AHFE International

AHFE International
Applied Human Factors and Ergonomics Conference
Hawaii 2024

2024 AHFE International

AHFE International Conference on
Human Factors in Design, Engineering, and Computing (AHFE Hawaii Edition)

Final Program

December 8-10, 2024

**Hilton Hawaiian Village,
Honolulu, Hawaii, USA**

Conference Reception

Sunday, December 8, 2024
17:00-20:00 (HST)

Paina Waikiki Luau
Waikiki Beach Marriott Resort & Spa
(Level 1 - Ocean Front Terrace)
2552 Kalākaua Ave
Honolulu, Hawaii 96815

(Registered Participants only - Dress: Hawaiian-style, Photo ID Required)

Conference Organization

CONFERENCE TRACKS	ACRONYM
Application of Emerging Technologies	AET
Artificial Intelligence and Social Computing	AISC
Applications of Technologies in Healthcare and Medicine	ATHM
Augmented, Virtual and Mixed Reality Simulation	AVM
Computation and Intelligent Design	CID
Creativity, Innovation and Entrepreneurship	CIE
Emerging Technologies and Business Applications	ETBA
Human-Centered Design	HCD
Human–Computer Interaction	HCI
Human Factors and Simulation	HFSIM
Human-Technology and Future of Work	HTFW
Physical Ergonomics & Human Factors	PEHF
Human Factors in Sports, Injury Prevention and Outdoor Recreation	SIPOR
Safety Management and Human Factors	SM
Training and Learning Sciences	TLS
Human Factors in Transportation	TRAN
Usability and User Experience	UUE

CONFERENCE ADDRESS
Hilton Hawaiian Village
Waikiki Beach Resort

2005 Kālia Rd.
Honolulu, Hawaii 96815

CONFERENCE ADMINISTRATOR
admin@hawaii.ahfe.org

Conference at a Glance

Access to the Conference Scientific and Technical Program
will be available through the AHFE Submission System

#	Session Title	Track	Room
	Monday December 9, 2024 - Session Time: 8:30-9:30 (HST)		
	Opening Session & Plenary Speech	ALL	Honolulu Suite
	Refreshments: 9:30-10:00 (HST) • Location: Foyer		
	Monday December 9, 2024 - Session Time: 10:00-11:30 (HST)		
1	Applications of Technologies in Healthcare and Cognitive Assessment I	ATHM	AHFE 1: Iolani Suite I
2	Transportation: Comfort and Safety I	TRAN	AHFE 2: Iolani Suite II
3	Augmented, Virtual and Mixed Reality Simulation I	AVM	AHFE 3: Iolani Suite III
4	Ergonomic Evaluation and Biomechanical Modeling	PEHF	AHFE 4: Iolani Suite IV
5	Artificial Intelligence and Social Computing I	AISC	AHFE 5: Iolani Suite V
6	Human Robot/Machine Interaction and Collaboration I	HCI	AHFE 6: Iolani Suite VI
7	SIG: Human Factors in Naval Aviation: The Intersection of Automation, Training, and Operations	HFSIM	AHFE 7: Iolani Suite VII
	Refreshments: 11:30-12:00 (HST) • Location: Foyer		
	Monday December 9, 2024 - Session Time: 12:00-13:00 (HST)		
8	Applications of Technologies in Healthcare and Cognitive Assessment II	ATHM	AHFE 1: Iolani Suite I
9	Human Robot/Machine Interaction and Collaboration II	HCI	AHFE 2: Iolani Suite II
10	Artificial Intelligence and Social Computing II	AISC	AHFE 3: Iolani Suite III
11	Augmented, Virtual and Mixed Reality Simulation II	AVM	AHFE 4: Iolani Suite IV
12	Cybersecurity and Trust in AI	AISC	AHFE 5: Iolani Suite V
13	Emerging Technologies and Business Applications I	AET	AHFE 6: Iolani Suite VI
14	Workshop: Design Maturity Frameworks and Enjoyable Design Processes	HCD	AHFE 7: Iolani Suite VII
	Monday December 9, 2024 - Session Time: 13:00-14:00 (HST)		
15	Applications in Healthcare for the Elderly and Special Population	ATHM	AHFE 1: Iolani Suite I
16	Artificial Intelligence and Social Computing III	AISC	AHFE 2: Iolani Suite II
17	Augmented, Virtual and Mixed Reality Simulation III	AVM	AHFE 3: Iolani Suite III
18	User Experience Design and Usability Evaluation I	HCI	AHFE 4: Iolani Suite IV
19	Human-Centered Design and Human–Computer Interaction I	HCD	AHFE 5: Iolani Suite V
20	Emerging Technologies and Business Applications II	ETBA	AHFE 6: Iolani Suite VI
21	Sustainable Technologies and Business Applications	ETBA	AHFE 7: Iolani Suite VII

Conference at a Glance

Conference program schedule is listed in Hawaii Standard Time (HST) - Honolulu Timezone

Access to the Conference Scientific and Technical Program
will be available through the AHFE Submission System

#	SESSION TITLE	TRACK	ROOM
TUESDAY, DECEMBER 10, 2024 - SESSION TIME: 8:30-9:30 (HST)			
22	Human-Technology and Future of Work I	HTFW	AHFE 1: Iolani Suite I
23	Transportation: Comfort and Safety II	TRAN	AHFE 2: Iolani Suite II
24	User Experience Design and Usability Evaluation II	HCI	AHFE 3: Iolani Suite III
25	Computation and Intelligent Design	CID	AHFE 4: Iolani Suite IV
26	Education and Training	TLS	AHFE 5: Iolani Suite V
27	Human-Centered Design and Design for Inclusion I	HCD	AHFE 6: Iolani Suite VI
REFRESHMENTS: 9:30-10:00 (HST) • LOCATION: FOYER			
TUESDAY, DECEMBER 10, 2024 - SESSION TIME: 10:00-11:30 (HST)			
29	Human-Centered Design and Human–Computer Interaction II	HCD	AHFE 1: Iolani Suite I
30	Creativity, Innovation and Entrepreneurship	CIE	AHFE 2: Iolani Suite II
31	Human-Technology and Future of Work II	HTFW	AHFE 3: Iolani Suite III
32	User Experience Design and Usability Evaluation III	HCI	AHFE 4: Iolani Suite IV
33	Applications in Learning Sciences and Education I	TLS	AHFE 5: Iolani Suite V
34	Human-Centered Design and Design for Inclusion II	HCD	AHFE 6: Iolani Suite VI
REFRESHMENTS: 11:30-12:00 (HST) • LOCATION: FOYER			
TUESDAY, DECEMBER 10, 2024 - SESSION TIME: 12:00-13:00 (HST)			
36	Applications in Learning Sciences and Education II	TLS	AHFE 1: Iolani Suite I
37	Application of Emerging Technologies	AET	AHFE 2: Iolani Suite II
38	User Experience Design and Usability Evaluation IV	UUE	AHFE 3: Iolani Suite III
39	Transportation: Autonomous and Automated Vehicles	TRAN	AHFE 4: Iolani Suite IV
40	Methodological Offers of Innovative Agonology	SIPOR	AHFE 5: Iolani Suite V
41	Human-Centered Design and Human–Computer Interaction III	HCD	AHFE 6: Iolani Suite VI
TUESDAY, DECEMBER 10, 2024 - SESSION TIME: 13:00-14:00 (HST)			
43	Transportation: Aviation and Driver Engagement	TRAN	AHFE 1: Iolani Suite I
44	Applications of Technologies in Healthcare and Cognitive Assessment III	ATHM	AHFE 2: Iolani Suite II
45	Safety Management and Human Performance	SM	AHFE 3: Iolani Suite III
46	Augmented, Virtual and Mixed Reality Simulation IV	AVM	AHFE 4: Iolani Suite IV
47	Human-Centered Design and Design for Inclusion III	HCD	AHFE 5: Iolani Suite V
48	Trend of Human Error Incidents Analysis Used by AI	HCD	AHFE 6: Iolani Suite VI

	Opening Session & Plenary Speech	ALL

| 8:30-9:30 | Plenary Speech Title: "From Battlefield to Boardroom: AI Innovations Shaping the Future of Human-Centric Systems"

Speaker: Dylan Schmorrow, Ph.D
       Accelint, USA | |

REFRESHMENTS: 9:30-10:00 • LOCATION: FOYER

1	**Applications of Technologies in Healthcare and Cognitive Assessment I** Co-Chairs: Nichole Morris and Robert Myers, USA	ATHM

10:00-11:30 (HST)
AHFE 1: IOLANI SUITE I

Patient gender treatment gaps in tactical combat casualty care of gunshot wounds mitigated by training experience
    Nichole Morris, Curtis Craig, Bradley Drahos, Katelyn Schwieters, Mark Mazzeo, USA

Integrating machine learning with resilience models to assist hospital resilience improvement
    Sheuwen Chuang, Kuei-miao Kuo, Jyun-wei Jhang, Jui-chi Lin, Taiwan

Nurses' work with interruptions: cognitive loading and stress
    Robert Myers, USA

Orange-sweet scent reduces stress associated with numerical tasks: A physiological and psychological evaluation
    Ayaka Yamada, Asako Noma, Takashi Sakamoto, Toshikazu Kato, Japan

Improving quality of care through tailored medical education in a pathology residency program
    Avani Saxena, Bryan Johnston, Jay Kalra, Canada

Exploring hand dexterity in spoon handling: impact of handle cross-section on dynamic tripod grip
    Yu-chen Huang, Johan Chang, Taiwan

2	**Transportation: Comfort and Safety I** Co-Chairs: Michael Baldauf, Germany and Hongyue Wu, USA	TRAN

10:00-11:30 (HST)
AHFE 2: IOLANI SUITE II

Exploring driving style variations when driving in work zone: A driving simulation study
    Ze Wang, Hongyue Wu, Yunfeng Chen, Jiansong Zhang, James L Jenkins, USA

VTS, ROC and the OOW - Three perspectives one goal: collision avoidance
    Michael Baldauf, Daniel Rostek, Germany

Application of emerging technologies in electric vertical take-off and landing CBTA training
    Dimitrios Ziakkas, Debra Henneberry, USA

Analyzing the factors influencing scooter usage and safety among young riders in Taiwan
    Huang Fei-Hui, Taiwan

3	**Augmented, Virtual and Mixed Reality Simulation I** Co-Chairs: Ruilin Huang, China and Kangwon Seo, USA	AVM

10:00-11:30 (HST)
AHFE 3: IOLANI SUITE III

Investigating effectiveness of distraction rate: augmented reality-based eye-tracking feature to predict student formative and summative performance
    Kangwon Seo, Sara Mostowfi, Jung Hyup Kim, Fang Wang, Danielle Oprean, Yi Wang, USA

Comparing the efficacy of virtual reality training, augmented reality instruction and traditional paper-based instruction methods for assembly tasks
    Md Abdullah, Vibhav Nirmal, Mahmudur Rahman, USA

Simulator sickness and performance in AR vs VR: A comparative analysis applied to additive manufacturing
    Tazim Ahmed, Jose Lopez, Soptorshi Rai, Yiran Yang, Mahmudur Rahman, USA

The wide area virtual environment - experience in using a novel immersive environment for medical team training
    Alan Liu, USA

Light-Tracing: A novel approach for mixed-reality (MR) content creation
    Ruilin Huang, Yining Ge, Lu Chen, Chi Ma, Cong Fang, Le Fang, Xingtong Chen, Yangfan Cong, Stephen Jia Wang, China

4	**Ergonomic Evaluation and Biomechanical Modeling** Co-Chairs: Christy Manning and Yunfeng Chen, USA	PEHF

10:00-11:30 (HST)
AHFE 4: IOLANI SUITE IV

The influence of gender/sex on work-related musculoskeletal disorders: A systematic review and meta-analysis
> Christy Manning, Duha Ali, Shivani Nagrecha, USA

Video-based ergonomic risk assessment among transportation maintenance workers in shoveling
> Xinran Hu, Xingzhou Guo, Yunfeng Chen, Jiansong Zhang, USA

Advancing vision-based adaptive gripping technology with machine learning: Leveraging pre-trained models for enhanced object classification
> Diptesh Kumar Mandal, Kazunori Kaede, Keiichi Watanuki, India

Biomechanical modeling of subjective fatigue during high-frequency repetitive manual-handling tasks
> Akisue Kuramoto, Masaya Noguchi, Motomu Nakashima, Japan

Technological and engineering solutions to prevention and reduction of hand arm vibration syndrome in the construction industry
> Suma Mwaitenda, Innocent Musonda, South Africa

5	**Artificial Intelligence and Social Computing I** Co-Chairs: Mark Miller and David Kaber, USA	AISC

10:00-11:30 (HST)
AHFE 5: IOLANI SUITE V

The evolution of AI on the commercial flight deck; determining pilot trust of AI to move forward with safer and efficient AI design in the future
> Mark Miller, Sam Holley, Leila Halawi, USA

Implementing an AI fatigue risk management system for aviation maintenance SMS: A technology enhanced critical process human factors safety plan
> Mark Miller, Bettina Mrusek, Jeff Herbic, Sam Holley, Leila Halawi, USA

Deep learning forecast of perceptual load using fNIRS data
> Nicolas Grimaldi, David Kaber, Ryan McKendrick, Yunmei Liu, USA

Artificial intelligence in the function of improving port systems
> Alen Jugović, Tanja Poletan Jugović, Renato Oblak, Dražen Žgaljić, Croatia

Formalizing trust in artificial intelligence for built environment decision-making
> Amir Behzadan, USA

Artificial intelligence and design: Innovation, practical applications, and future creative horizons
> Salvatore Di Dio, Benedetto Inzerillo, Francesco Monterosso, Samuele Morvillo, Dario Russo, Italy

Supporting informal sustainability learning with AI-assisted educational technology
> Qiming Sun, Sharon Hsiao, USA

6	**Human Robot/Machine Interaction and Collaboration I** Co-Chairs: Stephen Jia Wang, Hong Kong SAR China and Hokey Min, USA	HCI

10:00-11:30 (HST)
AHFE 6: Iolani Suite VI

Leveraging service robots for enhancing the service quality: Emerging trends and future outlooks
> Hokey Min, USA

Assembly Complexity Index (ACI): A framework to evaluate assembly process for validating a modular robotic design
> Kartikeya Walia, Philip Breedon, UK

Designing a human-robot collaborative system to reduce work fatigue in redistributing dockless sharing bikes
> Yueru Chen, Yun Lam Daniel Lo, Xinghan Xiao, Weinan Li, Luolin Zhang, Fang Le, Fang Cong, Stephen Jia Wang, Hong Kong SAR China

From underwater to air, interaction modalities and their effectiveness in different domains
> Stephanie Hochgeschurz, Cosima Uechtritz, Thomas E. F. Witte, Germany

Evaluation of feedback in manual assembly assistance systems
> Mariannys Rodriguez Gasca, Diego Queiroz, Isabel Giannecchini, Sanderson Cesar Macedo Barbalho, Antonia Markus, Brazil

7	**SIG: Human Factors in Naval Aviation: The Intersection of Automation, Training, and Operations** Co-Chairs: Beth Atkinson and Emily Gisick, USA	HFSIM

10:00-11:30 (HST)
AHFE 7: IOLANI SUITE VII

Identifying AI technologies for training & operations
> Sarah Beadle, USA

AI considerations to improve human factors analysis
> Beth Atkinson, USA

Future considerations in applying AI to tactics training
> John Killilea, USA

Leveraging AI for instructorless training
> Emily Gisick, USA

REFRESHMENTS: 11:30-12:00 (HST) • LOCATION: FOYER

8	**Applications of Technologies in Healthcare and Cognitive Assessment II** Co-Chairs: Aleksandar Pavic, UK and Matthias Berking, Germany	ATHM

12:00-13:00 (HST)
AHFE 1: IOLANI SUITE I

Investigating the impact of vertical floor vibration on cognitive performance
> Aleksandar Pavic, Ahmed Mohammed, Ian Walker, Alessandro Margnelli, Iason Pelekis, UK

Analysis of pre-flight and monitoring tasks using cognitive performance modeling
> Chihab Nadri, Yunmei Liu, Maryam Zahabi, David Kaber, Jaime Ruiz, Michael Middleton, Ryan McKendrick, USA

Optimizing speech elicitation tasks for machine learning-based depression assessment
> Jonathan Bauer, Maurice Gerczuk, Bjoern Schuller, Matthias Berking, Germany

Basic psychological needs related to information ergonomics and loneliness
> Reetta Oksa, Mia Laine, Edward White, Jussi Okkonen, Finland

Cognitive cost assessment in aeronautical tasks: New objective and sensitive method
> Marianne Jarry, Jean-christophe Hurault, Gregory Froger, Anne-lise Marchand, Colin Blättler, France

A digital human model for symptom progression of vestibular motion sickness based on subjective vertical conflict theory
> Shota Inoue, Hailong Liu, Takahiro Wada, Japan

9	**Human Robot/Machine Interaction and Collaboration II** Co-Chairs: Saumil Patel and Denise Simmons, USA	HCI

12:00-13:00 (HST)
AHFE 2: IOLANI SUITE II

Reimagining human-robot interactions: Theoretical frameworks and holistic approaches to future work dynamics
> Denise Simmons, Olusola Adesope, USA

Enhancing emergency response: A reliability analysis of human-robot collaboration
> Daigo Misaki, Kazuma Shirakawa, Japan

Comparative user feedback on the efficacy of a back-support exoskeleton in industrial settings
> Fatemeh Davoudi Kakhki, Armin Moghadam, USA

Testing a motion matching algorithm for gaze-based HMI
> Cosima Uechtritz, Thomas E. F. Witte, Verena Rist, Torsten Gfesser, Germany

Strategic enhancement of C-UAS through advanced human-computer collaborative command and control mechanism
> Yinan Zhao, Zhanxun Dong, Gang Liu, Xiaozhang Dong, Suiping Hu, China

Human interaction with autonomous delivery robots: Navigating the intersection of psychological acceptance and societal integration
> Saumil Patel, USA

Human-AI team classification
> Kara Orvis, Alexxa Bessey, Adam Fouse, Svitlana Volkova, USA

10	**Artificial Intelligence and Social Computing II** Co-Chairs: Serge Chaumette, France and Antonia Markus, Germany	AISC

12:00-13:00 (HST)
AHFE 3: IOLANI SUITE III

An assessment of the maintenance of heritage buildings using AI and IoT:
A South African perspective
> Katlane Seema, Clinton Aigbavboa, Ogunbayo Babatunde, South Africa

What if we could entangle drones? Towards the management of a swarm of
drones as a non-local quantum object
> Serge Chaumette, France

Engaging all elderly residents in community renewal: Designer spotlight interview
tool for LLM building
> Ruchen Hu, Zihui Chen, Mengshi Yang, Qiong Wu, China

Investigating the impact of confidence scores in AI-based decision support
systems on decision quality and reliance in work contexts
> Antonia Markus, Lea Marleen Daling, Esther Borowski, Ingrid Isenhardt, Germany

Integrating deep learning and tree-search algorithms for autonomous emergency
management in nuclear power plants
> Yoojoon Seoung, Junyong Bae, Seung jun Lee, South Korea

AI Play in higher education: Students' perceptions of play and co-creation of
knowledge with generative AI
> Marjaana Kangas, Katriina Heljakka, Finland

Optimizing AI involvement in engineering university courses based on students'
personality
> Stefano Filippi, Italy

11	**Augmented, Virtual and Mixed Reality Simulation II** Chair: Jeffrey Kim, USA	AVM

12:00-13:00 (HST)
AHFE 4: IOLANI SUITE IV

Enhancing construction industry training through augmented reality: A study of
student inspectors
> Jeffrey Kim, Darren Olsen, USA

Creating a more inclusive augmented reality enabled touristic experience in
outdoor contexts
> Rita Fernandes, Nina Costa, Teresa Galvão, Antonio Coelho, Portugal

CreteAR: Enhancing learning experiences through tangible transformable artifacts
and extended reality
> Antonios Tosios, Asterios Leonidis, Maria Korozi, Nikolaos Menelaos Stivaktakis,
> Emannouil Apostolakis, Michalis Roulios, Spiros Paparoulis,
> Emmanouil Stamatakis, Constantine Stephanidis, Greece

Enhancing motorcycle safety through augmented reality: Design and
development of a smart helmet prototype
> Georgios Gerentes, Asterios Leonidis, Nikolaos Menelaos Stivaktakis,
> Maria Korozi, Constantine Stephanidis, Greece

Design of human machine interface for truck platooning using driving simulator
> Toshiyuki Sugimachi, Japan

12	**Cybersecurity and Trust in AI** Co-Chairs: Asmaa Aljohani, Saudi Arabia and Kyra Wisniewski, USA	AISC

12:00-13:00 (HST)
AHFE 5: IOLANI SUITE V

Emerging threat of deepfakes: Viability, risks, impacts and mitigations through a
practical use case
> Levente Nyusti, John Eidar Simensen, Norway

Threat analysis for autonomous vehicle systems
> Markus Sihvonen, Reijo Savola, Finland

Trust us: A simple model for understanding appropriate trust in AI
> Kyra Wisniewski, Christina Ting, Laura Matzen, USA

Examining the role memory plays in cyber defence evaluation: Risk and
uncertainty demystified
> Asmaa Aljohani, James Jones, Saudi Arabia/USA

Human-centric security engineering: Towards a research agenda
> Rick van der Kleij, Dianne Van Hemert, Thomas Rooijakkers, Bert Jan Te Paske,
> Netherlands

13	**Emerging Technologies and Business Applications I** Co-Chairs: Panadda Marayong and Sourya Dey, USA	AET

12:00-13:00 (HST)
AHFE 6: IOLANI SUITE VI

Development of Android-based messaging application for onboard communication for UAM simulation
    Justin Cheung, Maegan Schmitz, Thomas Strybel, Panadda Marayong, Vernol Battiste, Stacey Ahuja, Kim-Phuong L. Vu, Praveen Shankar, USA

Analyzing Large Language Model Behavior via Embedding Analysis
    Sourya Dey, Michael Robinson, Shauna Sweet, Andrew Lauziere, Jonathan Daugherty, Caitlin Burgess, USA

Decision-making with responsible use of artificial intelligence: A stakeholder perspective
    Hind Benbya, Australia

Identification of commuter and visitor mobility patterns using origin-destination data for mobility-service design
    Yusuke Nakazato, Masato Takanokura, Japan

To work with cyber-physical systems - insights from a case study on autonomous haulage systems in open-pit mining
    Erik Lund, Sweden

A hybrid regression method for predicting housing prices
    Gaurab Baral, Junxiu Zhou, USA

Enhancing flip-chip packaging with copper paste: Performance evaluation
    Ran Liu, Zheng Zhang, Masahiko Nishijima, Chuantong Chen, Hirokatsu Sakamoto, Akihiko Happoya, Katsuaki Suganuma, Japan

14	**Workshop: Design Maturity Frameworks and Enjoyable Design Processes** Co-Chairs: Nandhini Giri and Erik Stolterman, USA	HCD

12:00-13:00 (HST)
AHFE 7: IOLANI SUITE VII

Design maturity frameworks and enjoyable design processes
    Nandhini Giri and Erik Stolterman, USA

15	**Applications in Healthcare for the Elderly and Special Population** Co-Chairs: Bahar Khayamian Esfahani, UK and Jendrik Bulk, Germany	ATHM

13:00-14:00 (HST)
AHFE 1: IOLANI SUITE I

Smart packaging: Overcoming barriers to medication adherence for older adults
    Bahar Khayamian Esfahani, Jelena Milisavljevic-Syed, Kalok C. Lee, UK

User trust in a depression screening app when outcomes are labelled as either AI-generated or doctor-generated: A pilot study
    Yeganeh Shahsavar, Avishek Choudhury, USA

Social empathetic cognitive robotics for autism (SECRA): A preliminary study
    Tindara Caprì, Giulia Picciotto, Italy

Preferences of elderly people in Western Taiwan towards smart sportswear
    Ying-Chia Huang, Taiwan

Development of a training simulator and testing environment for electric wheelchair controls
    Jendrik Bulk, Benjamin Tannert, Germany

Segmentation of augmented reality 3D meshes to discover in home safe walking spaces for older adults
    Aaron Crandall, USA

16	**Artificial Intelligence and Social Computing III** Co-Chairs: Alana Nagy and Hassan Davani, USA	AISC

13:00-14:00 (HST)
AHFE 2: IOLANI SUITE II

Predictive model for partner agencies dependency on food banks
  Henry Ivuawuogu, Steven Jiang, Lauren Davis, Mikaya Hamilton, USA
Investigating common factors needed for consumers to trust AI\ML
  Alana Nagy, Bruce Nagy, Scot Miller, USA
Intelligent flood detection to assist homeless communities residing along river margins
  Hassan Davani, USA
Semantic difference method for artificial intelligence assisted cruise ship cabin design
  Yuwen Fang, Yitong Qiu, Anthony Kong, Gang Liu, China
Voice function operation in hospital intelligent registration systems
  Xuanhui Yan, Xin Hu, China
Exploring the impact of artificial intelligence generated content (AIGC) on game design and user experience
  Yi Jing Wang, Xin Hu, China

17	**Augmented, Virtual and Mixed Reality Simulation III** Co-Chairs: Aijun Wang, China and Jussi Okkonen, Finland	AVM

13:00-14:00 (HST)
AHFE 3: IOLANI SUITE III

Technology relationship, algorithmic thinking and task performance with UxV
  Jussi Okkonen, Mia Laine, Christian Andersson, Finland
Enhancing user satisfaction and accessibility in VR: A comparative analysis of different user interfaces
  Faith Sowell, Daniel Rodarte, Yiran Yang, Shuchisnigdha Deb, USA
Reflections and insights on haptics' influence on human factors within virtual environments
  Sara Buonocore, Francesca Massa, Lisa Guadagno, Giuseppe Di Gironimo, Italy
Design of fire escape system for children based on VR technology
  Aijun Wang, China
Virtual experiential design in the context of intangible cultural heritage: A case study of filigree VR design
  Yue Gu, Jintao Liu, Yuxuan Li, China
User experience of virtual reality in healthcare clinical training
  Lizhu Zhang, Cecilia Xi Wang, USA

18	**User Experience Design and Usability Evaluation I** Co-Chairs: Chen Jinghong, China and Vivian Li, USA	HCI

13:00-14:00 (HST)
AHFE 4: IOLANI SUITE IV

Optimizing UX design to enhance user confidence in digital products
  Vivian Li, Peiyi Sun, Yihyun Lim, USA
Human language-instructed robotic excavation based on behavior trees
  Zirui Hong, Hubo Cai, USA
The impact of digital device configuration on elementary students' experience of writing traditional Chinese characters: A preliminary study
  Tzu-hsin Kao, Johan Chang, Taiwan
Elementary students' reflection tool, content suggestions, and discussion
  Yi Hsuan Tsai, Johan Chang, Taiwan
Applying UX principles to innovate citizen science platform development: An integrative approach
  Manuel Gertrudix Barrio, Alejandro Carbonell-Alcocer, Juan Romero-luis, Alberto Sanchez-Acedo, Begoña Rivas-Rebaque, Spain
Mobile phone accessibility solution for people with upper limb dysfunction
  Chen Jinghong, Xin Hu, China

19	**Human-Centered Design and Human–Computer Interaction I** Co-Chairs: Alexander Kreis, Austria and Siva Mathiyazhagan, USA	HCD

13:00-14:00 (HST)
AHFE 5: IOLANI SUITE V

Harmonizing user-centered design and operational efficiency in battery electric vehicles: Navigating the electric dilemma for sustainable mobility
Alexander Kreis, Mario Hirz, Christoph Stocker, Austria

Digital healing: co-designing with youth for digital creative arts space for community mental wellbeing
Siva Mathiyazhagan, Andrea Ngan, Eileen Feng, Avani Alvarez, Sharath Chandra Guntuku, Seul Ki Choi, Manvi Kaul, Sebin Lee, USA

Human-centred design in AI era: Inclusive AI assistance for visually impaired persons in recycling practice
Kin Wai Michael Siu, Xinzhe Zhao, Jiayi Zou, Yijia Jiang, Maoen He, Keren Zhang, Qian Jiang, Jiaman Li, Hong Kong SAR China

A Lexical Analysis of online reviews on human-AI interactions
Parisa Arbab, Xiaowen Fang, USA

Multi-dimensional nature of human-centered design: An autoethnographic analysis of the Seiko Bell-Matic Wristwatch using information-theoretic methodologies
Lance Chong, Canada

On the practical utility and practical path of fashion model emotional memory method in performance
Jianhong Wu, Xiaomei Chen, China

Unconscious design method of Haipai cultural tourism souvenirs based on extensional narrative theory
Ye Junnan, Saiya Wang, Yue Wu, China

20	**Emerging Technologies and Business Applications II** Co-Chairs: Lisa Steinhauser, UK and Jiejun Dai, China	ETBA

13:00-14:00 (HST)
AHFE 6: IOLANI SUITE VI

How wearable technologies enhance the implementation of peer support programs in aviation training
Debra Henneberry, Dimitrios Ziakkas, Stephanie Brown, USA

Developing building information relational database (BIRD) as a knowledge-management system prototype for general contractors
Di Liu, Preston Robinson, Adrienne Freeman, Rui Liu, USA

Research progress, hotspots, and trends analysis of sustainable landscape design based on bibliometrics
Jiejun Dai, Cheng Qian, Mengrun He, Suwen Liu, China

Exploring the digital inheritance and commercialization strategies of Chinese Han embroidery from the perspective of generative art
Yang Fangchao, Bao Qian, Ding Yifan, China

Sustainable business model design for generative AI
Cuiping Zhai, Xin Hu, China

From gap to gain: Advancing gender equity in venture capital investing
Daniel Rukare, Lisa Steinhauser, UK

21	**Sustainable Technologies and Business Applications** Co-Chairs: Rui Liu, USA and Anuoluwapo Kolade, South Africa	ETBA

13:00-14:00 (HST)
AHFE 7: IOLANI SUITE VII

Disability management and sustainable return to work practices in small and medium enterprises
Iuliana Nastasia, Romain Rives, Canada

Drivers influencing the adoption of innovative building materials (IBM) for sustainable construction in Nigeria
Modupe Cecilia Mewomo, K. Francis Bondinuba, Emmanuel Aboagye-Nimo, Yewande Sonayon Abraham, South Africa/Ghana/UK/USA

Application of architectural appearance design process in front area of fossil fuel power plants based on AIGC collaboration
Mengying Tang, Jie Jiang, Chen Xi, China

An evaluation of capabilities, benefits, and challenges of developing digital twin models for sustainable development
Congjun Jin, Rui Liu, USA

Feasibility and properties of cement boards with waste tyre textile fibre for non-structural applications
Anuoluwapo Kolade, Ismael Aina, Bamidele Dahunsi, Bolanle Ikotun, Damilola Oyejobi, South Africa

Enhancing the structural properties of mortar with treated rubber crumb
Abiodun Kilani, Bolanle Ikotun, Rasheed Abdulwahab, Nigeria

22	**Human-Technology and Future of Work I** Co-Chairs: Mia Laine, Finland and Armin Moghadam, USA	HTFW

8:30-9:30 (HST)
AHFE 1: IOLANI SUITE I

Self-efficacy and self-regulation variation in different modes of work
> Jussi Okkonen, Reetta Oksa, Edward White, Mia Laine, Finland

Automated method for quantitative measurement of underground construction sites using iPhone LiDAR Point Cloud Data
> Tsukasa Mizutani, Shunsuke Iwai, Japan

Enhancing wafer detection in semiconductor manufacturing through synthetic data and YOLOv9: a human-centered approach to quality assurance
> Armin Moghadam, Ramon Sanchez, Aadit Kapoor, USA

Frugal innovation - how to leverage the power of SME collaboration
> Liza Wohlfart, Germany

Facilitating technology diffusion: Unveiling the dynamics of emerging technologies on construction project sites
> Samuel Adekunle, Beauty John, Andrew Ebekozien, Clinton Aigbavboa, South Africa

Design and testing of a drone pilot training system using mixed reality
> Antoni Kopyt, Poland

Towards holistic work system design: Concept for a method to analyze, represent and evaluate industrial, sociotechnical work systems
> Roland Hall, Simon Schumacher, Thomas Bauernhansl, Germany

23	**Transportation: Comfort and Safety II** Co-Chairs: Vijaya Gopu and Jangwoon Park, USA	TRAN

8:30-9:30 (HST)
AHFE 2: IOLANI SUITE II

Measurements of preferred heated seat temperatures for providing thermal comfort for drivers
> Jangwoon Park, Hongwei Hsiao, Hoang Wong, Baekhee Lee, Kang Yen Lee, Joo Hwan Son, USA

Data acquisition and processing for the optimization of an algorithm for vehicle safety objective rating metrics and injury severity prediction
> Katelyn Williams, USA

Exploring the influence of transportation equity factors on pedestrian crashes in Louisiana
> Milhan Moomen, Julius Codjoe, Vijaya Gopu, USA

Expectations of emergency communications systems in autonomous bus shuttles
> Cindy Mayas, Rozita Sheibani, Matthias Hirth, Germany

24	**User Experience Design and Usability Evaluation II** Co-Chairs: Shuichi Fukuda, Japan and Vanessa Nasr, USA	HCI

8:30-9:30 (HST)
AHFE 3: IOLANI SUITE III

Development of a single usability metric that accounts for accessibility (SUMA)
> Vanessa Nasr, Maryam Zahabi, USA

The impact of resolution and material selection on a prototype assessment
> Vitor Pais, Álvaro M. Sampaio, Nelson Costa, António J. Pontes, Portugal

Active learning for disinformation with human machine teaming
> Emily Kemp, Madison Salmon, Elizabeth Morris, USA

From interface to interaction
> Shuichi Fukuda, Japan

Interface design of vehicle AR-HUD based on user needs
> Yi Fan Chen, China

DMGR: Divisible multi-complex gesture recognition based on word segmentation processing
> Yuncheng Ge, Yewei Huang, Ye Julei, Huazixi Zeng, Hechong Su, Zengyao Yang, China

25	**Computation and Intelligent Design** Co-Chairs: Varit Intrama, Thailand and Sanghyun Lee, USA	CID

8:30-9:30 (HST)
AHFE 4: IOLANI SUITE IV

Ergonomic problem and solution identification by applying image captioning with embedded ergonomic knowledge
> Gunwoo Yong, Quan Miao, Meiyin Liu, Sanghyun Lee, USA

Digital transformation readiness level of Royal Thai Air Force
> Varit Intrama, Thailand

Innovative AI-driven product design: Leveraging language models and AI image generators - A case study on insole design for high-heeled shoes
> Zun-Hwa Chiang, Wei-Wei Su, Ming-Hsien Chuang, Taiwan

Organisational change and building human-tech resilience in Industry 5.0
> Daniel Rukare, Nikhil Soi, Asmita Singh Bisen, UK

Contemporary innovative application of ancient glaze craft under the perspective of non-heritage revitalization
> Yuxi Yuan, Yan Luo, China

Use of computational fluid dynamics in the design and analysis of heat exchange devices
> Bobby Mathew, Fadi Alnaimat, UAE

26	**Education and Training** Co-Chairs: Jihoon Shin, China and Michael Oetken, USA	TLS

8:30-9:30 (HST)
AHFE 5: IOLANI SUITE V

Education and training using digital twin in hazardous chemical manufacturing plants
> Jihoon Shin, Juhyung Son, China

Using media equation theory to assess anthropomorphism of intelligent virtual reality training systems in organizational settings
> Michael Oetken, USA

Enhancing flight deck resilience and optimizing risk mitigation: A sociotechnical approach
> Kimberly Perkins, USA

Analysis of student perceptions of the use of business process modelling in improving organisational operations
> Małgorzata Oleś-Filiks, Poland

Recommendations and discussions on the use of role play in online social studies teaching for elementary school students
> Yifeng Zhong, Johan Chang, China

Education and training in the technological era: Adopting the head, heart, and hand approach for effective social media usage
> Fortune Aigbe, Clinton Aigbavboa, Lekan Amusan, Ayobami Idowu, South Africa

27	**Human-Centered Design and Design for Inclusion I** Co-Chairs: Sara Rudder, USA and Na Tian, China	HCD

8:30-9:30 (HST)
AHFE 6: IOLANI SUITE VI

Using a model-based systems engineering framework for human-centric design
> Sarah Rudder, USA

Self-adapting, integrated apparel robot for responsive wearable comfort utility
> Minji Lee, Eric Matson, USA

Design and development of wearable fashion accessories with anxiety-relieving function for onychophagia patient
> Zongyuan Wang, Xiaolu Li, China

Ming Dynasty shipbuilding technology from the Chronicle of Longjiang Shipyard
> Na Tian, China

Interaction design of youth community in the context of service design
> Li Jie Zeng, Xin Hu, China

How user-platform interactions influence continuance intention in augmented reality mobile platforms
> Zian Kabir, Kyeong Kang, Australia

REFRESHMENTS: 9:30-10:00 (HST) • LOCATION: FOYER

29	**Human-Centered Design and Human–Computer Interaction II** Co-Chairs: Stig O. Johnsen, Norway and Bethany Lowndes, USA	HCD

10:00-11:30 (HST)
AHFE 1: IOLANI SUITE I

Scientific structure for human centered implementation and change management for healthcare innovation: Iterative participatory design
Bethany Lowndes, Callista Sibilia, Kara Tomlinson, Breanna Hetland, USA

Creating emotionally resonant user experiences in response to ever-evolving challenges in open distance e-Learning institutions
Petra le Roux, Corne Van Staden, South Africa

Participant experience evaluation in digital rural poetry activities: A sentiment analysis case study of Mingyue Village in China
Jiaman Li, Kin Wai Michael Siu, Hong Kong SAR China

Flexible and inclusive housing: Adaptation to the changing needs of inhabitants
Daniela Bosia, Giulia Marchiano, Italy

The human-centered design approach for operational workflow re-design: A case study in safety for agricultural automotive industry
Marialaura Delvecchio, Francesco Tesauri, Roberto Montanari, Silvia Chiesa, Italy

A comparative study of visual culture in tourism apps
Zhiyuan Zheng, Xin Hu, China

How multi-sensory can help the visually impaired better play the instruments: An inclusive design practice
Qian Jiang, Kin Wai Michael Siu, Hong Kong SAR China

30	**Creativity, Innovation and Entrepreneurship** Co-Chairs: Steffen Jansing, Germany and Yasmine Alaoui, Morocco	CIE

10:00-11:30 (HST)
AHFE 2: IOLANI SUITE II

Citizen participation: A lever for the success of major events
Yasmine Alaoui, Khatib Majda, Morocco

Meeting practical requirements for assessing competencies: A framework for a multi-dimensional, layer-based and dynamic model
Steffen Jansing, Julian Schallow, Paula Danhausen, Nele Schulte-Uebbing, Gerrit Hoeborn, Jochen Deuse, Germany

Development of NFT secondary market model considering scarcity effect
Tomohisa Hayakawa, Japan

Team creativity and innovation: What matters?
Daniel Badro, Xiaowen Fang, Olayele Adelakun, USA

New challenge to creativity: Impact and complexity of artificial intelligence on art and design
Jun Bum Shin, USA

The awakening role of design in social innovation
Zhaoyi Kang, Yijun Liu, Mengfei Liu, China

31	**Human-Technology and Future of Work II** Co-Chairs: Wilhelm Bauer, Germany and Khanssa Lagdami, Sweden	HTFW

10:00-11:30 (HST)
AHFE 3: IOLANI SUITE III

Colleague, copilot, companion, controller – Roles of AI in work systems
Udo-Ernst Haner, Wilhelm Bauer, Germany

Technostress and the future of work at sea
Khanssa Lagdami, Sweden

The emerging technology-related stressors scale: Assessing the impact of ICTS in the hybrid context
Georgia Libera Finstad, Gabriele Giorgi, Matteo Curcuruto, Valentina Sommovigo, Italy

Enhancing communication transparency and teaming in human-autonomy systems: Integrating large language models for on-site construction operations
Di Liu, Rui Liu, USA

A semantic matchmaking approach to empower human decision-making in manufacturing-as-a-service scenarios
Frauke Schuseil, Michael Hertwig, Joachim Lentes, Nikolas Zimmermann, Katharina Hölzle, Germany

AutoGen-based AI assistant for improving the interactions between BIM and project teams for design coordination
Yaxian Dong, Zijun Zhan, Yuqing Hu, Daniel M. Doe, Zhu Han, USA

32	**User Experience Design and Usability Evaluation III** Co-Chairs: Nikolay Simakov and Joy Borgardt, USA	HCI

10:00-11:30 (HST)
AHFE 4: IOLANI SUITE IV

HPCMod: Agent-based modeling framework for modeling users on high-performance computing resources
> Nikolay Simakov, USA

The in-home advantage: Usability research and participatory design where it matters most
> Trevor Johnson, Joy Borgardt, USA

Development of a dynamic visual acuity training software based on baseball situations to improve users' dynamic visual ability
> Yu-Hsiu Hung, Bo-Wei Chen, Taiwan

An approach to system architecture design through usability heuristics
> Duha Ali, Preston Myers, USA

Revisiting the brief nuclear usability measure: a preliminary evaluation of its validity and reliability using licensed operators
> Casey Kovesdi, USA

Human-centric analysis of a pallet loading process: User Journey Map and Design Thinking for needs assessments
> Isabel Varajão, Rosane Sampaio, Iara Margolis, Emanuel Sousa, Sérgio Monteiro, Luis Louro, Nuno Ribeiro, Rafael Pedro, Estela Bicho, Portugal

33	**Applications in Learning Sciences and Education I** Co-Chairs: Kim-Phuong L. Vu and Erin Arruda, USA	TLS

10:00-11:30 (HST)
AHFE 5: IOLANI SUITE V

Investigating the use of Chatbots as an educational tool
> Krystal Cachola, Kim-Phuong L. Vu, USA

Research-infused courses are effective for online and in-person education
> Erin H. Arruda, Arturo R. Zavala, Panadda Marayong, Jesse Dillon, Chi-Ah Chun, Kim-Phuong L. Vu, USA

Pre-Professor Program: A virtual training program to improve faculty diversity
> Laura Henriques, David J. Whitney, Chi-Ah Chun, Kim-Phuong L. Vu, Arturo R. Zavala, USA

An interactive virtual assistant for flexible just-in-time training
> Glenn Taylor, Jeffrey Craighead, Kortney Menefee, Logan Lebanoff, Christopher Ballinger, Stephen McGee, USA

The relationship between climate change and global inequality as perceived by university students
> Barbara Tomaszewska, Iwona Ocetkiewicz, Poland

Investigating Reading Behaviors of Elementary School Students in Oman Using Eye-Tracking: A Study on Familiar and Unfamiliar Arabic Content
> Hilal Al-maqbali, Bader Alsinani, Ali Alriyami, Ruqaia Alshezawi, Hala Alfaliti, Oman

Prevention through innovation: Innovative method and tools for the effectiveness of experiential training for workers working in confined spaces
> Luciano Di Donato, Marco Pirozzi, Andrea Cordisco, Massimo Spagnuolo, Daniela Freda, Antonia Biagi, Loriana Ricciardi, Ital

34	**Human-Centered Design and Design for Inclusion II** Co-Chairs: Wenshu Sun, China and Shuichi Fukuda, Japan	HCD

10:00-11:30 (HST)
AHFE 6: IOLANI SUITE VI

Inclusive design of smart landscape in community parks for the migrant elderly
> Wenshu Sun, Yeshan Qiu, Bingqin Yu, Yun Wang, China

Designing for inclusion: Storytelling as a tool in the sense-friendly classroom makeover journey
> Beata Fabisiak, Robert Kłos, Anna Jankowska, Aleksandra Cierpiszewska, Poland

Development of an inclusive superhero sensory garden for children: Ideation matrix and design specifications to accommodate diverse needs
> Robert Kłos, Beata Fabisiak, Adrianna Oset, Poland

Explainable AI solutions for the U. S. Coast guard command center: A human-centered collaboration
> Audrey Haque, Anthony Lapadula, Jessamyn Liu, Sara Falkson, Karli Blanchard, Richard Coleman, Amna Greaves, USA

Creating empathetic world
> Shuichi Fukuda, Japan

Hollywood regency: American design under the influence of Chinoiserie
> Ellen Zhu, China

REFRESHMENTS: 11:30-12:00 (HST) • LOCATION: FOYER

36	**Applications in Learning Sciences and Education II** Co-Chairs: Lake Crowell and Daniel Olivares, USA	TLS

12:00-13:00 (HST)
AHFE 1: IOLANI SUITE I

Determination of women patentees and their impact on participatory ergonomics
Lake Crowell, Quintin Williams, Irina Buhimschi, Heather Weinreich, USA

Improved teaching and education of engineering students using computational fluid dynamics
Fadi Alnaimat, Bobby Mathew, UAE

Innovation and trends in human resources: Analysis of improvement strategies in graduation projects from a master's in hr and human talent management
Nelson Lay, Luis Felipe Vergara Maldonado, Paula Riquelme, Andres Rubio, Chile

A framework for developing collaborative community building tools for novice computer science students
Daniel Olivares, Jakob Kubicki, Katie Imhof, USA

Advanced chunking and search methods for improved retrieval-augmented generation (RAG) system performance in e-Learning
Daniel Danter, Heidrun Mühle, Andreas Stöckl, Austria

Determining factors of adherence to psychological therapy in a Chilean university context: A multinomial logistic analysis
Nelson Lay, Eduardo Busto, Hanns de la Fuente-Mella, Luis Felipe Vergara, Catalina Ojeda, Macarena Norambuena, Chile

37	Application of Emerging Technologies Co-Chairs: Ahmad Turki, Saudi Arabia and Serpil Aytaç, Turkey	AET

12:00-13:00 (HST)
AHFE 2: IOLANI SUITE II

Sick building syndrome and its relationship with work stress as a psycho social risk: A shopping mall example
Serpil Aytaç, Şahamet Bülbül, Husre Gizem Akalp, Turkey

Procedural justice in human-machine interaction: An ethical approach to designing the use of medical algorithms
Andreas Wolkenstein, Georg Marckmann, Germany

Non-contact physiological monitoring of heart rate, facial temperature, and respiratory rate with thermal and RGB cameras
Mickael Causse, Nourhen Amdouni, Rodríguez Ginés, Christophe Hurter, France

Using actual data for the analytics of proximity safety of motorcycles
Albert Chen, Taiwan

Design and comparative evaluation of IPG against PPG, Sphygmomanometer and Finapres for cuffless blood pressure monitoring
Ahmad Turki, Enas Raml, Arwa Ibrahim Raml, Saudi Arabia

Body positivity perception and fashion
Özlem Kaya, Turkey

38	**User Experience Design and Usability Evaluation IV** Co-Chairs: Sara Amani and Matthew Wisniewski, USA	UUE

12:00-13:00 (HST)
AHFE 3: IOLANI SUITE III

Enhancing the onboarding experience with wearable technology for research applications
Sara Amani, Noor Obeidat, Thomas Ferris, Kristi Shryock, USA

When hearing protection makes you worse at your job: Objective measurement of decrements in sensorimotor tracking
Matthew Wisniewski, USA

Bridging the gap: Enhancing mobility and usability in industrial devices for operational efficiency
Bahar Khayamian Esfahani, Souleymane Boundaouda Camara, Rita Bourma, UK

Understanding stress responses: Exploring facial expressions in the context of individual performance and automated agents
Lokesh Singh, Sarvapali Ramchurn, Yi Dong, UK

Mapping the evolution of tangible user interface: A bibliometric analysis and future trends
Zhitao Yu, China

Information availability and accessibility regarding ecological products offered in online stores – a case of retail chains
Natalia Kozik, Bartłomiej Kabaja, Dainora Gedvilaitė, Poland

39	**Transportation: Autonomous and Automated Vehicles** Co-Chairs: Christoph Stocker, Austria and Kenneth Nemire, USA	TRAN

12:00-13:00 (HST)
AHFE 4: IOLANI SUITE IV

Advanced sustainable mobility: A novel human-machine interaction approach supporting energy efficient driving
> Christoph Stocker, Alexander Kreis, Mario Hirz, Austria

Evaluation of the risky behaviors of AV Rideshare vehicles in San Francisco
> Kenneth Nemire, USA

Assistive technology system for highly automated vehicles to support people with mild cognitive impairment: A human-centered design approach
> Alexandra Kondyli, Andrew Davidson, Christopher Depcik, John Haug, Lyndsie Koon, Sanaz Motamedi, Mahtab Eskandar, Wayne Giang, Boyi Hu, Eakta Jain, Heng Yao, Xilei Zhao, Abiodun Akinwuntan, Shelley Bhattacharya, Hannes Devos, USA

The expectation of intention expression in autonomous driving scenarios
> Hanxi Pan, Xiang Ji, Qi Gao, Xinyu Zhang, Bofan Wang, Yili Yin, Yanfang Liu, Zaifeng Gao, China

Auto-generating road trip vlogs while safe-driving: A human-vehicle-environment system for capturing and editing scenic views en route
> Zichun Guo, Xianning Meng, Haiqing Xu, Zumeng Liu, Lingkan Wang, Jiawei Chen, Yaxin Zhu, Canyuqiu Wang, China

Usability factors and guidelines for climate control interfaces using big data from vehicles
> Jeewon Han, South Korea

40	**Methodological Offers of Innovative Agonology** Co-Chairs: Roman Maciej Kalina and Artur Kruszewski, Poland	SIPOR

12:00-13:00 (HST)
AHFE 5: IOLANI SUITE V

Preventive medicine: The most prestigious profession of the near future
> Roman Maciej Kalina, Poland

Methodological and mental distance to the dissemination of vertical test fight between girls and boys
> Michał Kruszewski, Wojciech Niedomagała, Jarosław Klimczak, Artur Litwiniuk, Poland

Measurement of motivation and qualitative effects of physical effort during two motor learning sessions with multifaceted variation of goals, methods, measures and tools – example of violin playing and safe fall
> Elizabeth Waszkiewicz, Artur Kruszewski, Poland

The relationship between the cognitive and behavioral potential of young adults resistant to motor modifications and the effects of learning safe falling techniques
> Bartłomiej Gąsienica-Walczak, Artur Kalina, Poland

41	**Human-Centered Design and Human-Computer Interaction III** Co-Chairs: Ziting Gong and Jia Wang, Japan	HCD

12:00-13:00 (HST)
AHFE 6: IOLANI SUITE VI

Impact of audience presence on pressure and running performance: The potential of AR presence
> Ziting Gong, Hideaki Kanai, Japan

Exploring the path of city image communication through IP image design: A comparative study of China and Japan
> Yuexi Qiao, China

Public Perception of Built Environment in Urban Street: A Text Emotion Analysis Approach
> Lingyue Li, Lie Wang, Yiwen Chen, China

My tool my rule: User-participatory design of an angle grinder
> Yiwei Zhao, Mengshi Yang, Ruchen Hu, China

Comparative study of signage design in inclusive playgrounds and public parks guidelines
> Jia Wang, Yasuyuki Hirai, Melanie Sarantou, Yunkyu Lee, Japan

Design of a smart interactive system for pet dogs from the context-aware perspective
> Xuan Ding, Xin Hu, Macau SAR China

Meta-picture and Chindōgu: Design explorations to inspire the visual experience
> Jing Zhang, Qixin Chen, Liangliang Qiang, China

43	**Transportation: Aviation and Driver Engagement** Co-Chairs: Abner Flores, USA and Luis Yañez, Chile	TRAN

13:00-14:00 (HST)
AHFE 1: IOLANI SUITE I

Humanitarian logistics and routing problem in a multi-dimensional representation network, including material convergence and deprivation costs
    Luis Yañez, Chile

Assessing driver engagement in assisted driving: Insights from pilot evaluation, focus groups and driving simulator testing
    Francesco Deiana, James Jackson, Cristina Periago Linares, Spain

Enhancing the mental health through a multisensorial experience in the vehicle interior
    Franziska Braun, Koray Hergül, Alina Bachofer, Katharina Bolius, Germany

Advancing perspectives: A scoping review of artificial intelligence applications in aviation human factors for flight crews
    Abner Flores, Alexander Paselk, Ian McAndrew, USA

IMU-based assessment of rider kinematics in Motocross - a pilot study
    Marie Ostermeier, Sigfrid - Laurin Sindinger, David Marschall, Austria

44	**Applications of Technologies in Healthcare and Cognitive Assessment III** Co-Chairs: Tim Hulshof, Netherlands and Annalisa Di Roma, Italy	ATHM

13:00-14:00 (HST)
AHFE 2: IOLANI SUITE II

Supporting inclusive approach for autism spectrum disorder (ASD) social environment
    Annalisa Di Roma, Alessandra Scarcelli, Italy

Minimizing chat-bot risks in telemedical applications: A semi-rule-based system approach for large language model (LLM) interactions in an outpatient setting
    Simon Stock, Marius Gerdes, Florian Mazura, Markus Schinle, Jonathan Helmond, Wilhelm Stork, Germany

A social support-enabled mobile health (mHealth) application for adolescent depressive symptomatology: Is it usable and feasible?
    Sayyida Masoom Gilani, Muhammad Fermi Pasha, Vanlal Thanzami, Pari Delir Haghighi, Malaysia

Improvements in stress-detection technology to improve the quality-of-life of people with challenging behaviour
    Tim Hulshof, Mila Chorbadzhieva, Reon Smits, Erwin Meinders, Netherlands

Development of intelligent nighttime brace with smart padding to treat adolescent idiopathic scoliosis
    Qiwen Emma Lei, Zhaolong Chen, Kenneth Man Chee Cheung, Kai-yu Tong, Mei-chun Cheung, Kit-lun Yick, Chi Yung Tse, Joanne Yip, Hong Kong SAR China

Design for multiverse healthcare: The innovation spaces and transformation paths of the medical and health industry in the digital era
    Yuqi Liu, Liang Xiao, Ye Zhang, China

45	**Safety Management and Human Performance** Co-Chairs: Adel Badri, Canada and Kim Kyeongseo, South Korea	SM

13:00-14:00 (HST)
AHFE 3: IOLANI SUITE III

Use of ANSI/HFES Human Readiness Level to ensure safety in automation
    Stig O. Johnsen, Hedvig Aminoff, Norway

Optimized and accelerated simulation using intermediate state storage (OASIS) for dynamic probabilistic safety assessment
    Kim Kyeongseo, Wooseok Jo, Junyong Bae, Seung Jun Lee, South Korea

Dynamic risk assessment through automatic accident sequences generation using optimized simulation of nuclear power plants
    Wooseok Jo, Junyong Bae, Seung Jun Lee, South Korea

Towards a better assessment of the OHS performance of complex systems-case of study in Canadian and Tunisian manufacturing environment
    Hajer Jemai, Adel Badri, Nabil Ben Fredj, Canada

The consequences of poor human factors at a super critical coal power plant, a case study
    Lee Ostrom, Torrey Mortenson, USA

Application of data science in naval live, virtual, constructive training environments for improved performance
    Heather Priest Walker, Jennifer Pagan, Christian Winkle, Scott Cook, Michael Charlton, USA

Optimization of the size and distribution of phase change material (PCM) in firefighters' turnout gear
    Susan Xu, Jonisha Pollard, Weihuan Zhao, USA

46	**Augmented, Virtual and Mixed Reality Simulation IV** Co-Chairs: Scott Ledgerwood and Md Abdullah, USA	AVM

13:00-14:00 (HST)
AHFE 4: IOLANI SUITE IV

Performance of Fire Fighters in a Multiple-Sensory VR Pump Panel Training Simulation
> Scott Ledgerwood, Erika Gallegos, USA

Human factors issues in augmented reality-assisted manual order picking
> Md Abdullah, Mahmudur Rahman, USA

Student opinions when viewing 360-degee virtual reality content via flat screen displays versus head mounted displays: A pilot study
> Brian Mihalik, Ali Iskender, Aisha Haynes, Linda Mihalik, USA

Artificial-Intelligence police E-instructor delivered through ergonomically advanced augmented reality eyewear
> Jayfus Doswell, Marcus Messam, Brandon Brockington, Arthur Chinery, Saboor Salaam, USA

Effects of daylight intensity on emotion regulation in a virtual healing space
> Han Zhang, Diyu Zhou, China

47	**Human-Centered Design and Design for Inclusion III** Co-Chairs: Stefania Camplone and Alessandra Scarcelli, Italy	HCD

13:00-14:00 (HST)
AHFE 5: IOLANI SUITE V

Color impressions in images of decorated interiors and furniture are influenced by differences in color vision
> Atsushi Kido, Toshikazu Kato, Takashi Sakamoto, Japan

Circular materials for eco-craftsmanship - development of a wool-based biocomposite for 3D printing of Abruzzo region craft products
> Stefania Camplone, Giuseppe Di Bucchianico, Gabriella Petrucci, Italy

Adaptive fashion experience: A methodological approach for inclusive outerwear dressing
> Alessandra Scarcelli, Annalisa Di Roma, Italy

Guidelines for the design of digital platforms for wellness and inclusion: Shaping future community of citizens
> Annalisa Di Roma, Giulia Annalinda Neglia, Alessandra Scarcelli, Italy

Houses on 4 Greek islands: A contribution to sustainable architecture: material and immaterial
> Fernando Hipólito, Helena Botelho, Portugal

Artifacts as a means to investigate alternate and future realities
> Nishanth Srikanth, USA

Human-Centered approach in design curriculum development
> Scott Shim, USA

48	**Trend of Human Error Incidents Analysis Used by AI** Co-Chairs: Yuriko Imura and Joohyun Lee, Japan	HCD

13:00-14:00 (HST)
AHFE 6: IOLANI SUITE VI

Development of a near-miss event analysis support system for different types of human error using AI technology
> Joohyun Lee, Yusaku Okada, Japan

Human error prevention activities in manufacturing sites based on information from normal work
> Taisei Kiryu, Chikori Ino, Yusaku Okada, Japan

Development of a support system to improve the ability to analyze incident reports in hospitals using generative AI
> Yuriko Imura, Yusaku Okada, Japan

Methods of measuring the effectiveness of on-site human error response training based on employee engagement indicators
> Yu Shibuya, Yusaku Okada, Japan

Exploring the impact of error feedback methods on user experience in voice interaction
> Tongtong Xie, Meng Li, Yinyin Bai, Xie Jieren, Zhu Aibin, Zengyao Yang, China

Interactive Poster Demonstrations

A1. Interdisciplinary application of fractal algorithms-based Zodiac symbol graphic design in product packaging
Shengdong Zhou, Eakachat Joneurairatana, Veerawat Sirvesmas, Yan Wang, Thailand

A2. Differential scrubbing of toxic volatile organic compounds from BBQ smoke leaving desirable compounds behind
Ronald Gruber, Nikolas Kalamas, USA

A3. Dynamic information compression for lifelong robot learning
Nobuhito Manome, Shuji Shinohara, Shunji Mitsuyoshi, Ung-il Chung, Japan

A4. User experience approach based on the agreement of software usage rules
Shinichi Fukuzumi, Japan

A5. The relationship between aesthetic evaluation of product design and purchase intention in 100-Yen shops - Focusing on uniqueness, humor, and unexpected
Mikako Tsurugasaki, Namgyu Kang, Japan

A6. Investigation of the contemporary value of dialects and proposals for their utilization – Possibility of maintaining cultural identity and regional promotion
Sato Gai, Namgyu Kang, Japan

A7. CatMapper: User interface support for large complex categories and semantic data exploration
I-Han Hsiao, Harsha Kasi, Daniel J. Hruschka, Robert Bischoff, Matt Peeples, USA

A8. Creative collaborator: AI-facilitated UI for creating engaging and insightful memes
Romeo Nickel, Sharon Hsiao, USA

A9. Human-centered design based on the Double Diamond Model for optimizing hybrid game design
Risheng Liang, Sauman Chu, Debra Lawton, Guobin Pan, USA

A10. Ultra-flexible textile-based glove system for rehabilitation and robotics
Joelle Beauchamp, Mahendran Balasubramanian, Thamizhisai Periyaswamy, USA

A11. Comparison of floor-dragging methods with courier services
Hong-in Cheng, Jun Jie Deng, South Korea

A12. Correlation between intelligence, surveillance, and reconnaissance experience and processing, exploitation, and dissemination efficacy: ISR assessment
Justin Nelson, USA

A13. Autonomous behavior of bipedal robot by learning time-series camera images
Manabu Motegi, Japan

A14. Analysis of distracted pedestrians crossing behavior: an immersive virtual reality application
Methusela Sulle, USA

A15. Cognitive and behavioral dynamics in AI integration within human resource management
Karin Reinhold, Estonia

A16. Boosting the learning of football tactics with a gamified and intelligent mobile application
Sébastien Tremblay, Vicky Bacon, Steven Thomas, Alexandre Lemay, Cindy Chamberland, Canada

A17. Training the powered-lift evaluation pilot
Michael Feary, Loran Haworth, John Kaneshige, Kimberlee Shish, Thomas Lombaerts, Kevin Monk, Amber Villa, Mieczyslaw Steglinski, Nelson Iwai, John Archdeacon, Barth Baron, Jr., USA

A18. Topological data analysis for driver behavior classification driven by vehicle trajectory data
Debbie Indah, Judith Mwakalonge, Gurcan Comert, Saidi Siuhi, Hannah Musau, Eric Osei, Paul Omulokoli, USA

A19. Immersive educational content for 3D printing simulation
Seul-hee Kwon, Minwoo Cho, Dongwook Hwang, South Korea

POSTER/DEMONSTRATION SESSIONS, MONDAY, DECEMBER 9, 2024
Time: 10:00-14:00 (HST)
Room: Foyer
Virtual Room: AHFE Posters

A20. **Dexterity-based assessment tool for hand tracking**
Minwoo Cho, Dongwook Hwang, South Korea

A21. **Evaluation of new measures of spatial ability and attention control for selection of naval flight students**
Joseph Coyne, Christopher Draheim, Ciara Sibley, Cyrus Foroughi, Sarah Melick, Nicholas Armendariz, Alexander Burgoyne, Randall Engle, USA

A22. **Understanding bicyclist behavior and perception of B2X advanced warning messages within virtual reality**
Austin Angulo, Ye Wang, USA

A23. **Statistical analysis on safety culture awareness of regulatory institute for nuclear facilities**
Jitae Kim, South Korea

A24. **An empirical examination of money illusion in large language model-based behavioral modeling agents within a stochastic simulation framework**
Yongjian Xu, Evangelos Markopoulos, Akash Nandi, UK/USA

A25. **Emotion regulation strategies and the innovative design of AIGC interactive healing images**
Xingyi Wen, Jianmin Wang, Yu Shu, Xi Ji, China

A26. **The elderly's response for choice reaction and movement time**
Kwangtae Jung, Yejin Lee, South Korea

A27. **Comparison of AI model serving efficiency: Response time and memory usage analysis**
Ji Yeon Kim, Seong Hyeon Jo, Ki Hwan Kim, Young Jin Kang, Seok Chan Jeong, South Korea

A28. **Battle Management for Command and Control (C2) Operators**
Logan Carneal, Jennifer Pagan, United States

POSTER/DEMONSTRATION SESSIONS, TUESDAY, DECEMBER 10, 2024
Time: 10:00-14:00 (HST)
Room: Foyer
Virtual Room: AHFE Posters

B1. **Comparison of race walking and power walking at varying paces by expressing movement in the frequency domain**
Tomoki Inoue, Kyoko Shibata, Japan

B2. **Timbre estimation of compound tones from an auditory cortex by deep learning using fMRI: Sound pressure levels detection of specific frequency**
Junnosuke Kusumoto, Kyoko Shibata, Hironobu Satoh, Japan

B3. **Air conditioner operating system based on the concept of Benefit of Inconvenience (BoI)**
Haruki Tanaka, Kodai Furumachi, Haruaki Kobayashi, Namgyu Kang, Japan

B4. **User experience design of poultry welfare courses**
Laura Huisinga, Katy Tarrant, USA

B5. **Analysis of human factors in container ships' marine accidents**
Nermin Hasanspahić, Vlado Frančić, Marko Strabić, Ivan Krivokapić, Croatia

B6. **Impact of warning information provision systems under autonomous vehicle vulnerable situation in urban mixed traffic conditions**
Songha Lee, Hojae Kim, Nuri Park, Juneyoung Park, South Korea

B7. **Is virtual reality for retail marketing research? Research opportunities and methods**
Jung Eun Lee, Wi-Suk Kwon, USA

B8. **Examination of evaluation indices for micro-influencers considering community structure and post contents**
Kohei Otake, Ryo Morooka, Japan

Interactive Poster Demonstrations

B9. Computational design of a naval unit for rapid intervention in case of marine eco-system disaster
Alexandra Gabriela Ene, Carmen Mihai, Romania

B10. Advanced numerical simulations for seakeeping performance analysis of a floating architecture based on textile structure
Alexandra Gabriela Ene, Carmen Mihai, Romania

B11. The impact of augmented display and information density on driving experience in autonomous vehicles
Minwoo Cho, Dongwook Hwang, South Korea

B12. A user-centered design approach in the development of a modular AI-system for detection of cerebral palsy in infants
Natalie Jankowski, Vivian Waldheim, Katharina Lorenz, Christina Mittag, Germany

B13. Evaluation of UAV-induced driver distraction using Eye Tracker and EEG
Zainab Afzali Kusha, Sahar Ghanipoor Machiani, Reza Akhavian, USA

B14. Collecting anthropometric data from the perspective of ergonomics. A learning experience for industrial engineering students
Stephanie Daphne Prado Jimenez, John Rey-Galindo, Rosa Rosales-Cinco, Carlos Aceves-Gonzalez, Mexico

B15. Evaluation of the learning effectiveness of a smart TRX and functional fashion workshop
Hsin-rong Hsieh, Ying-Chia Huang, Yu-jen Chen, Peng-cheng Hsu, Ya-chun Chang, Jui-yun Hung, Taiwan

B16. Optimizing AI system security: An ecosystem recommendation to socio-technical risk management
Kitty Kioskli, Antonios Ramfos, Steve Taylor, Leandros Maglaras, Ricardo Lugo, Netherlands

B17. Comparative experiment of context-awareness-based visualization schemes for focused information on target search mission posture
Qiuyu Liu, Li Bing, Bei Zhang, Shuang Liu, Yuqing Dang, China

B18. The impact of physical conditions on workers psychologically and organically industrial noise as a model- An applied study in the BMS ELECTRIC company in Algiers
Bayoub Aissa, Wahiba Houda Falahi, Algeria

B19. Understanding drivers' perceptions and usage of advanced driver assistance systems
Hannah Musau, USA

B20. Empowering surgeons by mitigating musculoskeletal disorders and advancing needle holder design for optimal performance
Ahmed Basager, Quintin Williams, Sai Arasada, Luis Hernandez, Kaliah Linear, Angelica Mangahas, Heather Weinreich, USA

B21. User perception in interaction with augmented reality prototypes for product assembly assistance
Eugenia Cornils Monteiro da Silva, Sanderson Cesar Macedo Barbalho, Leonardo Luna, Marcelo Becker, Brazil

B22. The impact of AI on business ecosystem development
Olga Shvetsova, South Korea

B23. Grip and finger strength of dementia patients: A comparative analysis
Dae Min Kim, South Korea

B24. The influence of sex differences and the number of operators on physical and psychological load by roll containers use
Nozomi Sato, Japan

B25. Sweat and sacrifice: Occupational drudgery in the lives of sugarcane farmers in India
Neelesh Kohli, India

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