivity and Sustainability: A Global Thematic Analysis** | Vijaya Lakshmi, Jacqueline Corbett

**Analyzing the Impact of Digitization on Business Operations**

Minitrack Chairs: Abraham Seidmann, Yabing Jiang, Jie Zhang

**OS 8 PLUMERIA 3 FRIDAY, 8:00 - 9:30**

**Digitization in B2B Buying and Selling** | Nils Van den Steen, Amit Basu, Steve Muylle, Willem Standaert

**\*Identification of Institutional Characteristics that May Drive (Avoidable) Hospitalization of Nursing Home Residents** | Zhe Hong, Abraham Seidmann

**The Impact of Digital Technology on Network Value Co-creation** | Sarah Hönigsberg, Barbara Dinter, Hendrik Wache

**OS 9 PLUMERIA 3 FRIDAY, 10:00 - 11:30**

**Minimizing Response Time of IoT-Based Traffic Information System through Decentralized Server System** | Maryam Hassanlou, Yi Sun, Fang Fang

**Predicting Students' College Drop Out and Departure Decisions by Analyzing their Campus-Based Social Network Text Messages** | Rebecca Allen, Alex Nakonechnyi, Abraham Seidmann, Jacqueline Roberts

**Artificial Intelligence and Big Data Analytics Management, Governance, and Compliance**

Minitrack Chairs: Michael Goul, Jeffrey Saltz, Anna Sidorova

**OS 10 HIBISCUS 2 WEDNESDAY, 4:00 - 5:30**

**\*Artificial Intelligence Regulation: A Meta-Framework for Formulation and Governance** | Patricia Almeida, Carlos Santos, Josivania Silva Farias

**Preventing Algorithmic Bias in the Development of Algorithmic Decision-Making Systems: A Delphi Study** | Banu Aysolmaz, Deniz Iren, Nancy Dau

**Blockchain Cases and Innovations**

Minitrack Chairs: Paulo Rupino da Cunha, Marinos Themistocleous, Klitos Christodoulou

**OS 11 MAILE 1 FRIDAY, 10:00 - 11:30**

**Formal Verification of Functional Requirements for Smart Contract Compositions in Supply Chain Management Systems** | Sarra Alqahtani, Xinchu He, Rose Gamble, Papa Mauricio

**Distributed Ledger Technology for the systematic Investigation and Reduction of Information Asymmetry in Collaborative Networks** | Markus Schinle, Christina Erler, Wilhelm Stork

**Bridges Between Islands: Cross-Chain Technology for Distributed Ledger Technology** | Niclas Kannengießer, Michelle Pfister, Malte Greulich, Sebastian Lins, Ali Sunyaev

**Hot or Cold . . . How Ready are Third Party Logistics Cold Storage Companies to Implement Blockchain?** | Anna Johnson, Denise McCurdy, Daphne Schechter, Karen Loch

**OS 12 MAILE 1 FRIDAY, 2:00 - 3:30**

**Blockchain Technology as a Means for Brand Trust Repair - Empirical Evidence from a Digital Transgression** | Martin Fleischmann, Bjoern S. Ivens, Bhaskar Krishnamachari

**\*Beyond a Blockchain Paradox: How Intermediaries Can Leverage a Disintermediation Technology** | Nico Abbaternarco, Leonardo Maria De Rossi, Aakanksha Gaur, Gianluca Salviotti

**Blockchain in Academia: Where do we stand and where do we go?** | Marinos Themistocleous, Klitos Christodoulou, Elias Iosif, Soulla Louca, Demetrios Tseas

**Business Intelligence, Business Analytics and Big Data: Innovation, Deployment, and Management**

Minitrack Chairs: Olivera Marjanovic, Barbara Dinter, Thilini Ariyachandra

**OS 13 PLUMERIA 2 THURSDAY, 10:00 - 11:30**

**A Capability Approach for Designing Business Intelligence and Analytics Architectures** | Julian Ereth, Henning Baars

**Patterns of Resource Integration in the Self-service Approach to Business Analytics** | Imad Bani-hani, Olgerta Tona, Sven Carlsson

**OS 14 PLUMERIA 2 THURSDAY, 2:00 - 3:30**

**\*Visualizing Social Documents as Traces of Collaborative Activity in Enterprise Collaboration Platforms** | Julian Mosen, Susan Williams, Petra Schubert

**Data-driven Business Models in Logistics: A Taxonomy of Optimization and Visibility Services** | Frederik Möller, Maleen Stachon, Christina Hoffmann, Henrik Bauhaus, Boris Otto

**Mastering Omni-Channel Retailing Challenges with Industry 4.0 Concepts** | Dustin Janhofer, Benjamin Barann, Ann-Kristin Cordes, Jörg Becker

**Understanding Challenges and Success Factors in Creating a Data-Driven Culture** | Myrthe Storm, Hans Borgman

## Data Analytics, Control Systems, Business Risks

Minitrack Chairs: Jee-Hae Lim, Tu Xu

**OS 15 HIBISCUS 2 FRIDAY, 4:00 - 5:30**

**Unstructured Data for Cybersecurity and Internal Control** | Jesús Canelón, Esperanza Huerta, Norma Leal, Terry Ryan

**Autoencoder Neural Networks versus External Auditors: Detecting Unusual Journal Entries in Financial Statement Audits** | Martin Schultz, Marina Tropmann-Frick

### Designing for Digital

Minitrack Chairs: Ales Popovic, Matej Cerne, Sut I Wong

**OS 16 PLUMERIA 1 FRIDAY, 10:00 - 11:30**

**\*How Autonomy is Used in Information Systems Research: Status Quo and Prospective Opportunities** | Sebastian Weber, Michael Klesel, Frederike Marie Oschinsky, Bjoern Niehaves

**MFA is A Necessary Chore!: Exploring User Mental Models of Multi-Factor Authentication Technologies** | Sanchari Das, Bingxing Wang, Andrew Kim, L. Jean Camp

### Digital Innovation

Minitrack Chairs: Nicholas Berente, Kalle Lyytinen, Youngjin Yoo

**OS 17 PLUMERIA 2 WEDNESDAY, 8:00 - 9:30**

**The Digital Twin - Birth of an Integrated System in the Digital Age** | Hendrik Wache, Barbara Dinter

**Platform Evolution: A Study of TripAdvisor** | Cristina Alaimo, Jannis Kallinikos, Erika Valderrama-Venegas

**It Depends on the Size: How Firm Strategic Emphasis on Digital Transformation Predicts Market Capitalization** | Anna Moker, Prisca Brosi, Isabell Welpe

**OS 18 PLUMERIA 2 WEDNESDAY, 10:00 - 11:30**

**Digital Disruption: A Conceptual Clarification**

| Abayomi Baiyere, Philipp Hukal

**Using Process Mining to Support Theorizing About Change in Organizations** | Thomas Grisold, Bastian Wurm, Jan Mendling, Jan vom Brocke

## Enterprise Ecosystem: Integrating Systems Within and Between Organizations

Minitrack Chairs: Pamela Schmidt, Marinos Themistocleous, Ronald Freeze

**OS 19 HIBISCUS 2 THURSDAY, 10:00 - 11:30**

**Does Virtualization Capability Maturity Influence Information Systems Development Performance? Theorizing The Non-Linear Payoffs** | Rohit Nishant, Shirish C. Srivastava, Bouchaib Bahli

**What Microservices Can Learn From Enterprise Information Integration** | Georg-Daniel Schwarz, Dirk Riehle

**How Do Enterprise Software Providers Adapt their Strategies to the Cloud? An Analysis through Sap Hana Journey based on the Evolution of Sap'S Discourse (2010-2018)** | Lise Arena, Lapo Mola, Nicolas Remond, Frantz Rowe

### Integration to Digital Platforms and Infrastructures

Minitrack Chairs: Kari Smolander, Matti Rossi, Samuli Pekkola

**OS 20 HIBISCUS 2 THURSDAY, 8:00 - 9:30**

**\*A Model of Two-Zoned Networks for Platform-Mediated Markets: Theory and Practical Applications** | Zirui Li, Benjamin Shao, Michael Goul

**Seeking Competitive Advantage Through Platform-Enabled Resources: The Case of Food Delivery Platforms** | Joaquin Rodriguez, Gabriele Piccoli

**Collaboration Drivers and Breakdowns in Large Scale Software Customization** | Samuli Pekkola, Kari Smolander, Matti Rossi

## IT Governance and its Mechanisms

Minitrack Chairs: Steven De Haes, Wim Van Grembergen

**OS 21 HIBISCUS 1 FRIDAY, 8:00 - 9:30**

**Business-IT Alignment in the Era of Digital Transformation: Quo Vadis?** | Gideon Mekonnen Jonathan, Lazar Rusu, Erik Perjons

**Ambidextrous IT Governance Enactment in Healthcare: A Comparison between the Swedish and Ugandan Setting** | Michael Kizito

**Artifacts, Activities, Benefits and Blockers: Exploring Enterprise Architecture Practice in Depth** | Sherah Kurnia, Svyatoslav Kotusev, Paul Taylor, Rod Dilnutt

**OS 22 HIBISCUS 1 FRIDAY, 10:00 - 11:30**

**Enhancing Information Governance with Enterprise Architecture Management: Design Principles Derived from Benefits and Barriers in the GDPR Implementation** | Fabian Burmeister, Dominik Huth, Paul Drews, Ingrid Schirmer, Florian Matthes

**Discovery of Microservice-based IT Landscapes at Runtime: Algorithms and Visualizations** | Martin Kleehaus, Nicolas Corpancho, Florian Matthes, Dominik Huth

**Can Enterprise Architecture Be Based on the Business Strategy?** | Svyatoslav Kotusev, Sherah Kurnia, Paul Taylor, Rod Dilnutt

**OS 23 HIBISCUS 1 FRIDAY, 2:00 - 3:30**

**IT Governance: Oil or Sand in the Wheels of Innovation?** | Maral Arikan, Hans Borgman

**Agility matters! Agile Mechanisms in IT Governance and their Impact on Firm Performance** | Sulejman Vejseli, Alexander Rossmann, Thomas Connolly

**\*Digital Infrastructure, Business Unit Competitiveness, and Firm Performance Growth: The Moderating Effects of Business Unit IT Autonomy** | Magno Queiroz, Paul Tallon, Tim Coltman, Rajeev Sharma

## Knowing What We Know: Theory, Meta-analysis, and Review

Minitrack Chairs: Dirk Hovorka, Benjamin Mueller, Kai Larsen

**OS 24 PLUMERIA 3 WEDNESDAY, 8:00 - 9:30**

**How is Information Systems Research Justified? An Analysis of Justifications Given by Authors** | Kai Spindeldreher, Daniel Schlagwein, Detlef Schoder

**Knowing What We Know about IT and Business Value: Cause for Concern about Endogeneity Problems and Potential Solutions** | M Lynne Markus, Frantz Rowe

**\*Using Natural Language Processing Techniques to Tackle the Construct Identity Problem in Information Systems Research** | Siegfried Ludwig, Burkhardt Funk, Benjamin Mueller

**OS 25 PLUMERIA 3 WEDNESDAY, 10:00 - 11:30**

**Digital Ecosystems as a Unit of Scientific Analysis. A Sociological Investigation** | Bendik Bygstad, Arne Dulsrud

**Mechanistic Explanations and Deliberate Misrepresentations** | Mikko Siponen, Tuula Klaavuniemi, Marco Nathan

**Graphical Research Models in the Information Systems Discipline** | Kathrin Figl, Samuel Kiessling, Aliaksei Miniukovich

### Managing the Dynamics of Platforms and Ecosystems

Minitrack Chairs: Jukka Huhtamäki, Martha Russell, Kaisa Still

**OS 26 MAILE 2 FRIDAY, 2:00 - 3:30**

**Understanding Ecosystem Data** | Rahul Basole

**On the Heterogeneity of Digital Infrastructure in Entrepreneurial Ecosystems** | Matthias Schulte-Althoff, Kai Schewina, Gene Moo Lee, Daniel Fürstenau

**Discovering Business Models of Data Marketplaces** | Michael Fruhwirth, Michael Rachinger, Emina Prlja

OS 27 MAILE 2 FRIDAY, 4:00 - 5:30

**Modular Change in Platform Ecosystems and Routine Mirroring in Organizations** | Stefan Seidel, Thomas Grisold, Nicholas Berente

**Coopetition Balance and Coopetition Capability in Platform Ecosystems: Complementors' Perspective** | Dong Yoo, James Roh, Sunyoung Cho, Ma Ga Yang

**Practice-based IS Research**

Minitrack Chairs: Bill Kettinger, Gabriele Piccoli, Ester Gonzalez, Michael Milovich, Jr.

OS 28 HALEAKALA 5 FRIDAY, 10:00 - 11:30

**Digital Value-Added Services: Recommendations for Early Development** | Christian Matt, Markus Huppertz, Michael Dowling, Thomas Hess

**Platformization and Internationalization in the LEGO Group** | Robert Lorenz Törner, Stefan Henningson

**The Whole is Greater than the Sum of its Parts - Synergies between Non-Digital and Digital Business Models within Companies** | Jonas Toutaoui, Alexander Benlian

OS 29 HALEAKALA 5 FRIDAY, 2:00 - 3:30

**Innovation Contests: How to Design for Successful Idea Selection** | Christina Sarigianni, Victoria Banken, Renata Santiago Walser, Arnold Wibmer, Frederik Wiedmann, Isabella Seeber

**\*Overcoming Organizational Obstacles to Artificial Intelligence Value Creation: Propositions for Research** | Ida Someh, Barbara Wixom, Angela Zutavern

**Towards Intelligent Chatbots for Customer Care - Practice-Based Requirements for a Research Agenda** | Carl Corea, Patrick Delfmann, Sabine Nagel

OS 30 HALEAKALA 5 FRIDAY, 4:00 - 5:30

**Design Dimensions for Enterprise-Wide Data Management: A Chief Data Officer's Journey** | Raphael Schilling, Stephan Aier, Robert Winter, Kazem Haki

**Empirical Results on the Collaboration Between Enterprise Architecture and Data Protection Management during the Implementation of the GDPR** | Dominik Huth, Fabian Burmeister, Florian Matthes, Ingrid Schirmer

**Industry Best Practices for Corporate Open Sourcing** | Nikolay Harutyunyan, Dirk Riehle, Gayathery Sathya

**Promises and Perils of Artificial Intelligence and Machine Learning: Disruption, Adoption, Dehumanisation, Governance, Risk and Compliance**

Minitrack Chairs: Valeria Sadovykh, David Sundaram

OS 31 HIBISCUS THURSDAY, 2:00 - 3:30

**\*Re-thinking the Competitive Landscape of Artificial Intelligence** | Sulaiman Alsheibani, Chris Messon, Yen Cheung

**The Genie in the Bottle: Different Stakeholders, Different Interpretations of Machine Learning** | Mahboobeh Harandi, Kevin Crowston, Corey Jackson, Carsten Østerlund

**Developing Fairness Rules for Talent Intelligence Management System** | Xi Zhang, Yuqing Zhao, Xinlin Tang, Hengshu Zhu, Hui Xiong

**Social Impact Organizing and Collaborating**

Minitrack Chairs: Amber Young, Sirkka Jarvenpaa, Jordana George

OS 32 PIKAKE 2 FRIDAY, 8:00 - 9:30

**\*How does Information Spread? An Exploratory Study of True and Fake News** | Sandeep Suntwal, Susan Brown, Mark Patton

**Global Trolling: The Case of "America First"** | Pnina Fichman  
**"They Deserved It": Using the Just World Hypothesis to Understand Blaming, Apathy, and Support on Social Media** | Laurie Giddens, Stacie Petter

**Social-Technical Issues  
in Organizational Information Technologies**

Minitrack Chairs: Dragos Vieru,  
Ulrika Westergren, Simeon Vidolov

**OS 33 PLUMERIA 3 FRIDAY, 2:00 - 3:30**

**Conflicting Roles of CIOs and their Negative Effects on the Workplace of the Future** | Sina Zimmermann, Thomas Schulz, Heiko Gewalt

**\*Digital and Conventional Matchmaking - Similarities, Differences and Tensions** | Frida Ivarsson, Fredrik Svahn

**Open Innovation in the Public Sector: A Dynamic Capabilities Perspective and the Role of Information Technology** | Thibaut Coulon, Mathieu Templier, Simon Bourdeau, Amandine Pascal, Dragos Vieru

**OS 34 PLUMERIA 3 FRIDAY, 4:00 - 5:30**

**Senior Managers' Information Behavior in Current Emerging Ubiquitous and Intelligent Computing Environment** | Vincent Koon Ong, Yanqing Duan, Mark Xu

**The Dark Side of Software Development: Job Stress amongst Autistic Software Developers** | Terrell Holmes, Hala Annabi

**Strategy, Information, Technology, Economics,  
and Society (SITES)**

Minitrack Chairs: Thomas Weber, Robert Kauffman

**OS 35 HALEAKALA 3 WEDNESDAY, 10:00 - 11:30**

**Product-driven Entrepreneurs and Online Crowdfunding** | Lin Hu, Zhenhua Wu, Bin Gu

**Attention or Appreciation? The Impact of Feedback on Online Volunteering** | Jane Tan, Fujie Jin, Alan Dennis

**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, Zilong Liu, Xiaolong Song

**OS 36 HALEAKALA 3 WEDNESDAY, 2:00 - 3:30**

**Close Encounters between AMC and MoviePass** | Debabrata Dey, Atanu Lahiri, Rajiv Mukherjee

**Effects of Flexibility, Security, and Information Features on Supplier Participation in the Sharing Economy: An Empirical Study** | Soo Jeong (Chris) Hong, Johannes Bauer, Kwangjin Lee, Nelson Granados

**Nonlinear Pricing of Shareable Products** | Thomas Weber

**OS 37 HALEAKALA 3 WEDNESDAY, 4:00 - 5:30**

**IT Risk Factor Disclosure and Stock Price Crashes** | Victor Song, Hasan Cavusoglu, Gene Moo Lee, Li Zhi Ma

**Information Disclosure and Security Vulnerability Awareness: A Large-Scale Randomized Field Experiment in Pan-Asia** | Yunhui Zhuang, Yunsik Choi, Shu He, Chung Man Alvin Leung, Gene Moo Lee, Andrew Whinston

**Sustainable Transformation**

Minitrack Chairs: Gabrielle Peko, David Sundaram,  
Valeria Sadovykh, Claris Chung

**OS 38 MAILE 1 THURSDAY, 4:00 - 5:30**

**Implementation Barriers of Industrial Symbiosis: A Systematic Review** | Linda Kosmol, Lena Otto

## The Dark Side of Information Technology Use

Minitrack Chairs: Ofir Turel, Hamed Qahri-Saremi, Isaac Vaghefi

### OS 39 HALEAKALA 3 FRIDAY, 2:00 - 3:30

**The Power of Related Articles - Improving Fake News Detection on Social Media Platforms** | Henner Gimpel, Sebastian Heger, Julia Kasper, Ricarda Schäfer

**Approaching Fake News at the Expense of Truth: A Psychophysiological Study of News on Social Media** | Lauren Kirkwood, Randall Minas

**Understanding the Relationship between Smartphone Addiction and Well-Being: The Mediation of Mindfulness and Moderation of Hedonic Apps** | Murad Moqbel

**Smartphone Addictions: A Review of Themes, Theories and Future Research Directions** | Makafui Nyamadi, Richard Boateng, Immaculate Asameru

### OS 40 HALEAKALA 3 FRIDAY, 4:00 - 5:30

**Techno(Stress) and Techno(Distress): Validation of a Specific TechnoStressors Index (TSI) Among Quebec Lawyers** | Nathalie Cadieux, Jean Cadieux, Nancy Youssef, Elaine Mosconi

**An Investigation of IT Users' Emotional Responses to Technostress Creators** | Jalal Sarabadani, Deborah Compeau, Michelle Carter

**How to Enforce Presenteeism with ICT while Mitigating Technostress - A Case Study** | Roni Luoma, Esko Penttinen, Tapani Rinta-Kahila

**Understanding Digital Events: Process Philosophy and Causal Autonomy** | David Kreps, Frantz Rowe, Jessica Muirhead

#### Topics in Organizational Systems and Technology

Minitrack Chairs: Mark Frolick, Kelly Rainer, Jim Ryan

### OS 41 PLUMERIA 2 WEDNESDAY, 10:00 - 11:30

**Dangerous Champions of IT Innovation** | Janis Gogan, Kieran Conboy, Joseph Weiss

**Revisiting Technology and Flow: A Call for an Alternative Perspective and Directions for the Future** | Christopher Califf, TS Stumpf, Joshua Frye

### OS 42 PLUMERIA 2 WEDNESDAY, 2:00 - 3:30

**Open Data Capability Architecture - An Interpretive Structural Modeling Approach** | Fatemeh Ahmadi Zeleti, Adegboyega Ojo

**Innovation Culture, R&D Intensity, and Firm Innovation** | Shan Liu, Muyu Zhang, Baojun Gao

**Towards a Practice-based View of Information Systems Resilience Using the Lens of Critical Realism** | Amitrajit Sarkar, Stephen Wingreen, John Ascroft

## ST: Software Technology

Co-Chairs: Rick Kazman, Gul Agha

### Agile and Lean: Organizations, Products and Development

Minitrack Chairs: Jeffrey Saltz, Edward Anderson, Alex Sutherland

### ST 1 HIBISCUS 3 THURSDAY, 8:00 - 9:30

**Everyone's Going to be an Architect: Design Principles for Architectural Thinking in Agile Organizations** | Bettina Horlach, Andreas Drechsler, Ingrid Schirmer, Paul Drews

**In for a Penny, in for a Pound? A Lifecycle Model for Agile Teams** | Phil Diegmann, Tim Dreesen, Christoph Rosenkranz

**SKI: A New Agile Framework that Supports DevOps, Continuous Delivery, and Lean Hypothesis Testing** | Jeffrey Saltz, Alex Sutherland

**Towards Empirically Validated Remedies for Scrum Retrospective Headaches** | Christoph Matthies, Franziska Dobrigkeit

**ST 2 HIBISCUS 3 THURSDAY, 10:00 - 11:30**

**Towards A Lean Innovative Approach to Rethinking Employees Turnover. Surviving with Less-Knowledge, but not Knowledge-less: A Case Study** | James Miller

**\*The Impact of Modes, Styles, and Congruence of Control on Agile Teams: Insights from a Multiple Case Study** | Tim Dreesen, Phil Diegmann, Christoph Rosenkranz

**"We Use Scrum, but ...": Agile Modifications and Project Success** | Salma Hassani-Alaoui, Ann-Frances Cameron, Tanya Giannelia

**On Solving the Business Requirements Engineering Problems of Information Systems Development Projects - Lessons from Three Projects** | Tomi Dahlberg, Altti Lagstedt

**Blockchain Engineering**

Minitrack Chairs: Hong-Mei Chen, Hoh Peter In

**ST 3 HIBISCUS 2 THURSDAY, 2:00 - 3:30**

**Applying Software Quality Criteria to Blockchain Applications: A Criteria Catalog** | Hauke Precht, Stefan Wunderlich, Jorge Marx Gómez

**Do Not Be Fooled: Toward a Holistic Comparison of Distributed Ledger Technology Designs** | Florian Gräbe, Niclas Kannengießner, Sebastian Lins, Ali Sunyaev

**Suspicious Transactions in Smart Spaces** | Mayra Samaniego, Cristian Espana, Ralph Deters

**Cellular and Wireless Networks**

Minitrack Chairs: Edoardo Biagioni, John McEachen, Murali Tummala

**ST 4 HIBISCUS 2 FRIDAY, 2:00 - 3:30**

**Efficient Mobile Edge Computing for Mobile Internet of Thing in 5G Networks** | Yi Zhu, Kevin Chevalier, Xi Wang, Nannan Wang

**\*Timing Management in 5G and Its Implications for Location Privacy** | Alexander Schacht, James Long, John Roth

**Capacity Estimation for Error Correction Code-based Embedding in Adaptive Rate Wireless Communication Systems** | Peter Harley, Murali Tummala, John McEachen

**Space Time Coding Over a Multiple-Channel Free Space Optical Link** | Gurminder Singh, Peter Ateshian, David Canright, Raymond Buettner, Paul Keeley, Eric Stewart

**Cybersecurity and Software Assurance**

Minitrack Chairs: Luanne Burns Chamberlain, Thomas Llanso, Richard George, Tyson Brooks

**ST 5 HIBISCUS 3 FRIDAY, 4:00 - 5:30**

**Protecting Temporal Fingerprints with Synchronized Chaotic Circuits** | Fengyi Tang, Betty Cheng

**Measuring Confidence of Assurance Cases in Safety-Critical Domains** | Chung-Ling Lin, Wuwei Shen, Betty Cheng

**Synthesis of Verified Architectural Components for Critical Systems Hosted on a Verified Microkernel** | David Hardin

**\*Matching Possible Mitigations to Cyber Threats: A Document-Driven Decision Support Systems Approach** | Martha McNeil, Cherie Noteboom, Jun Liu, Omar El-Gayar, Thomas Llanso

**Cybersecurity Investigations and Digital Forensics**

Minitrack Chairs: William Glisson, George Grispos, Kim-Kwang Raymond Choo

**ST 6 HIBISCUS 3 FRIDAY, 2:00 - 3:30**

**DNA Feature Selection for Discriminating WirelessHART IIoT Devices** | Christopher Rondeau, Michael Temple

**Container and VM Visualization for Rapid Forensic Analysis** | Jordan Shropshire, Ryan Benton



## Designing Digitally Responsible System, Software and Services Engineering

Minitrack Chairs: William Yeager, Jean-Henry Morin

**ST 7 HIBISCUS 3 WEDNESDAY, 8:00 - 9:30**

**The Review of Non-Technical Assumptions in Digital Identity Architectures** | Anar Bazarhanova, Kari Smolander

**Implementation of High-Speed Pseudo-Random-Number Generator with Chaotic and Random Neural Networks** | Hitoaki Yoshida, Haruka Fukuchi, Takeshi Murakami

**Cirrus, A Digitally Responsible Global Filesystem** | William Yeager, William Pitts

**Machine Learning and Cyber Threat Intelligence and Analytics**

Minitrack Chairs: Kim-Kwang Raymond Choo, Ali Dehghantanha

**ST 8 HIBISCUS 3 FRIDAY, 8:00 - 9:30**

**A Model for Predicting the Likelihood of Successful Exploitation** | Hannes Holm, Ioana Rodhe

**Digit Recognition From Wrist Movements and Security Concerns with Smart Wrist Wearable IOT Devices** | Lambert Leong, Sean Wiere

**Knock! Knock! Who Is There? Investigating Data Leakage from a Medical Internet of Things Hijacking Attack** | Talon Flynn, George Grispos, William Glisson, William Mahoney

**An Unsupervised Approach to DDoS Attack Detection and Mitigation in Near-Real Time** | Robert McAndrew, Stephen Hayne, Haonan Wang

**ST 9 HIBISCUS 3 FRIDAY, 10:00 - 11:30**

**Interpretability of API Call Topic Models: An Exploratory Study** | Puntitra Glendowne, Dae Glendowne

**Phishing Sites Detection from a Web Developer's Perspective Using Machine Learning** | Xin Zhou, Rakesh Verma

**Network Attack Detection Using an Unsupervised Machine Learning Algorithm** | Avinash Kumar, William Glisson, Hyuk Cho

**Attack Modeling and Mitigation Strategies for Risk-Based Analysis of Networked Medical Devices** | Bronwyn Hodges, Jeffrey McDonald, William Glisson, Mike Jacobs, Maureen Van Devender, Harold Pardue

## Security and Privacy Aspects of Human-Computer-Interactions

Minitrack Chairs: Nicholas Müller, Kristin Weber, Paul Rosenthal

**ST 10 MAILE 2 WEDNESDAY, 4:00 - 5:30**

**\*About the Measuring of Information Security Awareness: A Systematic Literature Review** | Tobias Fertig, Andreas Schütz

**From Data Flows to Privacy Issues: A User-Centric Semantic Model for Representing and Discovering Privacy Issues** | Yang Lu, Shujun Li

**Analyze Before You Sensitize: Preparation of a Targeted ISA Training** | Andreas Schütz, Kristin Weber, Tobias Fertig

**Self-Adaptive Systems:  
Technologies, Domains, Principles, and Practices**

Minitrack Chairs: Rose Gamble, Matthew Hale

**ST 11 HIBISCUS 3 WEDNESDAY, 4:00 - 5:30**

**Active Loop Programming for Adaptive Systems** | Christopher Landauer, Kirstie Bellman

**The JDownloader Immune System for Continuous Deployment** | Thomas Rechenmacher, Dirk Riehle, Michael Weber

**Architectural Principles for Autonomous Microservices** | Anders Mikkelsen, Tor-Morten Grønli, Damian A. Tamburri, Rick Kazman

**Smart (City) Application Development:  
Challenges and Experiences**

Minitrack Chairs: Peter Salhofer, Sandra Gesing, Charlie Catlett

**ST 12 HIBISCUS 3 THURSDAY, 2:00 - 3:30**

**A Hybrid Approach of Modular Planning - Synchronizing Factory and Building Planning by Using Component based Synthesis** | Julian Graefenstein, Jan Winkels, Lisa Lenz, Kai Weist, Kevin Krebil, Mike Gralla

**A Concept of Innovation Hub for Smart Applications, Enabling Pro-active Approach to Urban Policy and Planning Processes** | Cezary Mazurek, Maciej Stroinski

**A Cloud-based Analytics-Platform for User-centric Internet of Things Domains - Prototype and Performance Evaluation** | Theo Zschörnig, Jonah Windolph, Robert Wehlitz, Bogdan Franczyk

ST 13 HIBISCUS 3 THURSDAY, 4:00 - 5:30

**Analysing FIWAREs Platform - Potential Improvements**

| Peter Detzner, Peter Salhofer

**Smart Waste Collection Processes - A Case Study about Smart Device Implementation**

| Michael Kamm, Michael Gau, Johannes Schneider, Jan vom Brocke

**Software Development for Mobile Devices, the Internet-of-Things, and Cyber-Physical Systems**

Minitrack Chairs: Tim A. Majchrzak, Tor-Morten Grønli, Hermann Kaindl

ST 14 HIBISCUS 3 WEDNESDAY, 10:00 - 11:30

**\*Design and Implementation of a Usability-Framework for Smartwatches**

| Steffen Zenker, Sebastian Hobert

**Detecting Repackaged Android Applications Using Perceptual Hashing**

| Thanh Nguyen, Jeffrey McDonald, William Glisson, Todd Aniel

**Application of Design Thinking for Elicitation Requirements in Mobile Applications**

| Edna Canedo, Alexandre Vinhadelli Papadópolis, Anderson Cerqueira, Aleteia Patricia F. de Araujo

ST 15 HIBISCUS 3 WEDNESDAY, 2:00 - 3:30

**MergePoint: A Graphical Web-App for Merging HTTP-Endpoints and IoT-Platform Models**

| Fabian Burzlaff, Benedikt Bongarth, Sven Grottker, Johannes Hammen, Christian Bartelt

**A Bibliometric Analysis of the HICSS Software Technology Track**

| Tor-Morten Grønli, Tim A. Majchrzak, Hermann Kaindl

**Systems and Applications of Video Analytics**

Minitrack Chairs: J. Pablo Munoz, Fanny Nina-Paravecino

ST 16 HIBISCUS 3 FRIDAY, 2:00 - 3:30

**Vega: A Computer Vision Processing Enhancement Framework with Graph-based Acceleration**

| Julian Gutierrez, Shi Dong, David Kaeli

**The Science and Engineering of Cyber Systems**

Minitrack Chairs: Chad Bollmann, John Roth, James Scrofani

ST 17 HIBISCUS 2 THURSDAY, 4:00 - 5:30

**Toward a Mathematical Understanding of the Malware Problem**

| Michael Fiske

**\*Collaborative Intrusion Detection leveraging Blockchain and Pluggable Authentication Modules**

| Vikram Kanth, Ashley McAbee, Murali Tummala, John McEachen

**CARTT: Cyber Automated Red Team Tool**

| Joseph Plot, Alan Shaffer, Gurminder Singh















**X**  
 Xi, Nannan  
 Xiao, Bo  
 Xiao, Hanyu  
 Xiao, Jinghua  
 Xie, Kang  
 Xie, Le  
 Xie, Pengfei  
 Xie, Zhilong  
 Xiong, Hui  
 Xiong, Mengran  
 Xu, Hanye  
 Xu, Mark  
 Xu, Yijun  
 Xu, Yu

**Y**  
 Yamashita, Tatsuo  
 Yan, Lu (Lucy)  
 Yan, Mengling  
 Yang, Bo  
 Yang, Ma Ga  
 Yang, Sung-Byung  
 Yang, Yimeng  
 Yankson, Benjamin  
 Yao, Wenxuan  
 Yao, Yao  
 Yasuoka, Mika  
 Yates, David  
 Ye, Qiang  
 Yeager, William  
 Yin, Tianzhixi  
 Yoo, Chul  
 Yoo, Dong  
 Yoo, Kyungjin  
 Yoon, Victoria  
 Yoshida, Hitoaki  
 Yousefi, Bahram  
 Youssef, Nancy  
 Yu, Weiwen  
 Yu, Wenpeng  
 Yuan, Guangji  
 Yuan, Lingyao  
 Yuen, Allan H.K.

**Z**  
 Zaggi, Michael  
 Zakeri, Golbon  
 Zaman, Nohel  
 Zamani, Somayeh  
 Zanella, Gianluca  
 Zang, Xiaojin  
 Zarnekow, Rüdiger  
 Zeleti, Fatemeh Ahmadi  
 Zeng-Treitler, Qing  
 Zenker, Steffen  
 Zephyr, Luckny  
 Zhai, Yanhai  
 Zhang, Haifeng  
 Zhang, Jie  
 Zhang, Jinlong  
 Zhang, John  
 Zhang, Muyu  
 Zhang, Ping  
 Zhang, Shanshan  
 Zhang, Sonya  
 Zhang, Xi  
 Zhang, Xiaofei  
 Zhang, Yihong  
 Zhang, Yixin  
 Zhang, Yuan  
 Zhang, Zhaoyang  
 Zhao, Cailian  
 Zhao, Jieqiong  
 Zhao, Rongying  
 Zhao, Wang  
 Zhao, Yinfeng  
 Zhao, Yuqing  
 Zheng, Bowen  
 Zheng, Xiabing  
 Zhou, Lina  
 Zhou, Xin  
 Zhu, Hao  
 Zhu, Hengshu  
 Zhu, Yani  
 Zhu, Yi  
 Zhu, Yushan

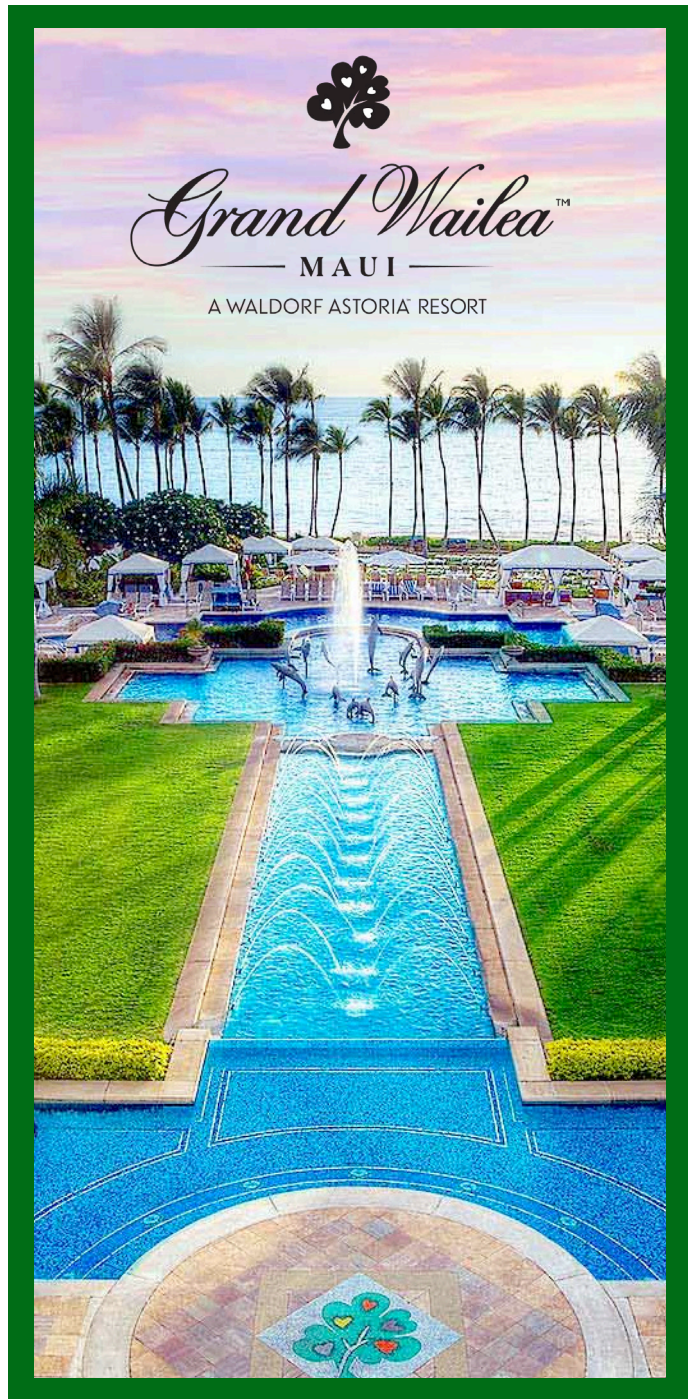
DA 9-44  
 CL 28-42  
 DA 8-44  
 DSM 22-56  
 DSM 22-56  
 ES 8-58  
 CL 22-41  
 DA 20-46  
 OS 31-75  
 KS 14-70  
 DA 17-46  
 OS 34-76  
 ES 5-57  
 IN 17-66

DSM 7-54  
 IN 2-63  
 CL 22-41  
 CL 22-41  
 OS 27-75  
 CL 28-42  
 HC 5-59  
 DA 21-47  
 ES 1-56  
 HC 5-59  
 KS 9-69  
 DSM 5-53  
 IN 2-63  
 ST 7-79  
 DA 2-43  
 DG 19-52  
 OS 27-75  
 ES 3-57  
 KS 10-69  
 ST 7-79  
 DG 19-52  
 OS 40-77  
 DSM 16-55  
 ES 1-56  
 DG 22-52  
 KS 3-68  
 HC 6-60

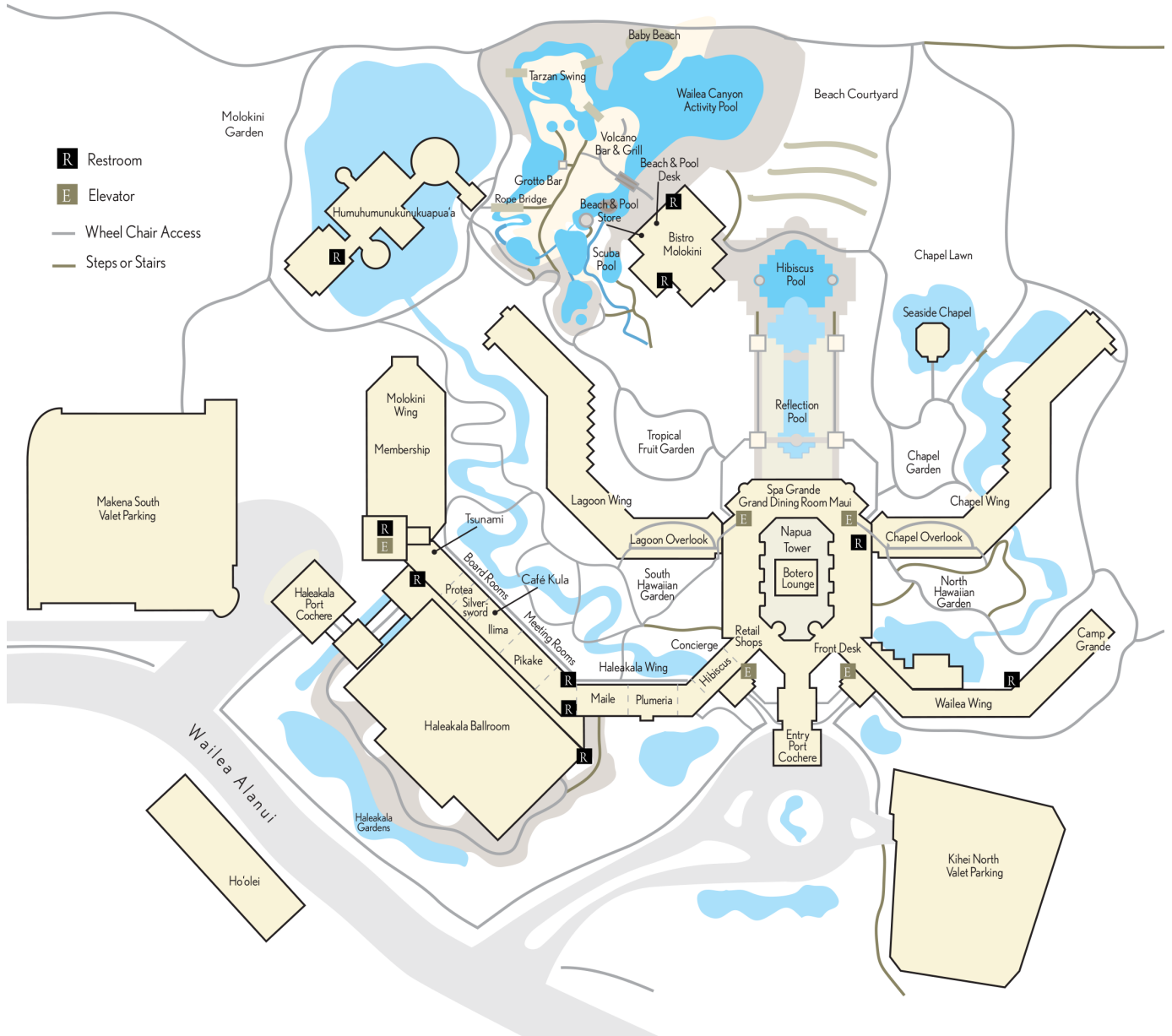
KS 9-69  
 ES 5-57  
 DA 6-44  
 DSM 14-55  
 CL 17-40  
 DA 2-43  
 CL 24-42  
 OS 42-77  
 HC 2-59  
 ST 14-80  
 ES 7-58  
 KS 6-68  
 IN 3-64  
 OS 35-76  
 HC 4-59  
 CL 28-42  
 OS 42-77  
 DA 12-45  
 HC 19-62  
 CL 5-38  
 OS 31-75  
 HC 4-59  
 DSM 8-54  
 HC 20-63  
 OS 35-76  
 KS 8-69  
 IN 8-65  
 DA 17-46  
 KS 8-69  
 HC 4-59  
 ES 1-56  
 OS 31-75  
 HC 4-59  
 DA 8-44  
 CL 9-39  
 ST 9-79  
 ES 6-58  
 OS 31-75  
 DG 2-49  
 ST 4-78  
 HC 4-59

Zhuang, Yunhui  
 Ziembowicz, Karolina  
 Ziessler, Florian  
 Zilker, Sandra  
 Zimmer, Franziska  
 Zimmermann, Sina  
 Zirkelbach, Florian  
 Zobaed, SM  
 Zowghi, Didar  
 Zschörnig, Theo  
 Zurada, Jozef  
 Zutavern, Angela

OS 37-76  
 DSM 21-56  
 DA 16-46  
 DA 23-47  
 DSM 3-53  
 OS 33-76  
 IN 4-64  
 DA 30-48  
 HC 13-61  
 ST 12-79  
 DA 7-44  
 OS 29-75



Wailea Beach

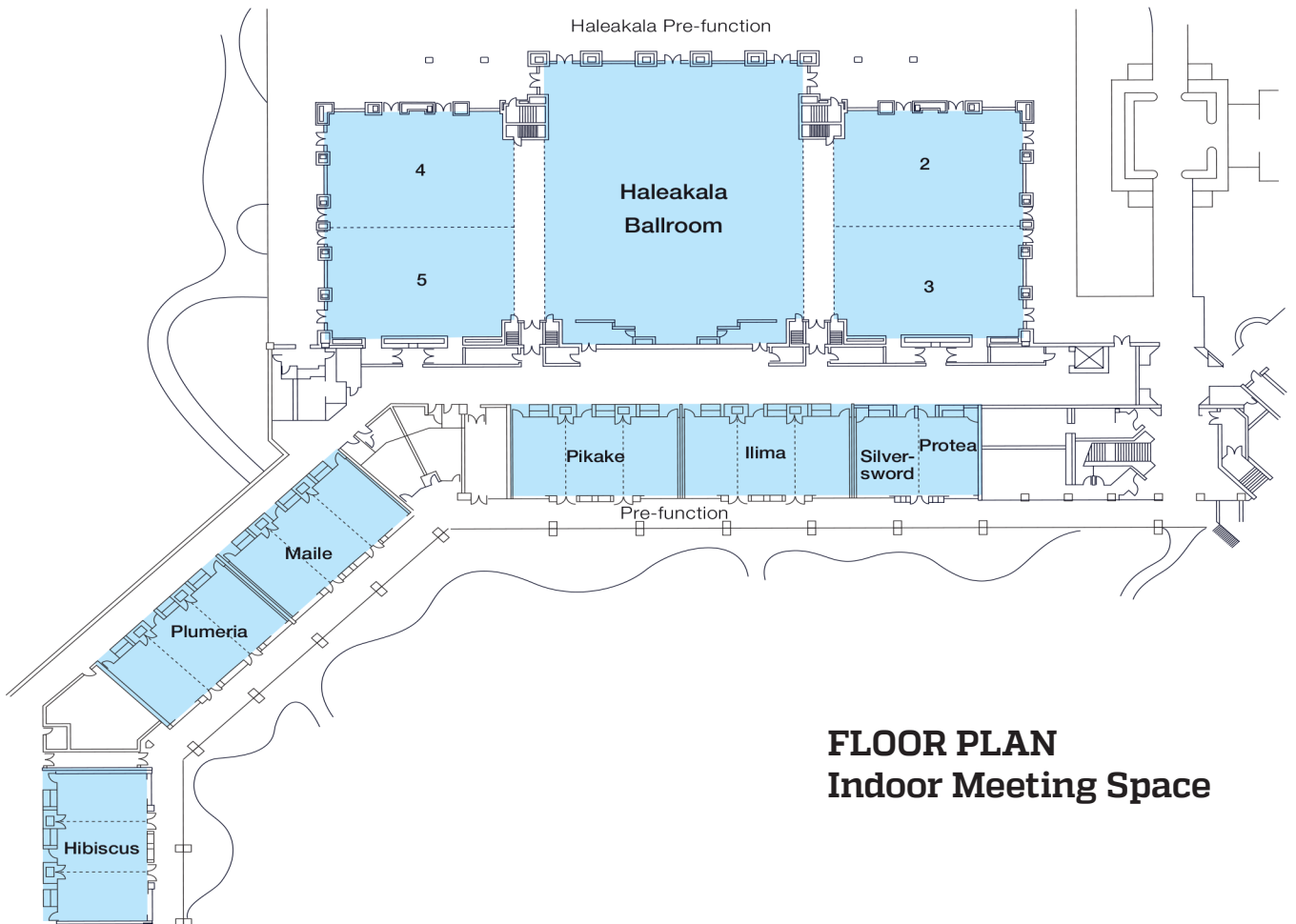


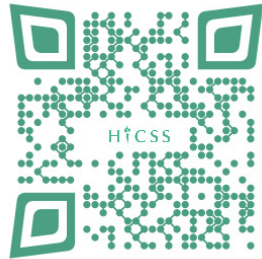
**R** Restroom

**E** Elevator

— Wheel Chair Access

— Steps or Stairs





**WIFI Internet Connection at HICSS-53**

Network ID: **HICSS** | Password: **hicss2020**



UNIVERSITY OF HAWAII AT MĀNOA  
**SHIDLER**  
College of Business  
• International Excellence •

**Information Technology  
Management Department**

