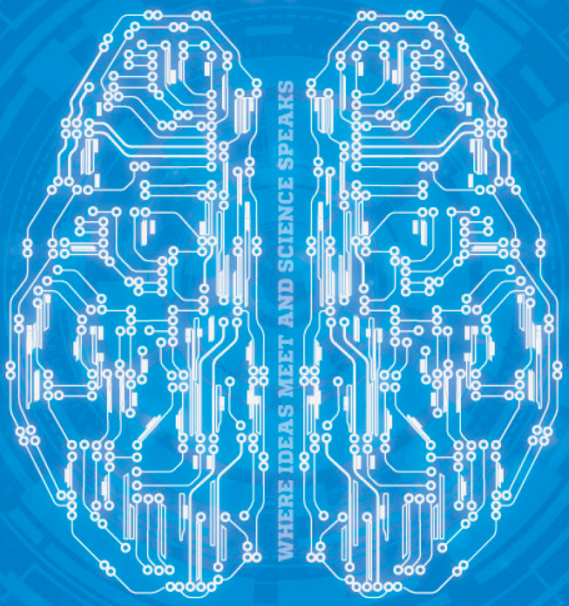
The Hawai'i International Conference on System Sciences

HICSS

51st



January 2-6, 2018 | Hilton Waikoloa Village, Big Island

hicss.hawaii.edu

Proceedings of the 51st Annual Hawaii International Conference on System Sciences

ISBN: 978-0-9981331-1-9

January 2-6, 2018
Big Island, Hawaii

Edited by
Tung X. Bui

Papers published as part of the Proceedings of the 51st Annual Hawaii International Conference on System Sciences are under Creative Commons licenses (CC-BY-NC-ND 4.0).
https://creativecommons.org/licenses/by-nc-nd/4.0/

HICSS-51 SPONSORS

PLATINUM

PRIISM
Pacific Research Institute for Information Systems & Management

University of Hawai'i at Mānoa
Shidler College of Business
• International Excellence •

IBM

GOLD

BIZGENICS® FOUNDATION
A 501C3 NONPROFIT ORGANIZATION

SILVER

BRONZE

The International Society of Service Innovation Professionals

ACADEMIC SPONSORS

Arizona Eller

Baylor Business Information Systems

DSU Dakota State

St. John's University
College of Professional Studies

School of Information Studies
Syracuse University

PREFACE

Welcome to the proceedings of the 51st Hawaii International Conference on System Sciences. As we are embarking on the next 50 years of HICSS, the 586 papers published in this year's proceedings demonstrate again the vitality of HICSS as a scientific venue where ideas meet and science speaks.

For this year's conference program, we chose an artwork that depicts the human brain embedded in computer circuitry to underscore the collective theme of the conference – How to excel in the industrial revolution 4.0.

Understood by many as the inevitable shift from isolated uses of technologies to a full digitalization that redefines business models in a more mature technological convergence, the cyber-physical ecosystem has become a new normal. In order for the physical, biological and digital worlds to create beneficial symbiosis, organizations need to relentlessly become cognizant of the revolution and continuously renovate. And researchers have a hand full of issues that they need to deal with.

The collective wisdom by 1,643 authors – assisted by more than 1,900 reviewers in the double-blinded selection process – exhibits a truly comprehensive and forward- looking set of research topics.

From a theoretical perspective, at least 20 percent of the papers in the proceedings of HICSS-51 advance a variety of new concepts to deal with the emergence of the cyber-physical world. Is coding becoming the rule of the day that governs our lives? Are deep learning algorithms the new normal of IT affordances? How do organizations gear up to deal with the increasing power of crowd-IQ and take advantage of the dynamics of social learning and connectivism? Yes, for some time, HICSS has been focusing on a key pillars of the Management Information Systems and Information Technology Management: organizational systems in the digital economy, knowledge innovation and entrepreneurial systems, decision analytics, mobile services and service science, collaboration systems, IT in healthcare, electronic government, software technology and energy systems. But, to borrow Susan Keating Glaspell, "it is all just a different kind of the same thing."

Decision-making is no longer a matter of simple synthesis of decision models, data management and human-computer interaction, but a complex and hybrid system of IQ and EQ support systems. Knowledge management is no longer an internal organizational process. It now resides in a world driven by social and mobile media. Similarly, a model of wisdom is needed in a world driven by mistrust and conflicting information. As applied artificial intelligence has come of age thanks to the availability of real-time and big data, future IS affordances are no longer just an extension of existing technologies and practices but a matter of innovative and entrepreneurial design. The city where we live is not just a city, but a smart city in the context of information-driven and resilient urbanism. Healthcare diagnosis is not just a bilateral interaction between the provider and his/her patient. It has become a collective mater involving crowdsourcing systems assisted by sensors, drones, and a web of loosely and complex distributed healthcare networks.

In the context of this massive digital transformation, information security is no longer just password management, secure network setup, information management policy and the like. It requires a redefinition of values, power and politics in an Internet-driven digital infrastructure. Can security and privacy co-exist? Do citizens have the right to be forgotten in the age of information security and protection?

Old problems, new solutions? New problems, new solutions? Researchers will find in this 5848-page-rich proceedings an invaluable resource for their research.

For those who are able to attend the conference, they will also be able to interact face-to-face with 80 leaders in charge of 31 symposia, workshops and tutorials that deal with the research pillars that HICSS is known for:

- IT and society
- Innovation and sustainability
- Computing and technologies
- Electronic government
- Big data
- Security
- Scientific inquire and research methods.

Last but not least, I would like to acknowledge to co-creation of the HICSS community. HICSS-51 has benefited from the participation of:

- Two keynote speakers: Dr. Inhi Suh, IBM Collaboration Solution, shares her project on cognitive computing. Dr. Larry Smarr, California Institute for Telecommunications in IT, presents his NSF-funded project on creation a hyper-fast cyber-infrastructure prototype to support bid data application needs across institutions.
- 1,643 authors from 586 double-blinded-reviewed papers
- 1,901 reviewers
- 332 minitrack chairs
- 20 track chairs
- and a dedicated staff at the Information Technology Department of the Shidler College of Business, University of Hawaii at Manoa.

As we have just reached 200,000 download from both our Scholar Space server at the University of Hawaii library and at the server of the Association of Information Systems for HICSS-50 papers, we are looking forward to continue working with the community of researchers to advance the mission of HICSS – that is to provide a venue where ideas meet and science speaks.

Sincerely,

Tung Bui, PhD
Matson Professor and Chair
HICSS, Conference Chair

HICSS Conference Office
Department of IT Management, Shidler College of Business, University of Hawaii at Manoa
2404 Maile Way, D307, Honolulu, HI 96822