



2020 IHSI International

3rd International Conference on
Intelligent Human Systems Integration:
Integrating People and Intelligent Systems

Final Program

February 19-21, 2020

**University of Modena and Reggio Emilia,
Modena, Italy**

WWW.IHSINT.ORG

Opening Plenary Session and Keynote Address

Wednesday, February 19, 2020 at 13:00 - 14:30

Enzo Ferrari Department of Engineering,

University of Modena and Reggio Emilia, Modena, Italy

Address: Via P. Vivarelli, 10, 41125 Modena MO, Italy (Room: Roma - First Level)

Plenary Session Co-Chairs:

Dr. Alberto Vergnano and Dr. Francesco Leali

Keynote Address

Speaker: Francesco Lilli, Head of Advanced Electrical/Electronics, FCA group

Speech title: "Automotive trends for the future of mobility"

Speaker: Prof. Marko Bertogna, Unimore

Speech title: "Distributed Smart Infrastructure for Autonomous Connected Vehicles"

Detecting road users in real-time is key to enabling safe autonomous driving applications in crowded urban environments. The talk presents a distributed sensor infrastructure being deployed in the city of Modena (Italy) at the heart of the Italian 'Motor Valley'. Modena's Automotive Smart Area (MASA) connects hundreds of smart cameras, supporting embedded computing platforms for edge-side real-time detection, hierarchically connected in a fog computing paradigm, with low latency V2X communication. A distributed deep learning paradigm balances precision and response time to give autonomous vehicles the required sensing support in a densely populated urban environment. MASA is an open testbench where interested partners may deploy and test next-generation Autonomous Driving and ADAS applications in a tightly connected setting.

Conference Reception/Banquet

WEDNESDAY, FEBRUARY 19, 2020 AT 15:30-22:00

(Dress is business casual, Registered Participants, Photo ID Required)

14:45 - IHSI GROUP SHUTTLE DEPARTURE FROM DEPARTMENT OF ENGINEERING "ENZO FERRARI"

15:30 - 18:00 FERRARI MUSEUM IN MARANELLO - MUSEI FERRARI

18:30 - ARRIVAL AT IL PICCOLO MUGNAIO RESTAURANT AND THE GUIDED TOUR

19:00 - 21:30 - BANQUET DINNER AND CONFERENCE RECEPTION

22:00 - RETURN TO MODENA CITY CENTRE

IHSI 2020 CONFERENCE RECEPTION/BANQUET ADDRESS:

IL PICCOLO MUGNAIO, VIA VANDELLI, 531, 41053 TORRE MAINA MO, ITALY

Conference Organization

GENERAL CONFERENCE CHAIRS

Waldemar Karwowski and Tareq Ahram

ORGANIZING CONFERENCE CO-CHAIRS

Alberto Vergnano and Dr. Francesco Leali

TECHNICAL PROGRAM CHAIRS AND BOARDS

IHSI 1: Automotive Design and Transportation Engineering

Co-Chairs:

F. Leali, Italy

A. Vergnano, Italy

IHSI 2: Humans and Artificial Cognitive Systems

Chair: T. Ahram, USA

IHSI 3: Intelligence Technology and Analytics

Chair: A. Ebert, Germany

IHSI 4: Computational Modeling and Simulation

Chair: D. Andujar, USA

IHSI 5: Humans and Artificial Systems Complexity

Chair: A. Ebert, Germany

IHSI 6: Smart Materials and Inclusive Human Systems

Co-Chairs:

S. Camplone, Italy

M. Ferrara, Italy


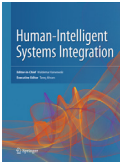




IHSI 7: Human-Autonomy Teaming

Chair: Axel Schulte, Germany

IHSI 8: Applications and Future Trends

Chair: C. Falcao, Brazil

Exhibits

	COMPANY NAME AND WEB SITE
	Springer International Publishing AG www.springer.com
	Springer Journal of Human-Intelligent Systems Integration - Human – Intelligent Systems Integration publishes original articles on research and development efforts intended to promote the comprehensive integration of people and intelligent engineering systems. www.springer.com/journal/42454
 UNIMORE UNIVERSITÀ DEGLI STUDI DI MODENA E REGGIO EMILIA	Driverless team of Unimore Formula - University of Modena and Reggio Emilia, Modena, Italy www.international.unimore.it
	Smart Eye Smart Eye develops eye tracking technology that connects with human actions and intentions. From the anatomy of the eye and face to optics and intelligent software. www.smarteye.se
	AHFE 2020 - The 11th International Conference on Applied Human Factors and Ergonomics (AHFE 2020) and the Affiliated Conferences, The Hilton San Diego Bayfront, San Diego, California, USA, July 16-20, 2020. www.ahfe.org
	IHSED 2020 - The International Conference on Human Systems Engineering and Design: Future Trends and Applications (IHSED 2020) will be held at Juraj Dobrila University of Pula, Croatia, September 22-24, 2020. www.ihsed.org

Conference at a Glance

REGISTRATION DESK OPEN:

Tuesday, February 18.....10:00-14:00
 Wednesday, February 19.....9:00-13:00
 Thursday, February 20.....8:00-16:00
 Friday, February 21.....8:00-13:00

ACRONYM	TRACK
IHSI 1	Automotive Design and Transportation Engineering
IHSI 2	Humans and Artificial Cognitive Systems
IHSI 3	Intelligence Technology and Analytics
IHSI 4	Computational Modeling and Simulation
IHSI 5	Humans and Artificial Systems Complexity
IHSI 6	Smart Materials and Inclusive Human Systems
IHSI 7	Human-Autonomy Teaming
IHSI 8	Applications and Future Trends

Thursday, February 20

#	TITLE	ROOM	TRACK
Session Time: 8:30 - 10:30			
1	IHSI 1: Automotive Design and Transportation Engineering I	Roma	IHSI 1
2	IHSI 2: Humans and Artificial Cognitive Systems I	Milan	IHSI 2
3	IHSI 3: Intelligence, Technology and Analytics I	Palermo	IHSI 3
4	IHSI 4: Computational Modeling and Simulation I	Florence	IHSI 4
5	IHSI 5: Humans and Artificial Systems Complexity I	Verona	IHSI 5
10:30 - 11:00 • Coffee Break - Refreshments will be provided			
Session Time: 11:00 - 13:00			
6	IHSI 6: New Technologies, Energy and Transportation	Roma	IHSI 6
7	IHSI 7: Human-Autonomy Teaming I	Milan	IHSI 7
8	IHSI 8: Applications and Future Trends I	Palermo	IHSI 8
9	IHSI 1: Automotive Design and Transportation Engineering II	Florence	IHSI 1
10	IHSI 2: Humans and Artificial Cognitive Systems II	Verona	IHSI 2
13:00 - 14:00 • Lunch Break			

Conference at a Glance

Thursday, February 20

#	TITLE	ROOM	TRACK
Session Time: 14:00 -16:00			
11	IHSI 3: Intelligence, Technology and Analytics II	Roma	IHSI 3
12	IHSI 4: Computational Modeling and Simulation II	Milan	IHSI 4
13	IHSI 5: Humans and Artificial Systems Complexity II	Palermo	IHSI 5
14	IHSI 6: Sustainability, Living Environment and Design Process	Florence	IHSI 6
15	IHSI 7: Human-Autonomy Teaming II	Verona	IHSI 7
16:00 - 16:30 • Coffee Break - Refreshments will be provided			
Session Time: 16:30 -18:30			
16	IHSI 8: Applications and Future Trends II	Roma	IHSI 8
17	IHSI 1: Automotive Design and Transportation Engineering III	Milan	IHSI 1
18	IHSI 2: Humans and Artificial Cognitive Systems III	Palermo	IHSI 2
19	IHSI 3: Intelligence, Technology and Analytics III	Florence	IHSI 3

Friday, February 21

#	TITLE	ROOM	TRACK
Session Time: 8:30 - 10:30			
20	IHSI 5: Humans and Artificial Systems Complexity III	Roma	IHSI 5
21	IHSI 6: New Material, Medical Assistance and Smart Devices	Milan	IHSI 6
22	IHSI 7: Human-Autonomy Teaming III	Palermo	IHSI 7
23	IHSI 8: Applications and Future Trends III	Florence	IHSI 8
10:30 - 11:00 • Coffee Break - Refreshments will be provided			
Session Time: 11:00 - 13:00			
25	IHSI 2: Humans and Artificial Cognitive Systems IV	Milan	IHSI 2
26	IHSI 5: Humans and Artificial Systems Complexity IV	Palermo	IHSI 5
27	IHSI 8: Applications and Future Trends IV	Florence	IHSI 8
32	IHSI 6: Accessibility, Human Centered Design and Inclusion	Verona	IHSI 6
13:00 - 14:00 • Lunch Break			
Session Time: 14:00 -16:00			
29	IHSI 5: Humans and Artificial Systems Complexity V	Milan	IHSI 5

1	<p>IHSI 1: Automotive Design and Transportation Engineering I Session Chair(s): Paula Lassmann, Germany and Hermann Kaindl, Austria</p>
8:30 - 10:30 - ROMA	<p>User-centered Design within the Context of Automated Driving in Trucks – Guideline and Methods for Future Conceptualization of Automated Systems Paula Laßmann, Florian Reichelt, Dominique Stimm, Thomas Maier, Germany</p> <p>Towards Probabilistic Analysis of Human-System Integration in Automated Driving Ephraim Suhir, Gunther Paul, Hermann Kaindl, Australia</p> <p>Exploring new concepts to create natural and trustful dialogue between humans and intelligent autonomous vehicles Andrea Di Salvo, Andrea Arcoraci, Italy</p> <p>Integrating Human Acceptable Morality in Autonomous Vehicles Chiara Lucifora, Giorgio Mario Grasso, Alessio Plebe, Pietro Perconti, Italy</p> <p>Measuring Driver Discomfort in Autonomous Vehicles Dario Niermann, Andreas Lüdtkke, Germany</p> <p>Software Failure Mode and Effects Analysis Palak Talwar, United States</p> <p>Recreational vehicle service requirements analysis based on user experience and KANO model Jianxin Cheng, Xinyu Yang, China</p>
2	<p>IHSI 2: Humans and Artificial Cognitive Systems I Session Chair(s): Stijn Verwulgen, Belgium and Brandon Cuffie, USA</p>
8:30 - 10:30 - MILAN	<p>Modelling Proxemics for Human-Technology-Interaction in decentralized Social-Robot-Systems Thomas Kirks, Jana Jost, Jan Finke, Sebastian Hoose, Germany</p> <p>System Architecture Of a Human Biosensing And Monitoring Suite With Adaptive Task Allocation Brandon Cuffie, Lucas Stephane, United States</p> <p>Alpha and Beta EEG desynchronizations anticipate steering actions in a driving simulation experiment Giovanni Vecchiato, Maria Del Vecchio, Sergey Antopolskiy, Andrea Bellotti, Alessia Colucciello, Anna Marchenkova, Jonas Ambeck, Luca Ascari, Pietro Avanzini, Italy</p> <p>Task Measures for Air Traffic Display Operations Shi Yin Tan, Chun Hsien Chen, Sun Woh Lye, Fan Li, Singapore</p> <p>Self-Adjusted Data-Driven System for Prediction of Human Performance Oleksandr Burov, Evgeniy Lavrov, Nadiia Pasko, Olena Hlazunova, Olga Lavrova, Vasyl Kyzenko, Yana Dolgikh, Ukraine</p> <p>Event-related potential study on military icon based on composition-semantic relationship Xian Li, Haiyan Wang, Junkai Shao, China</p> <p>On perception of disharmony Stijn Verwulgen, Thomas Peeters, Sander Van Goethem, Sofia Scataglini, Belgium</p>
3	<p>IHSI 3: Intelligence, Technology and Analytics I Session Chair(s): Chandrasekar Chandra, USA and Laura Giraldi, Italy</p>
8:30 - 10:30 - PALERMO	<p>Democratization of AI to small scale farmers, albeit food harvesting citizen data scientists, that are at the bottom of the economic pyramid Chandrasekar Vuppapalapati, Anitha Ilapakurti, Sharat Kedari, Jaya Shankar Vuppapalapati, Rajasekar Vuppapalapati, Santosh Kedari, United States</p> <p>The future of user experience design in the interior of autonomous cars driven by AI Laura Giraldi, Italy</p> <p>Procedure for the implementation of the manufacturing module of an ERP system in MSME. Applied Case: Textile “Tendencias” Enterprise, ERP UDA Pedro Mogrovejo, Juan Maldonado, Juan Pablo Benitez Iglesias, Esteban Crespo-Martinez, Catalina Astudillo, Ecuador</p> <p>A liveness detection method for palmprint authentication Ayaka Sugimoto, Yuhya Shiomi, Akira Baba, Norihiro Okui, Tetsushi Ohki, Yutaka Miyake, Masakatsu Nishigaki, Japan</p> <p>Health risk assessment matrix for back pain prediction among call center workers Sunisa Chaiklieng, Pornnapa Suggaravetsiri, Thailand</p> <p>Cyber Security in Educational Networks Yuliya Krylova-Grek, Svitlana Shevchenko, Oleksandr Burov, Svitlana Lytvynova, Sergiy Petrenko, Olena Orliyk, Evgeniy Lavrov, Oleksii Tkachenko, Ukraine</p>

<p>4</p>	<p>IHSI 4: Computational Modeling and Simulation I Session Chair(s): Darko Etinger, Croatia and Mahsa Pourbafrani, Germany</p>
<p>8:30 - 10:30 - FLORENCE</p>	<p>Discovering and mapping LMS course usage patterns to learning outcomes Darko Etinger, Croatia</p> <p>Supporting Decisions in Production Line Processes by Combining Process Mining and System Dynamics Mahsa Pourbafrani, Sebastiaan J. Van Zelst, Wil M. P. Van Der Aalst, Germany</p> <p>Software for the determination of the time and the F value in the thermal processing of packaged foods using the modified Ball method William Rolando Miranda Zamora, Manuel Jesus Sanchez Chero, Jose Antonio Sanchez Chero, Peru</p> <p>Logistic regression for criteria weight elicitation in PROMETHEE-based ranking methods Elia Balugani, Francesco Lolli, Maria Angela Butturi, Alessio Ishizaka, Miguel Afonso Sellitto, Italy</p> <p>Using real sensors data to calibrate a traffic model for the city of Modena Chiara Bachechi, Federica Rollo, Federico Desimoni, Laura Po, Italy</p> <p>Moving Towards Model Based System Engineering Development (MBSD) and Human System Integration Robert Sharples, United Kingdom</p> <p>3D CAD design of jewelry accessories, determination of geometrical features and characteristics of the used material of precious metals Tihomir Dovramadjiev, Mariana Stoeva, Violeta Bozhikova, Rozalina Dimova, Bulgaria</p>
<p>5</p>	<p>IHSI 5: Humans and Artificial Systems Complexity I Session Chair(s): Neil Gomes, USA and Timothy Stock, USA</p>
<p>8:30 - 10:30 - VERONA</p>	<p>Your voice assistant will see you now: Reducing complexity in human and artificial system collaboration using voice as an operating system Viraj Patwardhan, Neil Gomes, Maia Ottenstein, United States</p> <p>A Systematic Review of Sociotechnical System Methods between 1951 and 2019 Amangul Imanghaliyeva, United Kingdom</p> <p>Pre-emptive Culture Mapping: Exploring a System of Language to Better Understand the Abstract Traits of Human Interaction Marie Tupot, Timothy J. Stock, United States</p> <p>Designing a safety confirmation system that utilizes human behavior in disaster situations Masayuki Ihara, Hiroshi Nakajima, Goro Inomae, Hiroshi Watanabe, Japan</p> <p>Production management model to balance assembly lines focused on worker autonomy to increase the efficiency of garment manufacturing Carlos Raymundo-Ibañez, Valeria Sosa-Perez, Jose Palomino-Moya, Claudia Leon-Chavarril, Moises Perez, Peru</p> <p>Rural Ecotourism Associative Model to optimize the development of the High Andean tourism sector in Peru Carlos Raymundo-Ibañez, Oscar Galvez-Acevedo, Jose Martinez-Castañon, Mercedes Cano-Lazarte, Moises Perez, Peru</p>
<p>10:30 - 11:00 • Coffee Break - Refreshments will be provided</p>	

6	<p>IHSI 6: New Technologies, Energy and Transportation Session Chair(s): Alessandro Bertacchini, Italy and Fabio Pini, Italy</p>
11:00 - 13:00 - ROMA	<p>Photogrammetry and Additive Manufacturing based methodology for decentralized spare part production in automotive industry Antonio Bacciaglia, Alessandro Ceruti, Alfredo Liverani, Italy</p> <p>Improved heat sink for thermoelectric energy harvesting systems Alessandro Bertacchini, Silvia Barbi, Monia Montorsi, Italy</p> <p>Providing Comprehensive Navigational Cues through the Driving Seat to Reduce Visual Distraction in Current Generation of Semi-Autonomous Vehicles Ahmed Farooq, Grigori Evreinov, Roope Raisamo, Finland</p> <p>A predictive model of users' behavior and values of smart energy meters using PLS-SEM Ahmed Shuhaiber, United Arab Emirates</p> <p>Structural Testing of Laminated Prosthetic Sockets: Comparison of Philippine Pineapple Fabric and Fiberglass Glenn Stephen Alkuino, Marvin Paul Medina, Ervin Christian Fandalian, Philippines</p> <p>CAD-based risk assessment approach for safe scheduling of HRC operations for parts produced by laser powder bed fusion Fabio Pini, Enrico Dalpadulo, Francesco Leali, Italy</p>
7	<p>IHSI 7: Human-Autonomy Teaming I Session Chair(s): Kirsten Revell, UK and Simon Schwerd, Germany</p>
11:00 - 13:00 - MILAN	<p>How was it for you? Comparing how different levels of feedback are experienced by human agents in a semi-autonomous vehicle Kirsten Revell, James Brown, Neville Stanton, United Kingdom</p> <p>Goal Directed Design of Rewards and Training Features for Self-Learning Agents in a Human-Autonomy-Teaming Environment Simon Schwerd, Sebastian Lindner, Axel Schulte, Germany</p> <p>Facial Expressions as Indicator for Discomfort in Automated Driving Matthias Beggiano, Nadine Rauh, Josef F. Krems, Germany</p> <p>Can We Talk? – The Impact Of Conversational Interfaces on Human Autonomy Teaming Perception, Performance and Situation Awareness Adam Bogg, Andrew Parkes, Mike Bromfield, United Kingdom</p> <p>Driver's Situational Awareness and Impact of Phone Interface Modality in Conventional and Semi-Autonomous Vehicles Syeda Rizvi, Francesca Favaro, Nazanin Nader, United States</p> <p>Concept of an Adaptive Cockpit to Maintain the Workflow of the Cockpit Crew Juliane Mueller, Axel Schulte, Germany</p> <p>A Conceptual Augmentation of a Pilot Assistant System with Physiological Measures Dennis Mund, Evgeni Pavlidis, Matthew Masters, Axel Schulte, Germany</p>
8	<p>IHSI 8: Applications and Future Trends I Session Chair(s): Wayne Patterson, USA and Jari Laarni, Finland</p>
11:00 - 13:00 - PALERMO	<p>Distinguishing a Human or Machine Cyberattacker Wayne Patterson, Acklyn Murray, Lorraine Fleming, United States</p> <p>Development of a Human System Integration Program in Military Context Jari Laarni, Marja Ylönen, Finland</p> <p>Beyond Confluence, Integration and Symbiosis: Creating More Aware Relationships in Smart Cities H. Patricia McKenna, Canada</p> <p>Identifying and Analysing Risk Factors from a Sociotechnical System Perspective: a Case Study Amangul Imanghaliyeva, United Kingdom</p> <p>Experimental Learning for a Basic Technology Acquisition of Moving Images Production Akiko Kondo, Satoshi Togawa, Japan</p> <p>Designing Ethical AI In The Shadow of Hume's Guillotine Pertti Saariluoma, Jaana Leikas, Finland</p> <p>Vulnerability Discovery in Network Systems Based on Human-machine Collective Intelligence Ye Han, Jianfeng Chen, ZhiHong Rao, YiFan Wang, Jie Liu, China</p>

9	<p>IHSI 1: Automotive Design and Transportation Engineering II Session Chair(s): Gian Andrea Giacobone, Italy and Scott Cadzow, UK</p>
11:00 - 13:00 - FLORENCE	<p>Human-Centered Design for Automotive Styling: conceptualizing a vehicle from QFD to ViP Gian Andrea Giacobone, Giuseppe Mincoelli, Italy</p> <p>Enriching the User Experience of a Connected Car with Quantified Self Maurizio Caon, Marc Demierre, Elena Mugellini, Omar Abou Khaled, Pierre Delaigue, Switzerland</p> <p>Trust provisioning in the transport infrastructure Scott Cadzow, United Kingdom</p> <p>Unmanned Small Shared Electric Vehicle Binhong Zhai, Guodong Yin, Zhen Wu, China</p> <p>A Forward Train Detection Method Based on Convolutional Neural Network Zhangyu Wang, Tony Lee, Michael Yu Hing Leung, Simon Tang, Qiang Zhang, Zining Yang, Virginia Cheung, China</p> <p>Styling Research of DFAC-6851H4E City Bus Based on Fuzzy Evaluation Huajie Wang, Jianxin Cheng, China</p> <p>Are Autonomous Vehicles the Solution to Drowsy Driving? Daniel Grunstein, Ron Grunstein, United Kingdom</p>
10	<p>IHSI 2: Humans and Artificial Cognitive Systems II Co-Chairs: Aappo Kontu, Finland and Eric Owusu, USA</p>
11:00 - 13:00 - VERONA	<p>The Role of Artificial Intelligence in Contemporary Medicine Viktoria Ter-Sargisova, Larisa Hambardzumyan, Aleksandr Baghramyan, Armenia</p> <p>Mobile Real-Time Eye-Tracking for Gaze-Aware Security Surveillance Support Systems Alexandre Marois, Daniel Lafond, Francois Vachon, Eric Harvey, Bruno Martin, Sebastien Tremblay, Canada</p> <p>Detecting Impulsive Behavior Through Agent-based Games Alia El Bolock, Ahmed Ghoneim, Cornelia Herbert, Slim Abdennadher, Egypt</p> <p>A Fixation-Click Count Signature as a Visual Monitoring Enhancement Feature for Air Traffic Controllers Hong Jie Wee, Sun Woh Lye, Jean-Philippe Pinheiro, Singapore</p> <p>Digital transformation in Product service system for kids. Design tools for emerging needs. Benedetta Terenzi, Arianna Vignati, Italy</p> <p>Identifying People Based on Machine Learning Classification of Foods Consumed in Order to Offer Tailored Healthier Food Options Jenna Kim, Giannina Ferrara, Shuhao Lin, Jenna Hua, Edmund Seto, United States</p> <p>Visual and motor capabilities of future car drivers Ferdinando Tripi, Rita Toni, Angela Lucia Calogero, Pasqualino Maietta Latessa, Antonio Tempesta, Stefania Toselli, Alessia Grigoletto, Davide Varotti, Francesco Campa, Luigi Manzoni, Alberto Vergnano, Italy</p>
13:00 - 14:00 • Lunch Break •	
11	<p>IHSI 3: Intelligence, Technology and Analytics II Session Chair(s): Mina Fahimi Pirehgalin, Germany and Joanne Tingey-Holyoak, Australia</p>
14:00 -16:00 - ROMA	<p>Using Eye Tracking to Assess User Behavior in Virtual Training Mina Fahimipirehgalin, Frieder Loch, Birgit Vogel-Heuser, Germany</p> <p>Analysis and monitoring of a data network for the detection of user behavior patterns Jairo Vladimir Hidalgo Guijarro, Marco Antonio Yandun Velastegui, Ecuador</p> <p>The problem of tracking the center of attention in Eye tracking systems Marina Boronenko, Vladimir Zelensky, Oksana Isaeva, Elizaveta Kiseleva, Russia</p> <p>Model of emotionally stained pupillogram plot Marina Boronenko, Oksana Isaeva, Yura Boronenko, Elizaveta Kiseleva, Russia</p> <p>Cost-informed water decision-making technology for smarter farming Joanne Tingey-Holyoak, John Pisaniello, Peter Buss, Ben Wiersma, Australia</p> <p>A review on the role of Embodiment in Improving Human-Vehicle Interaction, a proposal for further development of Embodied Intelligence Hamid Naghdishi, Alireza Ajdari, Iran</p>

12	<p>IHSI 4: Computational Modeling and Simulation II Session Chair(s): Swashi Kalyana, India and María González, Ecuador</p>
14:00 - 16:00 - MILAN	<p>Communication Protocol between Humans and Bank Server Secure against Man-in-the-Browser Attacks Koki Mukaihira, Yasuyoshi Jinno, Takashi Tsuchiya, Tetsushi Ohki, Kenta Takahashi, Wakaha Ogata, Masakatsu Nishigaki, Japan</p> <p>Development of a solution model for timetabling problems through a binary integer linear programming approach Juan Maldonado, María José González, Rosana Celi, Ecuador</p> <p>Machine, Discourse and Power: From Machine Learning in Construction of 3D Face to Art and Creativity Lai Man Tin, Hong Kong Sar China</p> <p>Modelling Alzheimer's people Brain using Augmented Reality for Medical Diagnosis Analysis Rama Ramalakshmi, Muthammal Swashi, Dhamodharan Tamilselvi, Rajendran Gopi Krishnan, India</p> <p>Software Vulnerability Mining Based on the Human-Computer Coordination Jie Liu, Da He, Yifan Wang, Jianfeng Chen, Zhihong Rao, China</p>
13	<p>IHSI 5: Humans and Artificial Systems Complexity II Session Chair(s): Santosh Basapur, USA and Subin Lee, South Korea</p>
14:00 - 16:00 - PALERMO	<p>Semiotics based Human Centered Design of Systems Santosh Basapur, Keiichi Sato, United States</p> <p>A counterattack of misinformation: How the information influences human beings. Subin Lee, Ken Nah, South Korea</p> <p>Design Collaboration Mode of Man-computer Symbiosis in the Age of Intelligence Jinjing Liu, Ken Nah, South Korea</p> <p>Picking management model with a focus on change management to reduce the deterioration of finished products in mass consumption distribution centers Carlos Raymundo-Ibañez, Stephania Canales, Arelis Velásquez, Moises Perez, Pedro Chavez, Peru</p> <p>Human-Automation Interaction through shared and traded control applications Mauricio Marcano, Sergio Diaz, Joshue Perez, Andrea Castellano, Elisa Landini, Fabio Tango, Paolo Burgio, Italy</p> <p>Risk Factors Associated with Work-related Low Back Pain among Home-based Garment Workers Sunisa Chaiklieng, Pornnapa Suggaravetsiri, Sari Andajani, Thailand</p> <p>Alignment of management by processes and quality tools and Lean to reduce unfilled orders of fabrics for export A case study Carlos Raymundo-Ibañez, Zonia Bardales, Paolo Tito, Luis Rivera, Peru</p>
14	<p>IHSI 6: Sustainability, Living Environment and Design Process Session Chair(s): Giuseppe Mincoelli, Italy and Paolo Burgio, Italy</p>
14:00 - 16:00 - FLORENCE	<p>Ensuring the Sustainability of Inclusive Projects through Strategic Addressing Supported by Process Management: Case Applied to Aquamarinna Handmade Soap Diego S. Suárez, Esteban Crespo-Martinez, Pedro Mogrovejo, Ecuador</p> <p>New Collaborative Version of The Quality Function Deployment: Practical Application To The Habitat Project Giuseppe Mincoelli, Gian Andrea Giacobone, Michele Marchi, Silvia Imbesi, Italy</p> <p>Human centered methodologies for the development of multidisciplinary design research in the field of IOT systems: project Habitat and Pleinair Giuseppe Mincoelli, Silvia Imbesi, Gian Andrea Giacobone, Michele Marchi, Italy</p> <p>Design of an Innovative Furniture System: Improving Acoustic Comfort in Coworking Workplaces Viola Geniola, Stefania Camplone, Antonio Marano, Emilio Rossi, Italy</p> <p>Spatial Cognition of Older People as an Architectural Design Tool for Accessible Long-term Care Homes Taghreed Alzubaidi, Canada</p>

<p>15</p>	<p>IHSI 7: Human-Autonomy Teaming II Session Chair(s): Marius Dudek, Germany and Tim Lauer, Germany</p>
<p>14:00 - 16:00 - VERONA</p>	<p>Implementation of teaming behavior in unmanned aerial vehicles Marius Dudek, Sebastian Lindner, Axel Schulte, Germany</p> <p>Behavioral Analysis of Information Exchange Digitalization in the Context of Demand Planning Tim Lauer, Katharina Franke, Germany</p> <p>Signs, Symbols & Displays in Automated Vehicles - A Focus Group Study Joy Richardson, Kirsten Revell, Jisun Kim, Neville Stanton, United Kingdom</p> <p>Beauty Attracts the Eye but Character Captures the Heart: Why Personality Matters in Chat Bot Design Helen Muncie, United Kingdom</p> <p>Integration of humans in the fallback process by a machine in fully automated railway operation Bilal Üyümez, Germany</p> <p>Analysis of Facial Expressions Explain Affective State and Trust-based Decisions during Interaction with Autonomy Catherine Neubauer, Gregory Gremillion, Brandon Perelman, Claire La Fleur, Jason Metcalfe, Kristin Schaefer-Lay, United States</p>
<p>16:00 - 16:30 • Coffee Break - Refreshments will be provided</p>	
<p>16</p>	<p>IHSI 8: Applications and Future Trends II Session Chair(s): Luca Fontanili, Italy and Kristine Mackare, Latvia</p>
<p>16:30 - 18:30 - ROMA</p>	<p>Mechanical Fatigue Evaluation by Image Recognition Massimo Milani, Luca Montorsi, Luca Fontanili, Gabriele Storchi, Gabriele Muzzioli, Italy</p> <p>Universal access and inclusive dwelling design for a family in Monte Sinahí, Guayaquil, Ecuador Jesus Hechavarría, Boris Forero, Robinson Vega, Ecuador</p> <p>Cognitive Rehabilitation for Autism Children Mental Status Observation using Virtual Reality based Interactive Environment Tamilselvi Dhamodharan, Manju Thomas, Sathiyaprakash Ramdoss, Karthikeyan JothiKumar, SaiNaveenaSri SaravanaSundharam, BhavaniDevi Muthuramalingam, NilofarNisa Hussainalikhan, Sugirtha Ravichandran, VaibhavaShivani Vadivel, Pavika Suresh, Sasikumar Buddhan, Ajith Madhusudan, India</p> <p>A group travel recommender system based on collaborative filtering and group approximate constraint satisfaction Jinlu He, IYoung Choi, JaeKyeong Kim, South Korea</p> <p>Comparison Between ARIMA and LSTM-RNN for VN-Index Prediction Nguyen Trong Co, Hoang Huu Son, Ngo Thanh Hoang, Tran Thi Phuong Lien, Trinh Minh Ngoc, Vietnam</p> <p>E-material formatting application prototype 2.0 development through usability testing of prototype 1.0 Kristine Mackare, Anita Jansone, Raivo Mackars, Latvia</p> <p>Eye control system development and research of effects of color of icons on visual search performance based on the system Jiaqi Cui, Yafeng Niu, ChengQi Xue, Xijiang Cai, Yi Xie, Bingzheng Shi, Lincun Qiu, China</p>

<p>17</p>	<p>IHSI 1: Automotive Design and Transportation Engineering III Session Chair(s): Bernd Huber, Germany and Jisun Kim, UK</p>
<p>16:30 - 18:30 - MILAN</p>	<p>Mercury: a vision-based framework for Driver Monitoring Guido Borghi, Stefano Pini, Roberto Vezzani, Rita Cucchiara, Italy</p> <p>A Validated Failure Behavior Model for Driver Behavior Models for Generating Skid-Scenarios on Motorways Bernd Huber, Paul Schmidl, Christoph Sippl, Anatoli Djanatliev, Germany</p> <p>Effect Of Phone Interface Modality On Drivers' Task Load Index In Conventional And Semi- Automated Vehicles Kristina Davtyan, Francesca Favaro, United States</p> <p>Drivers' interaction with, and perception toward semi-autonomous vehicles in naturalistic settings Jisun Kim, Kirsten Revell, Pat Langdon, Mike Bradley, Ioannis Politis, Simon Thompson, Lee Skrypchuk, Jim O-Donoghue, Joy Richardson, Jed Clark, Aaron Roberts, Alex Mouzakitis, Neville Stanton, United Kingdom</p> <p>Vision-Based Ship Detection, localization and an Improvement on Localization of A Stereo Vision System Sanaz Ahmadishooli, Mehrzad Biguesh, Iran</p> <p>Applying Persuasion Heuristics Criteria to assess Automotive Mobile Applications: A Case Study Perrine Ruer, Sandrine Prom Tep, Canada</p>
<p>18</p>	<p>IHSI 2: Humans and Artificial Cognitive Systems III Session Chair(s): Marcel Lommerzheim, Germany and Benedicte Chatelais, Canada</p>
<p>16:30 - 18:30 - PALERMO</p>	<p>Category Learning as a Use Case for Anticipating Individual Human Decision Making by Intelligent Systems. Marcel Lommerzheim, Sabine Prezenski, Nele Russwinkel, André Brechmann, Germany</p> <p>Improving Policy-Capturing with Active Learning for Real-Time Decision Support Bénédicte Chatelais, Daniel Lafond, Christian Gagné, Alexandre Hains, Canada</p> <p>Novel Heuristic Mechanism to Formalize Online Behavior through Search Engine Credibility Debora Di Caprio, Francisco Javier Santos Arteaga, Italy</p> <p>Caterina, Alexa and the others Jurji Filieri, Elisabetta Benelli, Italy</p> <p>Ekybot: framework proposal for chatbot in financial enterprises Maritzol Tenemaza, Sergio Luján-Mora, Angélica De Antonio, Jaime Ramirez, Omar Zarabia, Ecuador</p> <p>A unified framework for symbol grounding in human-machine interaction Dingzhou Fei, China</p>
<p>19</p>	<p>IHSI 3: Intelligence, Technology and Analytics III Session Chair(s): Cristhian Aldana, Peru and Rongrong Gu, China</p>
<p>16:30 - 18:30 - FLORENCE</p>	<p>Impact of technological innovation on the productivity of manufacturing companies in Peru Cristhian Nicolas Aldana Yarleque, Julio Cesar Ortiz Berru, Lucio Leo Verastegui Huanca, Peru</p> <p>Parametric Urban Design Rongrong Gu, Zhou Wuzhong, China</p> <p>Analysis of Topological Relationships of Human Jia Zhou, Xue-bo Chen, Zhigang Li, China</p> <p>Narrative Review of the Role of Wearable Devices in Promoting Health Behavior: Based on Health Belief Model Dingzhou Fei, Xia Wang, China</p>

<p>20</p>	<p>IHSI 5: Humans and Artificial Systems Complexity III Session Chair(s): Angela Garay, Peru and Seng Yuen Marcus Goh, Singapore</p>
<p>8:30 - 10:30 - ROMA</p>	<p>Effects of Increased Cognitive Load on Field of View in Multi-Task Operations Involving Surveillance Seng Yuen Marcus Goh, Ka Lon Sou, Sun Woh Lye, Hong Xu, Singapore</p> <p>A framework of quality control matrix in paprika chain value: An empirical investigation in Peru Edgar Ramos, Diana Garcia, Luz Roman, Juan Sotelo-Raffo, Peru</p> <p>Development of Tutoring Assistance Framework using Machine Learning Technology for Teachers Satoshi Togawa, Akiko Kondo, Kazuhide Kanenishi, Japan</p> <p>Applying SLP in a Lean Manufacturing Model to Improve Productivity of a Furniture SME Carlos Raymundo-Ibañez, Zhelenn Farfan, Manuel Caira, Moises Perez, Juan Sotelo-Raffo, Peru</p> <p>Collaborative Model based on ARIMA Forecasting for Reducing Inventory Costs at Footwear SMEs Carlos Raymundo-Ibañez, Alejandra Angulo, Michael Bernal, Moises Perez, Juan Sotelo-Raffo, Peru</p> <p>Replenishment system using inventory models with continuous review and quantitative forecasting to reduce stock-outs in a commercial company Jose Alvarez, Carlos Malca, Luis Nuñez, Ernesto Altamirano, Peru</p> <p>Inventory optimization model applying the Holt-Winters method to improve stock levels in SMEs in the sports retail sector Carlos Raymundo-Ibañez, Diego Amasifen-Pacheco, Angela Garay-Osorio, Maribel Perez-Paredes, Luis Rivera, Peru</p>
<p>21</p>	<p>IHSI 6: New Material, Medical Assistance and Smart Devices Session Chair(s): Mona Mohamed, United States and Jing Liu, South Korea</p>
<p>8:30 - 10:30 - MILAN</p>	<p>The Modeling of Subcutaneous Implantable Microchip Intention of Use Mona Mohamed, United States</p> <p>A New Model to Bionic Hand Prosthesis With Individual Fingers Actuators Marcelo Stoppa, Guilherme Ferreira Neto, Danillo Augusto De Souza Dunck, Brazil</p> <p>A brief analysis of the status quo and trend of wearable smart jewellery devices design Jing Liu, Ken Nah, South Korea</p> <p>UltraSurfaces: A New Material Design Vision Marinella Ferrara, Chiara Pasetti, Italy</p> <p>The hybrid dimension of Material Design: two case studies of a Do-It-Yourself approach for the development of Interactive, Connected, and Smart materials. Stefano Parisi, Markus Holzbach, Valentina Rognoli, Italy</p>

22	<p>IHSI 7: Human-Autonomy Teaming III Session Chair(s): Frank Flemisch, Germany and Francesca Favaro, USA</p>
8:30 - 10:30 - PALERMO	<p>Let's Get in Touch Again: Tangible AI and Tangible XR for a More Tangible, Balanced Human Systems Integration Konrad Bielecki, Frank Flemisch, Daniel López Hernández, Joscha Wasser, Nicolas Daniel Herzberger, Ralph Baier, Ronald Meyer, Germany</p> <p>Time Line based Tasking Concept for MUM-T Mission Planning with Multiple Delegation Levels Felix Heilemann, Axel Schulte, Germany</p> <p>Capture of Intruders by Cooperative Multiple Robots Using Mobile Agents Yasushi Kambayashi, Munehiro Takimoto, Taichi Sekido, Japan</p> <p>Automation as driver companion: findings of AutoMate Project Andrea Castellano, Massimo Fossanetti, Elisa Landini, Fabio Tango, Roberto Montanari, Italy</p> <p>Towards Cognitive Assistance and Teaming in Aviation by Inferring Pilot's Mental State Nele Russwinkel, Christoph Vernaleken, Oliver Klapproth, Germany</p> <p>Evaluating The Impact Of Phone Interface Modality On Response Times To Stimuli In Conventional And Semi-Automated Vehicles Sky Eurich, Shivangi Agarwal, Francesca Favaro, United States</p> <p>Design and evaluation of human-friendly hand-held gaming interface for robot-assisted intuitive telerehabilitation S M Mizanoor Rahman, United States</p>
23	<p>IHSI 8: Applications and Future Trends III Session Chair(s): Beata Mrugalska, Poland and Jessica Mack, Germany</p>
8:30 - 10:30 - FLORENCE	<p>How to Improve Manufacturing Process Implementing 5S Practices: A Case Study Beata Mrugalska, Monika Konieczna, Magdalena K. Wyrwicka, Poland</p> <p>A Potential Analysis of Cognitive Assistance Systems in Production Areas Jessica Mack, Bastian Pokorni, Moritz Haemmerle, Germany</p> <p>Use of CAD-CAM technologies in the production of furniture for natural disaster areas in Ecuador Francesco Magnone, Victor Gustavo Gomez Rodriguez, Yoenia Portilla, Jesus Hechavarria, Ecuador</p> <p>A Five-Factor KMS Success Model Gabriel Nyame, Zhiguang Qin Qin, China</p> <p>The initial stage of development of a new computer program for the processing of psychophysiological tests Jelena Turlisova, Anita Jansone, Latvia</p> <p>Modeling user preferences and priorities without the pain: a mixed-methods approach Eric Vorm, United States</p> <p>Integrated Safety Risk Assessment between Enterprises, Industries and Areas Zhang Lu, Yun Luo, Rui Liao, China</p>
10:30 - 11:00 • Coffee Break - Refreshments will be provided	

<p>25</p>	<p>IHSI 2: Humans and Artificial Cognitive Systems IV Session Chair(s): Christina Valavani, Greece and Lauro Pesántez, Ecuador</p>
<p>11:00 - 13:00 - MILAN</p>	<p>Improving Machine Translation Output of German Compound and Multiword Financial Terms Christina Valavani, Christina Alexandris, George Mikros, Greece</p> <p>Human factor and cognitive methods in the design of products and production systems of mechanical engineering in the framework of NBIC convergence Evgeny Kolbachev, Elena Sidorova, Polina Vaneeva, Russia</p> <p>Automatic Assessment System of Operators' Risk in Order Picking Process for Task Analysis Yangxu Li, Bach Q. Ho, Tatsunori Hara, Jun Ota, Japan</p> <p>A variety of visual-speech matching ERP studies in quiet-noise scenarios Lingling Hu, Chengqi Xue, Junkai Shao, China</p> <p>Research on color stratification in dynamic environment: Frequency domain analysis of delta, SMR and theta EEG rhythms Cheng Guan, Lei Zhou, Tongtong Zhang, Xiang Zeng, China</p> <p>Disability and work: an intelligent ecosystem for supporting the training of persons with disabilities and improving staff selection Monica Rodas-Tobar, César Bernal-Bravo, Vladimir Robles-Bykbaev, Angélica Pinos-Figueroa, Ana Parra-Astudillo, Fernando Pesántez-Avilés, Ecuador</p> <p>TARS Mobile App with Deep Fingertip Detector for the Visually Impaired Tetsushi Miwa, Youichi Hosokawa, Yoshihiro Hashimoto, Giuseppe Lisi, Japan</p>
<p>26</p>	<p>IHSI 5: Humans and Artificial Systems Complexity IV Session Chair(s): Ahto Kuuseok, Estonia and Merve Demirci, Turkey</p> <p>Procedure of mining relevant examples of armed conflicts to define plausibility, based on numerical assessment of similarity of situations and development Ahto Kuuseok, Estonia</p> <p>User Experience over Time with Personal Assistants of Mobile Banking Applications in Turkey Hatice Merve Demirci, Mehmet Berberoglu, Turkey</p> <p>Recruitment and training model for retaining and improving the reputation of medical specialists to increase revenue of a private healthcare SME Carlos Raymundo-Ibañez, Audy Castro-Blancas, Carlos Rivas-Zavaleta, Luis Rivera, Carlos Cespedes-Blanco, Peru</p> <p>Shopping Website Accessibility Study Based on Users' Mental Models Zhen Wu, Chengqi Xue, Yanfei Zhu, Binhong Zhai, Chi Zhang, China</p> <p>HIRAC-based risk management model with POKA-YOKE and TPM continuity to control and mitigate emergency scenarios in hydrocarbon sector operations Carlos Raymundo-Ibañez, Jose Echevarria-Cahuas, Maria Quispe-Huapaya, Luis Rivera, Cesar Ramirez-Valdivia, Peru</p> <p>Demand Management Model Based on Quantitative Forecasting Methods and Continuous Improvement to Increase Production Planning Efficiencies of SMEs Bakeries Carlos Raymundo-Ibañez, Denilson Contreras-Choccata, Juan Sotelo-Raffo, Luis Rivera, Peru</p> <p>Investigating the impact of time-lagged end-to-end control in autonomous driving Haruna Asai, Yoshihiro Hashimoto, Giuseppe Lisi, Japan</p>

27	IHSI 8: Applications and Future Trends IV Session Chair(s): Taeha Yi, South Korea and Mi Chang, South Korea
11:00 - 13:00 - FLORENCE	<p>A Study on Understanding of Visitor Needs in Art Museum: Based on Analysis of Visual Perception through Eye-tracking Taeha Yi, Mi Chang, Sukjoo Hong, Meereh Kim, Ji-Hyun Lee, South Korea</p> <p>Analysis of Art Museums' Visitor Behaviors and Eye Movements for Mobile Guide App Design Mi Chang, Taeha Yi, Po Yan Lai, Jun Hee Lee, Ji-Hyun Lee, South Korea</p> <p>Al-Maqta Canal of Abu Dhabi, UAE: A Study of Water-front Landscapes and Flow in Manmade Canals Mohamed El Amrousi, Mohamed Elhakeem, United Arab Emirates</p> <p>A Discussion of User Experience on a Panoramic Scooter Riding Video Service Fei-Hui Huang, Taiwan</p> <p>Experimental Study on Dynamic Map Information Layout Based on Eye Tracking Jiapei Ren, Haiyan Wang, Junkai Shao, China</p> <p>Research on Readability of Adaptive Foreground in Dynamic Background Maoping Chi, Lei zhou, China</p> <p>Research on Interaction Design of Children's Companion Robot Based on Cognitive Psychology Theory Tianmai Zhang, Wencheng Tang, China</p>
32	IHSI 6: Accessibility, Human Centered Design and Inclusion Session Chair(s): Silvia Imbesi, Italy and Francesco Gherardini , Italy
11:00 - 13:00 - VERONA	<p>A methodological approach for the design of inclusive assistive devices by integrating co-design and Additive Manufacturing technologies Francesco Gherardini, Andrea Petruccioli, Enrico Dalpadulo, Valentina Bettelli, Maria Teresa Mascia, Francesco Leali, Italy</p> <p>Challenges and Improvements in Website Accessibility for Health Services Patricia Acosta-Vargas, Paula Hidalgo, Gloria Acosta-Vargas, Mario Gonzalez, Javier Guaña-Moya, Belén Salvador-Acosta, Ecuador</p> <p>Accessibility evaluation of video games for users with cognitive disabilities Luis Salvador-Ullauri, Patricia Acosta-Vargas, Sergio Luján-Mora, Ecuador</p> <p>A Framework Designing for Story Sharing of the Elderly: From Design Opportunities to Concept Selection Cun Li, Hu Jun, Bart Hengeveld, Caroline Hummels, Netherlands</p> <p>Design of Smart Devices For Older People: A User Centered Approach For The Collection Of Users' Needs Silvia Imbesi, Giuseppe Mincoelli, Italy</p>
13:00 - 14:00 • Lunch Break	
29	IHSI 5: Humans and Artificial Systems Complexity V Session Chair(s): Wael Hafez, USA and Chi Zhang, China
14:00 - 16:00 - MILAN	<p>VR Experience Reflection from the Perspective of Game Beginner: Based on an Embodied Formative Evaluation Jing Cao, Ke Ma, China</p> <p>Human-machine interface research of autonomous vehicles based on Cognitive Work Analysis framework Chi Zhang, Guodong Yin, Zhen Wu, China</p> <p>Research on Disabled People's Museum Visit Experience from the Perspective of Actor-Network Theory Shifeng Zhao, Jie Shen, China</p> <p>Human Digital Twins – Two-Layer Machine Learning Architecture for Intelligent Human–Machine Collaboration Wael Hafez, Thailand</p> <p>Study on Key Elements of Shopping App Design for The Elderly Wenfeng Liu, Fenghong Wang, Yiyang Chen, China</p> <p>Usability of typefaces in Road Signage Jun Bum Shin, United States</p> <p>Object Detection to Evaluate Image-to-image Translation on Different Road Conditions Fumiya Sudo, Yoshihiro Hashimoto, Giuseppe Lisi, Japan</p>
16:00 - 17:00 • Coffee Break - Refreshments will be provided	

Interactive Poster Demonstrations

Posters will be displayed Thursday, February 20 and Friday, February 21. Posters must be removed by the end of each day/session they are scheduled to be demonstrated. Posters can be positioned starting on 8:00 a.m. and removed by the last poster session after 16:30. Poster demonstration sessions will be at the times shown below.

POSTER/DEMONSTRATION SESSIONS THURSDAY, FEBRUARY 20

Session Time: 9:00 - 13:00

Room: Foyer

- A1. **Competitiveness of higher education system as a sector of economy: conceptual model of analysis with application to Ukraine**
Olha Hrynkevych, Oleg Sorochak, Olena Panukhnyk, Nazariy Popadynets, Rostyslav Bilyk, Iryna Khymych, Viktoriia Yazina, Ukraine
- A2. **Application Trend of Interactive Multimedia in Art Museums**
Wang yongbin, Yu jian, China
- A3. **Design and verification method for flammable fluid drainage of civil aircraft based on DMU**
Yu Chen, China
- A4. **Constructing a Mental Model of Automation Levels in the Area of Vehicle Guidance**
Larissa Zacherl, Jonas Radlmayr, Klaus Bengler, Germany
- A5. **Drug recommendation system for geriatric patients based on bayesian networks and evolutionary computation**
Lourdes Giannina Montalvo, Edwin Villanueva, Peru
- A6. **The Car as a Transformer**
Jeremy Aston, Rui Pedro Freire, Portugal
- A7. **Strategies for accessibility to the Teodoro Maldonado hospital in Guayaquil. A design proposal focused on the human being**
Josefina Avila, Maria Fois, Jesus Hechavarria, Ecuador
- A8. **Design criteria in vernacular architecture as a proposal for low-income dwelling for urban parishes of the Babahoyo canton, Ecuador**
Julio Franco, Bryan Colorado, Jesus Hechavarria, Maikel Leyva, Ecuador
- A9. **Low-income dwelling bioclimatic design with CAD technologies. A case study in Monte Sinahí, Ecuador**
Jesus Hechavarria, Boris Forero, Robinson Vega, Katherine Naranjo, Anais Sanchez, Billy Soto, Felix Jaramillo, Ecuador
- A10. **Travel Time Expenditure Based on Big Data from Mobile Phone Signaling in South Korea**
Younshik Chung, Snagki Nam, Woo-Young Ahn, South Korea
- A11. **Brain-computer interface using motor and visual imagination**
Fabio Llorella Costa, Spain
- A12. **The Application of Wearable Intelligent Devices in Tennis**
Yonghui Li, China

POSTER/DEMONSTRATION SESSIONS THURSDAY, FEBRUARY 20

Session Time: 13:00 - 17:00

Room: Foyer

- B1. **Towards conceptual new product development framework for Latvian ICT sector companies and startups**
Didzis Rutitis, Tatjana Volkova, Latvia
- B2. **Fatigue measurement of task: based on multiple eye-tracking parameters and task performance**
Hanyang Xu, China

POSTER/DEMONSTRATION SESSIONS THURSDAY, FEBRUARY 20

Session Time: 13:00 - 17:00

Room: Foyer

- B3. **Human AI Symbiosis: The Role of Artificial Intelligence in stratifying high-risk Outpatient Senior Citizen Fall Events in a non-connected environments**
Chandrasekar Vuppapalapati, Anitha Ilapakurti, Sharat Kedari, Santosh Kedari, Jaya Shankar Vuppapalapati, Rajasekar Vuppapalapati, United States
- B4. **Detection and Prevention of Criminal Attacks In Cloud Computing Using A Hybrid Intrusion Detection Systems**
Thierry Nsabimana, Christian Bimenyimana, Victor Odumuyiwa, Joël T. Hounsou, Benin
- B5. **Virtual Reduction and Interaction of Chinese Traditional Furniture and Its Usage Scenarios**
Yu Dehua, China
- B6. **Investigating human factors in the hand-held gaming interface of a telerehabilitation robotic system**
S M Mizanoor Rahman, United States
- B7. **Computer use related Injuries and its Prevention in a Scientific way**
Arun Kumar, India
- B8. **Research on a Design Method Based on Kansei Engineering: Taking girl dresses as an example**
Yun Mu, Mei Xu, Chenqi Yu, China
- B9. **Analysis the Process of the Exploratory Research: Representation in a Coordinate System XYZ**
Olga Popova, Boris Popov, Vladimir Karandey, Viktor Afanasyev, Russia
- B10. **Autonomous vehicle assistant system to improve trust in autonomous vehicles**
Taehyun Ha, Sangyeon Kim, Sangwon Lee, South Korea
- B11. **Explanation of effects on users' trust in autonomous vehicles: Focusing on explanation type, users' driving style, and situations' risk severity**
Donghak Seo, Sangyeon Kim, Sangwon Lee, South Korea
- B12. **Training public speaking with virtual social interactions: Effectiveness of real-time feedback and delayed feedback**
Mathieu Chollet, France

POSTER/DEMONSTRATION SESSIONS FRIDAY, FEBRUARY 21

Session Time: 9:00 - 13:00

Room: Foyer

- C1. **The Quantitative Evaluation of Permanent Disability In Forensic Medicine Through Photogrammetric Stereo Technology**
Claudia Trignano, Andrea Castelli, Vittorio Dell'Orfano, Elena Mazzeo, Italy
- C2. **Emotional Data Visualization for Well-being, Based on HRV Analysis**
Akane Matsumae, Ruiyao Luo, Yun Wang, Eigo Nishimura, Yuki Motomura, Japan
- C3. **Development of 21st Century Skills through Adaptive Serious Gaming**
Gabrielle Teyssier-Roberge, Sebastien Tremblay, Canada
- C4. **Consumer Experience of a Disruptive Technology: An O2O Food Delivery App Case**
Jaehye Suk, Yeon Ji Yang, Yun Jik Jeong, Muzi Xiang, Kee Ok Kim, South Korea
- C5. **A Consumer-Centric Approach to Understand Users' Digital Experiences**
Yeon Ji Yang, Jaehye Suk, Kee Ok Kim, Hyesun Hwang, Hyewon Lim, Muzi Xiang, South Korea
- C6. **PEST analysis based on fuzzy decision maps for the ordering of risk factors in territorial planning of the Vinges canton, Ecuador**
Carlos Valero, Jesus Hechavarria, Ecuador

POSTER/DEMONSTRATION SESSIONS FRIDAY, FEBRUARY 21

Session Time: 13:00 - 17:00

Room: Foyer

- C7. **Load to Failure Test of Various 3D-Printed Plastics for utilization as Lower Extremity Prosthesis Components**
Paul Matthew Jiao, Philippines
- C8. **Patient-centered Evaluation of 3D Printed Transtibial Prosthesis Using the Prosthesis Evaluation Questionnaire**
Paul Matthew Jiao, Philippines
- C9. **Realtime Adaptive Virtual Reality for Pain Reduction**
Luca Bondin, Alexiei Dingli, Malta
- C10. **Warning System for Pedestrian Safety based on Eye Tracking and Object Detection**
Momoka Takeno, Yoshihiro Hashimoto, Giuseppe Lisi, Japan
- C11. **Benchmarking Visual Localization in Simulation**
Shosuke Terazawa, Yoshihiro Hashimoto, Giuseppe Lisi, Japan
- C12. **Fuzzy Logic-Based Multi-Agent Simulation Approach to Analyzing the Effects of Team Diversity and Task Difficulty on Team Creativity**
Kun Chang Lee, South Korea

POSTER/DEMONSTRATION SESSIONS FRIDAY, FEBRUARY 21

Session Time: 13:00 - 17:00

Room: Foyer

- D1. **Examining Feedback of Apple Watch Users in Korea Using Textmining Analysis**
Yu Lim Lee, Minji Jung, In-Hyoung Park, Ahyoung Kim, Jae Eun Chung, South Korea
- D2. **Semantic Network Analysis of Korean Virtual Assistants' Review Data**
Hyewon Lim, XU LI, Harim Yeo, Hyesun Hwang, South Korea
- D3. **Consumers' Information Privacy and Security Concerns and Use of Intelligent Technology**
Seonglim Lee, Jaehye Suk, Hee Ra Ha, Xiao Xi Song, Yuanzhou Deng, South Korea
- D4. **Model for urban consolidation of informal human settlements based on cooperation systems and human participation in Guayaquil, Ecuador**
Maria Fois, Karen Sellan, Karla Moscoso, Maria Ruiz, Ecuador
- D5. **Systemic approach to the territorial planning of the urban parish La Aurora, Daule, Ecuador**
Cynthia Alava, Jesus Hechavarria, Maria Fois, Ecuador
- D6. **Systemic approach to strategic tourism planning in the cantonal capital of Bahía de Caráquez, Sucre, Ecuador**
Milton Zambrano, Jesus Hechavarria, Ecuador
- D7. **Research on design skills for personnel evaluation systems and educational programs**
Toshiya Sasaki, Japan
- D8. **Understanding the South Korean Millennials in Terms of the Value of Mobility for an Intelligent Human System Focusing on Connected**
Jiyoun Lee, Sora Sung, Ken Nah, South Korea
- D9. **Exploring the vital factors that impede material waste management on building construction sites**
Bernard Martin Arthur-Aidoo, South Africa
- D10. **Appraisal of incentive schemes for employees: A case of construction SMEs**
Bernard Martin Arthur-Aidoo, South Africa
- D11. **Exploring The Impact Of The Fourth Industrial Revolution On Small And Medium-Size Construction Firms**
Bernard Martin Arthur-Aidoo, South Africa



2021 IHSI International

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