2023
IHIET
International

9th International Conference on

Human Interaction and Emerging Technologies (IHIET-AI 2023)

Artificial Intelligence & Future Applications

April 13-15, 2023

Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne, Switzerland

Final Program

WWW.IHIET-AI.ORG

IHIET-AI 2023
Conference Reception

Conference Organization

CONFERENCE ADMINISTRATOR:
admin[at]ihiet-AI.org

Conference Tracks

ACRONYM	TRACK
IHIET 1	Human-centered Design
IHIET 2	Artificial Intelligence, Computing and Intelligent Design
IHIET 3	Augmented, Virtual and Mixed Reality Simulation
IHIET 4	Wearable Technologies, Social and Affective Computing
IHIET 5	Human–computer Interaction
IHIET 6	Human-Technology and Future of Work
IHIET 7	Emerging Technologies and Business Applications
IHIET 8	Applications in Medicine and Healthcare
IHIET 9	Management, Training and Business Applications
IHIET 10	General

Conference at a Glance

Friday - Saturday, April 14-15, 2023

#	TITLE	ROOM	TRACK
	Friday April 14, 2023 - Session Time: 9:00 - 10:30 CET		
1	Human-centered Design I	Genève	IHIET 1
2	Artificial Intelligence, Computing and Intelligent Design I	Bern	IHIET 2
	Friday April 14, 2023 - Session Time: 11:00 - 12:30		
3	Intelligence, Technology and Analytics I	Genève	IHIET 3
4	Human–computer Interaction I	Bern	IHIET 5
	12:30 - 13:30 • Sessions Break		
	Friday April 14, 2023 - Session Time: 13:30 -15:00		
5	Human-Technology and Future of Work I	Genève	IHIET 5
7	Applications in Medicine and Healthcare I	Bern	IHIET 8
	End of Day 1		
	Saturday April 15, 2023 - Session Time: 9:00 - 10:30 CET		
9	Applications and Future Trends I	Genève	IHIET 10
10	Human-centered Design II	Bern	IHIET 9
	10:30 - 11:00 • Sessions Break		
	Saturday April 15, 2023 - Session Time: 11:00 - 12:30		
11	Tutorial: Conceptualizing intelligence amplification in human-centred AI applications using the design canvas	Genève	IHIET 2
14	Artificial Intelligence, Computing and Intelligent Design II	Bern	IHIET 2
	12:30 - 13:30 • Sessions Break		

Detailed Program

PLENARY SESSION		Track	Room
Thursday, April 13		**ALL**	
19:30 - 22:30	**Conference Reception**		
	Reception Location: Brasserie de Montbenon, Allée E. Ansermet 3, 1003 Lausanne Tell: +41 21 320 40 30 ([Google Maps](#)) **(Dress is business casual, Photo ID required).**		

DAY 1		Track	Room
SESSION 1	Human-centered Design I	IHIET 1	Genève
Friday, April 14	**Session Chair(s): Isabella Nevoso, Italy and Waldemar Titov, Germany**		
9:00 - 10:30 CET	HCD methodologies and simulation for visual rehabilitator's education in oMERO project Isabella Nevoso, Niccolò Casiddu, Annapaola Vacanti, Claudia Porfirione, Isabel Leggiero, Francesco Burlando, Italy		
	Designing a Digital Crown-Mapping Application for Pedestrian and Cyclists Waldemar Titov, Carl Gerlach, Thomas Schlegel, Germany		
	On the way to hybrid intelligence: influence of the human-system interaction rate on the human cognitive performance Oleksandr Burov, Evgeniy Lavrov, Svitlana Lytvynova, Olha Pinchuk, Kateryna Horska, Oleksii Tkachenko, Natalia Kovalenko, Yana Chybiriak, Ukraine		
	Human-Centered Design of Voice Communications: Gender Aspects Jan Holub, Yann Kowalczuk, Czech Republic		

DAY 1		Track	Room
SESSION 2	**Artificial Intelligence, Computing and Intelligent Design I**	**IHIET 2**	**Bern**
Friday, April 14	**Session Chair(s):** **Luepol Pipanmekaporn, Thailand and Lanjakorn Sewata, Thailand**		
9:00 - 10:30 CET	Visual Instance Retrieval for Cultural Heritage Artefacts using Feature Pyramid Network 　　Luepol Pipanmekaporn, Suwatchai Kamonsantiroj, Thailand		
	Automated Localization and Classification of Diabetic Retinopathy using image processing techniques with Convolutional Neural Network. 　　Lanjakorn Sewata, Krittanai Maneenual, Phichaya Ukosaramic, Thailand		
	Efficient Inductive Logic Programming based on Predictive A*-like Algorithm 　　Moeko Okawara, Junji Fukuhara, Munehiro Takimoto, Tsutomu Kumazawa, Yasushi Kambayashi, Japan		
	Personalized Learning Path (PLP) – "App" for improving academic performance and prevention of dropouts in India 　　Jagannath Kallakurchi, Pradipta Banerji, India		
	Modeling and implementing program activities to support the implementation of new technologies in the small and medium-sized enterprise sector 　　Sylwia Stefaniak, Poland		
	How the Ones in Need Solve Financial Problems in Times of Crisis? The Implication for Government Support Programs 　　Hermann Prossinger, Nikola Geciova, Miroslav Horvath, Jakub Binter, Eliska Cempirkova, Austria		
	10:30 - 11:00 · Sessions Break		

DAY 1		Track	Room
SESSION 3	Intelligence, Technology and Analytics I	IHIET 3	Genève
Friday, April 14	Session Chair(s): Gabriela Reyes Zarate, Mexico and Angelo Compierchio, Sweden		
11:00 - 12:30 CET	Comparison in virtual reality based on efficiency for product assembly Gabriela G. Reyes-Zárate, Eduardo Caballero Montes, Jorge A. Gonzalez-Mendivil, Uziel Hernández Espejo, Mexico		
	Assistive VR platform design for Telemanipulation at the Super Fragment Separator Facility Angelo Compierchio, Phillip Tretten, Solomon Oyelere, Chris Karagiannis, Sweden		
	Simulation-based Prediction Model to Optimize Contact Pressure of Knitted Fabrics for Wearable Garments Seonyoung Youn, Kavita Mathur, Caitlin Knowles, Beomjun Ju, Busra Sennik, Jesse Jur, United States		
	Methodologies For Determining Tariffs For Intermodal Cargo Transportation Zhaken Kuanyshbayev, Kazakhstan		
	Prevention of Work-Related Musculoskeletal Disorders supported by Artificial Intelligence Firdaous Sekkay, Canada		

DAY 1		Track	Room
SESSION 4	Human–computer Interaction I	IHIET 5	Bern
Friday, April 14	Session Chair(s): Swenja Sawilla, Germany and Shahzad Alam, United Kingdom		
11:00 - 12:30 CET	Development of an Interaction Concept to Illustrate the Energy Transformation on an AR-Surface Swenja Sawilla, Waldemar Titov, Mathias Trefzger, Nicola Fricke, Germany		

Safety and security analysis of Connected and Automated Vehicles: A methodology based on Interaction with stakeholders
    Shahzad Alam, Giedre Sabaliauskaite, Hesamaldin Jadidbonab, Jeremy Bryans, United Kingdom

On-Site and Remote Crowdsourcing of Accessibility Data for People with Mobility Impairments: A Case Study in Zurich's District 1
    Alireza Darvishy, Hans-Peter Hutter, Sophy Chhong, Lina Witzel, Switzerland

The Course Glancer - Leveraging Interactive Visualization for Course Selection
    Christian Spletter, Martin Eppler, Switzerland

Operationalising ontologies for competence management in the industry
    Kurt Englmeier, Pedro Contreras, Germany

12:30 - 13:30 • Sessions Break

DAY 1		Track	Room
SESSION 5	**Human-Technology and Future of Work I**	**IHIET 6**	**Genève**
Friday, April 14	**Session Chair(s): Sören Holzenkamp, Germany and Linda Bower, United States**		
13:30 -15:00 CET	Identification of airspaces with increased coordination effort based on radar data Sören Holzenkamp, Martin Jung, Germany		
	Bulgaria's Digital Transformation Linda Bower, United States		
	Internet of Things (IoT) based Drowsiness Detection and Intervention System Amandeep Singh, Siby Samuel, Jagmeet Singh, Yash Kumar Dhabi, Canada		

Prevention of Cyberbullying in Social Media: Perspective of Female Entrepreneurs in Bangladesh.
    Mohammad Rashed Khan, United Kingdom

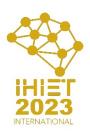| DAY 1		Track	Room
SESSION 7	**Applications in Medicine and Healthcare I**	**IHIET 8**	**Bern**
Friday, April 14	**Session Chair(s): Wael Hafez, United States and Ikram Ghouri Mukarram Mohammed, Russia**		
13:30 -15:00 CET	Patient Human Digital Twin Platform for Patient-Centered Healthcare Wael Hafez, United States		
	Comparative Analysis Methods in Optimizing Corticosteroid Therapy in Patients with Covid-19 and Diabetes Mellitus Ikram Ghouri Mukarram Mohammed, Irina Kurnikova, Maiorov Vladimir, Iuliia Verzina , Tatiana Meleshkevich, Evgeniya Tavlueva, Russia		
	Quantitative assessments in evaluating the effectiveness of arterial hypertension treatment: new technologies Irina Kurnikova, Ramchandra Sargar, Alexi Pavlov, Zhanar Baisenbaeva, Natalia Zabrodina, Russia		
	15:00 - 15:30 • Sessions Break		

DAY 2		Track	Room
SESSION 9	**Applications and Future Trends I**	**IHIET 10**	**Genève**
Saturday, April 15	**Session Chair(s): Thomas Menkhoff, Singapore and Shuichi Fukuda, Japan**		
9:00 - 10:30 CET	Engaging Students through Conversational Chatbots and Digital Content: A Climate Action Perspective Thomas Menkhoff, Benjamin Gan, Singapore		
	Instinctive Intelligence: Our Next AI Shuichi Fukuda, Japan		
	Public's Perspective on Civil Drones: Reasons to support and oppose Vaishnavi Upadrasta, Rodney Leitner, Germany		
	New technologies sustainability: monitoring and evaluation of results of interventions for the promotion of cultural heritage and the human landscape Francesco Toscano, Paola Dantonio, Costanza Fiorentino, Francesca Vera Romano, Vincenzo Nunzio Scalcione, Italy		
	Human Machine Interaction and Security in the era of modern Machine Learning Anastasia-maria Leventi-Peetz, Germany		

DAY 2		Track	Room
SESSION 10	**Human-centered Design II**	**IHIET 1**	**Bern**
Saturday, April 15	**Session Chair(s): Päivi Heikkilä, Finland and Akhila Bairy, Germany**		
9:00 - 10:30 CET	Framework of Future Industrial Worker Characteristics Päivi Heikkilä, Susanna Aromaa, Hanna Lammi, Timo Kuula, Finland		
	Optimal Explanation Generation using Attention Distribution Model Akhila Bairy, Martin Fränzle, Germany		
	Exploration of Intercultural Mechanism of Language through the Interaction with Sensitive Qualities of Artistic Objects		

	Jorge Gil Tejeda, Lorena Olmos Pineda, Mexico		

10:30 - 11:00 • Sessions Break

DAY 2		Track	Room
SESSION 11	Tutorial: Conceptualizing intelligence amplification in human-centred AI applications using the design canvas	**IHIET 2**	**Genève**
Saturday, April 15	Session Chair(s): Jean Paul Sebastian Piest, Maria Eugenia Iacob, Marcel Johanna Theodoor Wouterse, Netherlands		
11:00 - 12:30 CET			
	Tutorial: Conceptualizing intelligence amplification in human-centred AI applications using the design canvas Jean Paul Sebastian Piest, Maria Eugenia Iacob, Marcel Johanna Theodoor Wouterse, Netherlands		

DAY 2		Track	Room
SESSION 14	**Artificial Intelligence, Computing and Intelligent Design II**	**IHIET 2**	**Bern**
Saturday, April 15	**Session Chair(s): Barry Kirwan, France**		
11:00 - 12:30 CET	The Future Impact of Digital Assistants on Aviation Safety Culture Barry Kirwan, France		
	VOXReality: Immersive XR experiences combining language and vision AI models Apostolos Maniatis, Stavroula Bourou, Zacharias Anastasakis, Kostantinos Psychogios, Greece		
	Information Digital Twin Flight Platform— Enabling Aircraft Human-Machine Teams Wael Hafez, United States		

Human like programming using SPADE
BDI agents and the GPT-3-based
Transformer
    Alain Josué Ratovondrahona,
Hanitriniaina Marielle Rakotozanany,
Thomas Mahatody, Victor Manantsoa,
Madagascar

Poster Demonstrations

SESSION A	Poster Demonstration Session
	Friday-Saturday, April 14-15 [10:30 - 15:30]
A-1	The Mixed Reality Passthrough Window: Rethinking the Laptop Videoconferencing Experience Ian Gonsher, Matt Lee, Yumeng Ma, Ivan Pineda-dominguez, Yuxin Han, United States
A-2	Virtual Reality to Improve Technical Teacher Presenting and Speaking Skills David Vaněček, Dana Dobrovská, Czech Republic
A-3	Data Analysis for the Projection of Flexible Composite Materials to Naval Transport Scenarios Alexandra - Gabriela Ene, Carmen Mihai, Mihaela Jomir, Constantin Jomir, Romania
A-4	TAKTIK – A digital and intelligent playbook for the learning and teaching of game tactics Sebastien Tremblay, Cindy Chamberland, Canada
A-5	Blinking, Beeping or Just Driving? Investigating Different Communication Concepts for an Autonomously Parking E-Cargo Bike from a User Perspective Isabel Kreißig, Tina Morgenstern, Josef Krems, Germany
A-6	Can ChatGPT Help College Instructors Generate High-quality Quiz Questions? Kai Lu, United States
A-7	Does the level of system autonomy affect the sense of agency and moral decision making? An experimental study Adriana Salatino, Arthur Prevel, Emilie Caspar, Salvatore Lo Bue, Belgium
A-8	Complementing and continuously developing human expertise with AI Phlipp Renggli, Ruben Zwicker, Lukas Weiss, Toni Waefler, Switzerland
A-9	Application of Double Skin Facade to Improve the Thermal Comfort Level in an Experimental Chamber Eusébio Conceição, Maria Inês Conceição, Maria Manuela Lúcio, João Gomes, Hazim Awbi, Portugal
A-10	Numerical study of the airflow around the occupant using confluent jets system Eusébio Conceição, Maria Inês Conceição, Maria Manuela Lúcio, João Gomes, Hazim Awbi, Portugal

2023 IHIET International

10th International Conference on

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Artificial Intelligence & Future Applications

August 22-24, 2023

Université Côte d'Azur, Nice, France

Call for Papers

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