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## ADVANCE PROGRAM

MONDAY, 29 JULY (./MONDAY) | TUESDAY, 30 JULY (./TUESDAY) | WEDNESDAY, 31 JULY

 **The Advance Program is subject to change**
*(Last Updated: 10 May, 2019)***08:00 – 10:00** (./wednesday#0)**10:30 – 12:30** (./wednesday#2)**13:30 – 15:30** (./wednesday#4)**16:00 – 18:00** (./wednesday#6)

|   |
|---|
| <b>08:00 – 10:00</b>  |
| <b>Human-Computer Interaction</b>   |
| <b>Design Case Studies</b><br>Chair(s): Ahmed Sabbir Arif, <i>United States</i> |





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- **Design Patterns to Support Personal Data Transparency Visualization in Mobile Applications**  
Thiago Adriano Coleti, Marcelo Morandini, Lucia Vilela Leite Filgueiras, Pedro Luiz Pizzigatti Correa, Igor Goulart De Oliveira, Cinthyan Renata Sachs Camerlengo De Barbosa, *Brazil*
- **Keep System Status Visible: Impact of Notifications on the Perception of Personal Data Transparency**  
Lucia Vilela Leite Filgueiras, Adriano Da Silva Ferreira Leal, Thiago Adriano Coleti, Marcelo Morandini, Pedro Luiz Pizzigatti Correa, Solange N. Alves-Souza, *Brazil*
- **Supporting Life History Research with Interactive Visualizations**  
Tamara Babaian, Miriam Boeri, Gita Ligure, *United States*
- **Text Entry in Virtual Reality: A Comprehensive Review of the Literature**  
Tafadzwa Joseph Dube, Ahmed Sabbir Arif, *United States*
- **Applicability Study of Eye Movement Menu based on Analytic Hierarchy Process**  
Wen-jun Hou, Bo Zhang, Si-qi Wu, Zhi-yang Jiang, *P.R. China*

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## Human Interface and the Management of Information

### UX Based Interaction Design

Chair(s): Hirohiko Mori, *Japan*





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Razieh Saremi, Ye Yang, Abdullah Khanfor, *United States*

- **Feedback Control to Target Joints Angle in Middle Finger PIP and MP Joint Using Functional Electrical Stimulation**

Kyosuke Watanabe, Makoto Oka, Hirohiko Mori, *Japan*

- **Investigation of Learning Process with TUI and GUI based on protocol analysis**

Natsumi Sei, Makoto Oka, Hirohiko Mori, *Japan*

- **How to Overcome Barriers for the Implementation of New Information Technologies in Intensive Care Medicine**

Akira-Sebastian Poncette, Christian Meske, Lina Mosch, Felix Balzer, *Germany*

- **User Experience and Map Design for Wayfinding in a Virtual Environment**

Meng-Xi Chen, Chien-Hsiung Chen, *Taiwan*

- **Postural Movement when Persons Feel Uncomfortable Interpersonal Distance**

Yosuke Kinoue, Yuna Akimori, Akane Sakiyama, *Japan*

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## Engineering Psychology and Cognitive Ergonomics

### Cognition and Design - I

Chair(s): To be announced





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Helmut Degen, *United States*

- **Towards a Mixed Reality platform for Applied Cognitive Load Evaluation**  
Maurice Van Beurden, Linsey Roijendijk, *Netherlands*
- **Color Ergonomics Research in Harsh Environment Under Three Task Modes**  
Zhi-yang Jiang, Wen-jun Hou, *P.R. China*
- **Semi-automatic Aggregation of Multiple Models of Visual Attention for Model-based User Interface Evaluation**  
Dennis Knoop, Bertram Wortelen, Marcus Behrendt, *Germany*
- **Research on Aesthetics Degree Optimization Model of Product Form**  
Ming Li, Jie Zhang, Yiping Hou, *P.R. China*
- **Role of visuospatial memory in influencing situational awareness in a dynamic reconnaissance simulation**  
Ronnie Daniel, *India*; Raghav Bhat, *United States*; Vrinda Prajapati, Akash Rao, Vishal Pandey, Sushil Chandra, *India*

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### Universal Access in Human-Computer Interaction

#### ICT in Health and in Active Ageing

Chair(s): João Barroso, *Portugal*; Leontios Hadjileontiadis, *Greece*





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Salik Ram Khanal, *Nepal*; Jaime Sampaio, João Barroso, Vítor Filipe, *Portugal*

- **EEG Systems for Educational Neuroscience**

Angeliki Tsiara, Tassos Anastasios Mikropoulos, Panagiota Chalki, *Greece*

- **A Delphi Study on the Design of Digital Educational Games**

Panagiota Chalki, Tassos Anastasios Mikropoulos, Angeliki Tsiara, *Greece*

- **"Express your feelings": An interactive application for autistic patient**

Prabin Sharma, *Portugal*; Mala Deep Upadhaya, Amrit Twanabasu, *Nepal*; João Barroso, Salik Ram Khanal, Hugo Paredes, *Portugal*

- **Designing and Evaluating Technology for the Dependent Elderly in their Homes**

Maria João Monteiro, Isabel Barroso, Vitor Rodrigues, Salviano Soares, João Barroso, Arsénio Reis, *Portugal*

- **Creating Weather Narratives**

Arsénio Reis, Margarida Liberato, Hugo Paredes, Paulo Martins, João Barroso, *Portugal*

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## **Video Games and Advanced Technologies for Health: Design, User Experience and Usability Issues**

Chair(s): Federica Pallavicini, *Italy*





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Federica Pallavicini, Alessandro Pepe, Maria Eleonora Minissi, *Italy*

- **Teaching video game design accessibility: toward effective pedagogic interventions in accessible design**

Laura Levy, Maribeth Gandy, *United States*

- **Reflections on elements of a game design model applied to inclusive digital games**

Patricia da Silva Leite, Ana Paula Retore, Leonelo Dell Anhol Almeida, *Brazil*

- **Principles for Evaluating Usability in Multimodal Games for People who are Blind**

Ticianne Darin, Rossana Andrade, *Brazil*; Jaime Sánchez, *Chile*

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### Virtual, Augmented and Mixed Reality

#### VAMR in training

Chair(s): To be announced





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- **Cicero VR - Public Speaking Training Tool and an Attempt to Create Positive Social VR Experience**  
Michał Jakubowski, Marcin Wardaszko, Anna Winniczuk, Blazej Podgorski,  
Małgorzata Ćwil, *Poland*
- **A Multi-Procedural Virtual Reality Simulator for Orthopaedic Training**  
Gino De Luca, Nusrat Choudhury, Catherine Pagiatakis, Denis Laroche, *Canada*
- **Impact of Foveated Rendering on Procedural Task Training**  
Rafael Radkowski, Supriya Raul, *United States*
- **Designing Educational Virtual Environments for Construction Safety: A Case Study in Contextualizing Incident Reports and Engaging Learners**  
Alyssa M. Pena, Eric D. Ragan, Julian Kang, *United States*
- **Augmented Reality (AR) Assisted Laryngoscopy for Endotracheal Intubation Training**  
Ming Qian, John Nicholson, David Tanaka, Patricia Dias, Erin Wang, *United States*;  
Litao Qiu, *P.R. China*

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#### **Health and ergonomic issues in VR**

Chair(s): To be announced





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Eileen Smith, *United States*

- **Cybersickness and Postural Sway using HMD Orientation**

Lisa Rebenitsch, Breanna Quinby, *United States*

- **The impact of motion on individual simulator sickness in a moving base VR simulator with Head-Mounted Display (HMD)**

Mara Kaufeld, Thomas Alexander, *Germany*

- **Effects of Weight and Balance of Head Mounted Display on Physical Load**

Kodai Ito, Mitsunori Tada, Hiroyasu Ujike, Keiichiro Hyodo, *Japan*

- **Biomechanical Exposures in the Neck and Shoulders during Virtual Reality Interactions**

Sai Akhil Penumudi, Veera Aneesh Kuppam, Jeong Ho Kim, Jaejin Hwang, *United States*

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### Cross-Cultural Design

#### Interacting with Emerging Technologies

Chair(s): Pei-Luen Patrick Rau, *P.R. China*







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Bingcheng Wang, Pei-Luen Patrick Rau, *P.R. China*

- **Can Virtual Reality Satisfy Entertainment Needs of the Elderly? The application of a VR Headset in Elderly Care**

Xiaojun Lai, Xin Lei, Xuanwei Chen, Pei-Luen Patrick Rau, *P.R. China*

- **Anthropometric Characteristics on the Perceived Comfort of VR and AR Devices**

Jihee Kim, Sungwook Jung, Seonghwan Bang, Haseung Song, Juhyun Son, Kangmin Lee, Jinyoung Kim, Hyewon Shin, Sangwoo Bahn, *Korea*

- **Effect of Layout on User Performance and Subjective Evaluation in an Augmented-Reality Environment**

Xin Lei, Yueh-Lin Tsai, Pei-Luen Patrick Rau, *P.R. China*

- **Does Heat Matter in Phone Usage? Antecedents and Consequences of Mobile Thermal Satisfaction**

Andong Zhang, Pei-Luen Patrick Rau, Zhaoyi Ma, Qin Gao, Lili Dong, *P.R. China*

- **Attempts to Leverage Interaction Design to Mimic Emotional Care and Empathy-based Feedback on Smart Speakers**

Yanyan Sun, Ting Wang, Xiang Ge, Jianping Qi, Min Zhao, Liming Zou, Dan Li, Shiyan Li, Daisong Guan, *P.R. China*

- **Is SERVQUAL reliable and valid? A review from the perspective of dimensions in different typical service industries**

Quan Yuan, Qin Gao, *P.R. China*

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## Social Computing and Social Media

### Data based Social Signal Processing

Chair(s): Hung-Hsuan Huang, Shogo Okada, Ryo Ishii, *Japan*





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- **Multimodal BigFive Personality Trait Analysis using Communication Skill Indices and Multiple Discussion Types Dataset**  
Candy Olivia Mawalim, *Indonesia*; Shogo Okada, Yukiko Nakano, Masashi Unoki, *Japan*
- **Estimating interpersonal reactivity scores using gaze behavior and dialogue act during turn-changing**  
Ryo Ishii, Kazuhiro Otsuka, Shiro Kumano, Ryuichiro Higashinaka, Junji Tomita, *Japan*
- **Toward RNN based Micro Non-verbal Behavior Generation for Virtual Listener Agents**  
Hung-Hsuan Huang, Masato Fukuda, Toyoaki Nishida, *Japan*
- **Infer Creative Analogous Relationships from Wikidata**  
Mei Si, *United States*
- **From social media to expert reports: the impact of source selection on automatically validating complex conceptual models of obesity**  
Mannila Sandhu, *Canada*; Philippe J. Giabbanelli, *United States*; Vijay K. Mago, *Canada*

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#### **Experiences in social media**

Chair(s): Daniela Quinones, *Chile*





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- **Methodologies and Trends in Multimedia Systems: A Systematic Literature Review**  
Carlos Alberto Pelaez, Andrés Solano, *Colombia*; Toni Granollers, *Spain*; César A. Collazos, *Colombia*
- **Using a Social media inspired optimization algorithm to solve the Set Covering Problem**  
Broderick Crawford, Ricardo Soto, Guillermo Cabrera, Agustín Salas-Fernández, Fernando Paredes, *Chile*
- **Pistacho: an interactive system to support the development of phonological awareness for blind children**  
Isabella Sanchez, Nataly Betancur, Andrés Solano, Sandra Cano, *Colombia*
- **Using a Gamification Tool to Support the Teaching-Learning Process in Computer Science Program**  
Pamela Hermosilla, Katherine Valencia, Erick Jamet, *Chile*
- **EduGit: Toward a Platform for Publishing and Adopting Course Content**  
Michael Stewart, Jason Forsyth, Zamua Nasrawt, *United States*

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### Augmented Cognition

#### Neuroscience and brain interfaces

Chair(s): To be announced





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Willie McClinton, Sarah Garcia, Marvin Andujar, *United States*

- **Wavelet Packet Entropy Analysis of Resting State Electroencephalogram in Sleep Deprived Mental Fatigue State**

Yanjing Wang, Zhongqi Liu, Qianxiang Zhou, Xuewei Chen, *P.R. China*

- **An Enactive Perspective on Emotion: a Case Study on Monitoring Brainwaves**

Vanessa Regina Margareth Lima Maike, M. Cecília C. Baranauskas, *Brazil*

- **Predicting Java Computer Programming Task Difficulty Levels Using EEG for Educational Environments**

Ramaswamy Palaniappan, Aruna Duraisingam, Nithyakalyani Chinnaiyah, *United Kingdom*; Murugappan Murugappan, *Kuwait*

- **Interpolation, a Model for Sound Representation based on BCI**

Héctor Fabio Torres Cardona, Catalina Aguirre Grisales, Victor Hugo Castro Londoño, José Luis Rodríguez Sotelo, *Colombia*

- **Towards Cognitive Augmentation through a Behavioral Economics Approach: Platform, Templates, and Tools**

Pedro Campos, Miguel Campos, Paulo Freitas, Valentim Freitas, *Portugal*

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### **Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management**

#### **Why organisations must consider OSH & standardization for HCI**

Chair(s): Michael Bretschneider-Hagemes, Sebastian Korfmacher, *Germany*





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- **OSH and the Future of Work: Benefits & Risks of Artificial Intelligence tools in workplaces**  
Phoebe Moore, *United Kingdom*
- **Standardisation in Human-System Interaction also requires addressing Human Factors and Ergonomics in Machinery Safety**  
Peter Nickel, *Germany*
- **The relevance of cybersecurity for functional safety and HCI**  
Sebastian Korfmacher, *Germany*
- **An Integrated Approach of Multiple Correspondences Analysis (MCA) and Fuzzy AHP method for Occupational Health and Safety Performance Evaluation in the Land Cargo Transportation**  
Genett Jimenez Delgado, Nidia Balmaceda Castro, Hugo Hernandez, Emiro De La Hoz, Jesus García-Guiliany, Jairo Martinez-Ventura, *Colombia*
- **A Method of Designing Outdoor Safety Way Guidance Sign Layout Information Based on Human Factors Engineering**  
Jiliang Zhang, Yongquan Chen, Jingquan Liu, *P.R. China*

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### Design, User Experience, and Usability

#### **HCI Innovation in the Field of AI: Autonomous Vehicles, Intelligent Recommendation, Robotics, and Smart Home**

Chair(s): Moli Zhou, *P.R. China*





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*P.R. China*

- **Exploration of Ideal Interaction Scheme on Smart TV: Based on User Experience Research of Far-field Speech and Mid-air Gesture Interaction**  
Xuan Li, Daisong Guan, Jingya Zhang, XingTong Liu, Siqi Li, Hui Tong, *P.R. China*
- **Transition to Automated: The Interaction of Activating the In-vehicle Automated Driving System**  
Weiyi Ning, Xuning Wang, Yingzhu Qian, *P.R. China*
- **Stepped Warm-up--The Progressive Interaction Approach for Human-Robot Interaction in Public**  
Min Zhao, Dan Li, Zhun Wu, Shiyan Li, Xiaonan Zhang, Lu Ye, Guangfu Zhou, Daisong Guan, *P.R. China*
- **A Method to Automatic Measuring Riding Comfort of Autonomous Vehicles: Based on Passenger Subjective Rating and Vehicle Parameters**  
Ya Wang, Qiuyu Zhang, Lizhi Zhang, Yunyan Hu, *P.R. China*
- **Improving Mobile News Reading Experience for Chinese Users: An User Interview and Eye Tracking Study**  
Chenyi He, Nan Chen, Minjuan Zhou, Hui Li, Kecheng Chen, Daisong Guan, *P.R. China*
- **Do Smart Speakers Respond to Their Errors Properly? A Study on Human-computer Dialogue Strategy**  
Xiang Ge, Dan Li, Daisong Guan, Shihui Xu, Yanyan Sun, Moli Zhou, *P.R. China*

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### **Designing and Evaluating User Experience (UX) in Interactive Systems**

Chair(s): Claudia Zapata Del Río, *Peru*





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Lesly Elguera Paez, Claudia Zapata Del Río, *Peru*

- **Mind Maps in Requirements Engineering: A systematic Mapping**

Eder Quispe Vilchez, José A. Pow-Sang Portillo, *Peru*

- **Game Design Model for Educational History Videogames**

Ricardo Navarro Fernandez, Sergio Martinez Palomino, Vanessa Vega Velarde, Claudia Zapata Del Río, Enrique Chiroque Landayeta, *Peru*

- **Exploring the relationship between web presence and web usability in Peruvian universities**

Luis Torres Melgarejo, Claudia Zapata Del Río, Eder Quispe Vilchez, *Peru*

- **Mobile Commerce Apps Usability: A Validity Study**

Samar Swaid, Taima Suid, *United States*

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### Distributed, Ambient and Pervasive Interactions

#### Designing intelligent interactive environments - I

Chair(s): To be announced





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Taeyoung Uhm, Ji-Hyun Park, Gi-Deok Bae, Young-Ho Choi, *Korea*

- **A Mirror That Reflects, Augments and Learns**

Sheng Kai Tang, *United States*; June Hao Hou, *Taiwan*

- **Spatial Perception and Humanistic Innovation in Smart Cities:A Systematic Review**

Tongwen Wang, Wuzhong Zhou, *P.R. China*

- **Emotion-Aware Ambient Intelligence: Changing Smart Environment Interaction Paradigms through Affective Computing**

Alex Altieri, Silvia Ceccacci, Maura Mengoni, *Italy*

- **Security in Smart Toys: a Systematic Review of Literature**

Lara Pontes, Gustavo Coutinho, *Brazil*; Patrick C.K. Hung, Benjamin Yankson, *Canada*

- **Affective Sleeve: Wearable Materials with Haptic Action for Promoting Calmness**

Athina Papadopoulou, Jaclyn Berry, Terry Knight, Rosalind Picard, *United States*

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### HCI in Business, Government and Organizations

#### Mobile finance and privacy

Chair(s): Norman Shaw, *Canada*

- **The Role of Mobile Money in Somalia's Remittance System**

Mohamed Elmi, Ojelanki Ngwenyama, *Canada*

- **Modifying E-service Quality for Automotive Repair Shops**

Canveet Randhawa, Norman Shaw, *Canada*

- **Adding 'Social' to Commerce to Influence Purchasing Behaviour**

Zainab Mehdi Hussain Khan, Norman Shaw, *Canada*

- **Do Development Strategies Influence the Performance of Mobile Apps? Market Status Matters**

Bei Luo, Xiaoke Zhang, Lele Kang, *P.R. China*; Qiqi Jiang, *Denmark*

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Chair(s): To be announced

- **Facilitating Access to Cross-border Learning Services and Environments with eIDAS**  
Tomaž Klobučar, *Slovenia*
- **Collaborative Meaning Construction in Socioenactive Systems: Study with the mBot**  
Ricardo Caceffo, Eliana Alves Moreira, Rodrigo Bonacin, Julio Cesar Dos Reis, Marleny Luque Carbajal, João Vilhete V. D'Abreu, Camilla V.L.T. Brennand, Luma Lombello, José Armando Valente, M. Cecília C. Baranauskas, *Brazil*
- **Evaluating the Usability of Pervasive Conversational User Interfaces for Virtual Mentoring**  
Earl W. Huff, Naja A. Mack, Robert Cummings, Kevin Womack, Kinnis Gosha, Juan E. Gilbert, *United States*
- **Proposing an Estimation Method of Mental Fatigue by Measuring Learner's Leg Movement**  
Daigo Aikawa, Yasutaka Asai, Hironori Egi, *Japan*
- **Pedagogical-Agent Learning Companions in a Virtual Reality Educational Experience**  
David Novick, Mahdokht Afravi, Adriana Camacho, Aaron E. Rodriguez, Laura J. Hinojos, *United States*
- **Synthetic learning environment: technology of individualization or collaboration?**  
Oleksandr Burov, Valeriy Bykov, Olga Pinchuk, *Ukraine*

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### Human Aspects of IT for the Aged Population

#### Aging and Technology Acceptance

Chair(s): Jia Zhou, *P.R. China*



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Qiuyang Tang, Gang Guo, *P.R. China*

- **What Do Your Eyes Say about Your Conformity? An Observation on the Number of Sales during Online Shopping**

Weibin Wang, Jia Zhou, Guangji Liao, *P.R. China*

- **Trends in the Decline in Gait and Motor Ability of Older Adults: A Case Study Based on SHARE Data**

Ruoyu Chen, Jia Zhou, *P.R. China*

- **Assistive Technology for Active and Independent Aging**

Blanka Klimova, *Czech Republic*

- **Rethinking the Role of Home for Older Adults in the Context of Digitalization: A systematic review**

Fangyuan Chang, Britt Östlund, *Sweden*

- **Ontology Construction for Eldercare Services with an Agglomerative Hierarchical Clustering Method**

Peng Han, Yulong Li, Yue Yin, Ning An, *P.R. China*

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### **Older adults in the web ecology experiences**

Chair(s): Ana Isabel Veloso, *Portugal*





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Pedro Amado, Liliana Vale Costa, Ana Isabel Veloso, *Portugal*

- **Strategies to Enhance Technology-based Learning Experiences in Older Adults: A Field Study**

Ana Isabel Veloso, Liliana Vale Costa, Celia Soares, Sonia Ferreira, *Portugal*

- **Older adults in ICT contexts: recommendations for developing tutorials**

Sonia Ferreira, Ana Isabel Veloso, *Portugal*

- **The Digital Drawer: A Crowd-Sourced, Curated, Digital Archive Preserving History and Memory**

Scott Robertson, Laura Levy, Amelia Lambeth, Jesse Karlsberg, *United States*

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### HCI for Cybersecurity, Privacy and Trust

#### **Novel approaches to cybersecurity**

Chair(s): To be announced





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- **A Framework of Information Security Integrated with Human Factors**  
Ahmed Al-Darwish, Pilsung Choe, *Qatar*
- **Making Sense of Darknet Markets: Automatic Inference of Semantic Classifications from Unconventional Multimedia Datasets**  
Alexander Berman, Celeste Paul, *United States*
- **Interdependencies, Conflicts and Trade-offs between Security and Usability: Why and how should we Engineer Them?**  
Bilal Naqvi, *Finland*; Ahmed Seffah, *France*
- **DESIGNING AN ACCESSIBLE HUMAN INTERACTION PROOF IN VR**  
Li Liu, *United States*
- **Investigating Visualisation Techniques for Rapid Triage of Digital Forensic Evidence**  
Gavin Hales, Ethan Bayne, *United Kingdom*

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### HCI in Games

#### **Transformative Playground**

Chair(s): Haipeng Mi, Danqing Shi, *P.R. China*





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- **Encourage Self-exploration Through an Interactive Chinese Scroll Painting Design**  
Nan Wang, Jiayin Li, Qingyuan Shi, Danqing Shi, Haipeng Mi, *P.R. China*
- **Benevolent Deception in Exergame Design**  
Xiuping Li, Danqing Shi, Sheng Wang, *P.R. China*
- **Yuri Game: Romance and Characterization in Gameplay**  
Yueqian Liu, *P.R. China*
- **“Naughty AlphaGo”: Transforming the Game of Computer Go into an Emotional Tangible Playground**  
Shuchang Xu, *P.R. China*; Yilin Zhu, Chunhui Yang, *United States*; Danqing Shi, *P.R. China*

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### HCI in Mobility, Transport and Automotive Systems

#### Designing mobility

Chair(s): To be announced





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- **A Comprehensive Persona Template to Understand Citizens' Mobility Needs**  
Svenja Polst, Phil Stüpfert, *Germany*
- **A Literature Review of Virtual Reality Use in Transportation and Traffic Engineering**  
Si Jung Kim, *United States*
- **Experience Design for an Online Map Service to Improve the Transit Convenience for the Disabled with Wheelchairs**  
Sung Woo Kim, Suzy Yang, *Korea*; Xianglian Han, *P.R. China*
- **Spatial Features and Elements Affecting Indoor Wayfinding—A Case Study in a Transit Hub**  
Dadi An, Junnan Ye, Wei Ding, *P.R. China*
- **A Cyber-Physical Simulation of Traffic Speed Bumps Using Unity 3D and SimCraft**  
Si Jung Kim, *United States*; Octave De Lignaud de Lussac, Huet Quentin, *France*;  
Alexander Paz-Cruz, *United States*
- **Monitoring Road Surface Conditions for Bicycles –using Mobile Device Sensor Data from Crowd Sourcing**  
Waldemar Titov, Thomas Schlegel, *Germany*

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### Adaptive Instructional Systems

#### **Adaptive Agents for Adaptive Instruction: Teaching old agents new tricks**

Chair(s): Benjamin Bell, *United States*





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- **Wrong in the Right Way: Balancing Realism against other Constraints in Simulation-Based Training**  
Walter Warwick, Stuart Rodgers, *United States*
- **Cognitive Agents for Adaptive Training in Cyber Operations**  
Randolph Jones, Ryan O'Grady, Fernando Maymi, Alex Nickels, *United States*
- **Adaptive Training: Designing Training for the Way People Work and Learn**  
Lara Bove, *United States*
- **Adaptive Agents for Adaptive Tactical Training: The State of the Art and Emerging Requirements**  
Jared Freeman, Eric Watz, Winston Bennett, *United States*

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**10:00 – 10:30**

**Coffee Break**

**10:30 – 12:30**

**Human-Computer Interaction**

**Displays and devices**

Chair(s): To be announced





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Chun-yen Huang, Li-Hung Wang, Wei-Lin Hsu, Kuo-ping Chang, Fu-Ren Lin, Heng-Yin Chen, Kuan-Ting Chen, Jia-Chong Ho, *Taiwan*

- **Heterogeneous Device Arrangements Affect Both Partners' Experiences in Collaborative Media Spaces**

Baris Unver, Jasmine Jones, Alexander Thayer, Svetlana Yarosh, *United States*

- **Preliminary Comparison of a Curved Public Display vs a Flat Public Display**

Junichiro Yamashita, Kazuo Isoda, Riyoko Ashida, Ichiro Hisanaga, Junko Ichino, *Japan*

- **Mobile Phone-based Device for Personalised Tutorials of 3D Printer Assembly**

Xiangdong LI, Wenqian Chen, Yunzhan Zhou, *P.R. China*; Surabhi Athalye, Wai Kit Daniel Chin, Russell Goh Wei Kit, Vincent Setiawan, *Singapore*; Preben Hansen, *Sweden*

- **Digital Design and Research of Ink Art Based on Infrared Interactive Projection Technology - Taking the work of "Listen to the Ink" as an example**

Yarong Deng, Lihong Luo, XiaoYing Tang, *P.R. China*

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### Human Interface and the Management of Information

#### Tactile displays: Issues and user experience

Chair(s): Linda Elliott, *United States*







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- **The Design of the Body:Suit:Score, a Full-Body Vibrotactile Musical Score**  
Travis West, Alexandra Bachmayer, Sandeep Bhagwati, Joanna Berzowska,  
Marcelo Wanderley, *Canada*
- **Design Approach for Investigating Multimodal Communication in Cordon and Search**  
Daniel Barber, *United States*
- **In-vehicle Tactile Displays to Enhance Crew Situation Awareness and Understanding of Agents in a Simulated Driving Environment**  
David Chhan, Timothy White, Brandon Perelman, *United States*
- **Design Challenges and Recommendations for the Development of Adaptive Multimodal Displays**  
Sara Riggs, *United States*
- **Getting in Touch with Users - the Challenges of Implementing Effective Tactile Displays**  
Bruce Mortimer, *United States*
- **Tactile Applications in Aviation: A Historical Perspective**  
Angus Rupert, *United States*

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### Engineering Psychology and Cognitive Ergonomics

#### Cognition and Design - II

Chair(s): Hua Qin, *P.R. China*





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- **How Fire Risk Perception Impacts Evacuation Behavior:A Review of the Literature**  
Hua Qin, Xiaotong Gao, *P.R. China*
- **Cognitive simulation and cognitive load analysis of driving task through the intersection**  
Pei Chen, Qing Xue, *P.R. China*
- **Impact of Three Indirect Visual Interfaces on Spatial Navigation in an Unmanned Underwater Vehicle**  
Vishal Pandey, Sonali Aatrai, Apoorva Johari, Ronnie Daniel, *India*; Raghav Bhat, *United States*; Akash Rao, Sushil Chandra, *India*
- **Research on Evaluation of Product Image Design Elements Based on Eye Movement Signal**  
Wenjin Yang, Jianning Su, Kai Qiu, Xinxin Zhang, Shutao Zhang, *P.R. China*
- **Music Valance and Genre Influence Group Creativity**  
Hosseini Sarinasadat, Yuki Hattori, Yoshihiro Miyake, Takayuki Nozawa, *Japan*

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### Universal Access in Human-Computer Interaction

#### Sensors and Mobile Applications for Human-Computer Interaction

Chair(s): João M.F. Rodrigues, Pedro J.S. Cardoso, *Portugal*





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Mandy Korzetz, Romina Kühn, Karl Kegel, Leon Georgi, Franz-Wilhelm Schumann,  
Thomas Schlegel, *Germany*

- **A Flexible Assessment Platform for Middle School Supported on Students Goals**

Pedro J.S. Cardoso, Roberto Lam, Rui Penha Pereira, Nuno Rodrigues, Cláudia Herdeiro,  
*Portugal*

- **AR Contents Superimposition on Walls and Persons**

João M.F. Rodrigues, Ricardo J.M. Veiga, Roman Bajireanu, Roberto Lam, Pedro  
J.S. Cardoso, Paulo Bica, *Portugal*

- **The Contribution of Social Networks to the Technological Experience of Elderly Users**

Celia M.Q. Ramos, João M.F. Rodrigues, *Portugal*

- **User Test Logger: An Open Source Browser Plugin for Logging and Reporting Local User Studies**

Vagner Figueredo de Santana, Felipe Eduardo Ferreira Silva, *Brazil*

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### **Innovative Product Design and Development**

Chair(s): Kevin C. Tseng, Tsai-Hsuan Tsai, *Taiwan*





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Shu-Ping Lin, Ya-Hui Chan, *Taiwan*

- **Occupational and Nonwork Stressors among Female Physicians in Taiwan: A Single Case Study**

Kuang-Ting Cheng, Kevin C. Tseng, *Taiwan*

- **A Feasibility Study of Virtual Reality in Upper Limb Rehabilitation in Patients with Stroke**

LE WANG, *P.R. China*; Kevin C. Tseng, *Taiwan*

- **A Feasibility Study of Designing a Family-Caregiver-Centred Dementia Care Handbook**

Ting-Ya Chang, Kevin C. Tseng, *Taiwan*

- **Using Virtual Reality to Create an Inclusive Virtual Drumming Environment**

Jacob Jewell, Tony Morelli, *United States*

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### Virtual, Augmented and Mixed Reality

#### Media, culture and learning

Chair(s): To be announced





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Elizabeth Hyde, *United States*

- **Effects of Character Guide in Immersive Virtual Reality Stories**

Qinghong Xu, Eric D. Ragan, *United States*

- **The Design and On-site Testing of a Mobile Augmented Reality Game Facilitating Social Interaction in Qingdao Museum**

Zirui Liu, Junjie Chu, *P.R. China*

- **Augmented Reality in Education: A Study on Preschool Children, Parents and Teachers in Bangladesh**

Mohammad Fahim Abrar, MD Rakibul Islam, Md. Sabir Hossain, *Bangladesh*; Mohammad Mainul Islam, *United States*; Muhammad Ashad Kabir, *Australia*

- **TurtleGO: Application with Cubes for Children's Spatial Ability based on AR Technology**

Yoonji Song, Jaedong Kim, Hanhyuk Cho, *Korea*

- **Mixed and Augmented Reality for Environmental Education in Urban Areas of Amazon Region**

Sylker Teles da Silva, Luciana Frazão, *Brazil*

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### **Designing virtual environments**

Chair(s): To be announced





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*United States*

- **Spherical Layout with Proximity-based Multimodal Feedback for Eyes-free Target Acquisition in Virtual Reality**  
BoYu Gao, Yujun Lu, *P.R. China*; HyungSeok Kim, *Korea*; Byungmoon Kim, *United States*; Jinyi Long, *P.R. China*
- **Embedding Situation Awareness Using Augmented Reality: A Survey**  
Taufik Akbar Sitompul, Markus Wallmyr, Tobias Holstein, *Sweden*
- **Human-Computer Interaction for Space Situational Awareness (SSA): Towards the SSA Integrated Sensor Viewer (ISV)**  
Mitchell Kirshner, David Gross, *United States*
- **Through the Realities of Augmented Reality**  
Thitirat Siriborvornratanakul, *Thailand*

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**Cross-Cultural Design**

**Affective Engineering: Strengthening User Experience**

Chair(s): Pei-Luen Patrick Rau, *P.R. China*





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Man Wu, Bingcheng Wang, Qin Gao, Pei-Luen Patrick Rau, *P.R. China*

- **Mindfulness Meditation: Investigating Immediate Effects in an Information Multitasking Environment**

Na Liu, Yubo Zhang, *P.R. China*; Gloria Mark, *United States*; Ziyang Li, Pei-Luen Patrick Rau, *P.R. China*

- **Reliability and validity of measurement scale for perceived service quality in Internet bank: a review**

Quan Yuan, Qin Gao, *P.R. China*

- **How People Browse Mobile News Feed? A Study for Mobile News Feed Design**

Hui Li, Nan Chen, Minjuan Zhou, Chenyi He, Jingbo Li, Yujie Shi, *P.R. China*

- **Design of an online education evaluation system based on multimodal data of learners**

Qijia Peng, *Japan*; Nan Qie, *P.R. China*; Liang Yuan, *Japan*; Yue Chen, Qin Gao, *P.R. China*

- **The Aesthetic Pleasure in Design Scale for Spanish Speaking Countries: A Method for the Cross-Cultural Implementation and Adaptation of Psychometric Scales**

Luis Miguel Garrido Possauner, Jorge Maya, *Colombia*

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### Social Computing and Social Media

#### Impact of multicultural environments on social computing and social media

Chair(s): Simona Vasilache, *Japan*





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- **The Olympic Games as a Multicultural Environment and Their Relationship with Social Media**  
Devena Haggis, Simona Vasilache, *Japan*
- **The Use of Social Media as Part of a Transmedia Storytelling Strategy in WWE's Professional Wrestling**  
Eliseo Sciarretta, *Italy*
- **Examining Reply Bias and Effectiveness of Online Community for Suicide Prevention: A Case Study of /r/SuicideWatch**  
Hsiao-Ying Huang, *United States*
- **Clustering help-seeking behaviors in LGBT online communities: A prospective trial**  
Chen Liang, Dena Abbott, Y. Alicia Hong, Mahboubeh Madadi, Amelia White, *United States*
- **Bridging between Jewish Ultra-Orthodox and the Start-up Nation: A Case Study**  
Dalit Levy, *Israel*

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### **Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management**

**Beyond entertainment: games, gamification, and transmedia in education, health, and well-being**

Chair(s): Sergio Nesteriuk, *Brazil*







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- **Literature Review: the Use of Games as a Treatment for Obsessive Compulsive Disorder**  
Juliana Miranda, Vania Teofilo, Anthony Lins, Bruno S. Oliveira, Fábio Campos, Sergio Nesteriuk, *Brazil*
- **Health Games in Brazil**  
Marcelo Simão De Vasconcellos, Cynthia Macedo Dias, Flávia Garcia De Carvalho, Rafael Kanitz Braga, Guilherme Xavier, *Brazil*
- **Gamification and learning: a comparative study of design frameworks**  
Priscilla Garone, Sergio Nesteriuk, *Brazil*
- **Game design and performance in sports: a systematic review with meta-analysis**  
NIVIA FERREIRA, Priscila Trovo, Sandra Ferreira, Sergio Nesteriuk, *Brazil*
- **Exploring Rhetoric Theory in Persuasive Design: A Mobile Web Application for Obesity Prevention**  
G. Mauricio Mejia, Sauman Chu, *United States*

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### Design, User Experience, and Usability

#### New Approaches of Research On User Experience Design

Chair(s): Liqun Zhang, *P.R. China*





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Ke Zhong, Tianwei Qiao, Liqun Zhang, *P.R. China*

- **Extracting Contour Shape of Passenger Car Form in Front View Based on Form Similarity Judgement by Young Chinese Consumers**

Chunrong Liu, Qing Xu, *P.R. China*

- **Research on the Development of Contemporary Design Intelligence Driven by Neural Network Technology**

Yan Yan, Jia Rui Wang, Chen Tang, Liqun Zhang, *P.R. China*

- **Research on the Design Principles for Intelligent Products**

Jia Rui Wang, Yan Yan, Liqun Zhang, *P.R. China*

- **Research on the influence of situational teaching mode on online learning experience**

Yimeng Xu, Linong Dai, *P.R. China*

- **A new relationship between designer with user in the co-creation Cooperation based on generative design system**

Liqun Zhang, *P.R. China*

- **Research on the Furniture Design criteria for Children's Psychological development in Home Environment**

Linong Dai, Boming Xu, *P.R. China*

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### **Design for Behaviour Change**

Chair(s): Francisco Rebelo, *Portugal*





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*Germany*

- **Walk2Moon: Development and Evaluation of a Mobile Application to Encourage Physical Activity in Young Adolescents**  
Farzana Rahman, *United States*
- **Design of an Anti-domestic Violence Product Based on Emotion Regulation**  
Yinxiao Yan, Xuyang Liu, *P.R. China*
- **The Potential Role of Digital Nudging in the Digital Transformation of the Healthcare Industry**  
Christian Meske, Irete Amojó, Akira-Sebastian Poncette, Felix Balzer, *Germany*

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### **Distributed, Ambient and Pervasive Interactions**

#### **Designing intelligent interactive environments - II**

Chair(s): To be announced





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- **Presentation of Information Uncertainty from IoBT for Military Decision Making**  
Adrienne Raglin, *United States*
- **The OTC (Object To Camera) Approach to Visualize Behind Stories of Museum Exhibits**  
SJ Kim, Alexis Sanchez, Francis Palispis, John Hanifzai, Keitaro Nishimura, *United States*
- **Design Principles for Smart Home Control to Support Energy Saving**  
Ute Paukstadt, *Germany*
- **Optimization of a WiFi Wireless Network that Maximizes the Level of Satisfaction of Users and Allows the Use of New Technological Trends in Higher Education Institutions**  
Leonel Hernandez, Nidia Balmaceda Castro, Hugo Hernandez, Carlos Vargas, Emiro De La Hoz, Nataly Orellano, Emilse Vasquez, *Colombia*; Carlos Eduardo Uc-Rios, *Mexico*
- **Research on the Current Situation and Countermeasures of Chinese Street Furniture Design in Intelligent Development Context**  
Tongwen Wang, Wuzhong Zhou, *P.R. China*

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### HCI in Business, Government and Organizations

#### HCI in Business and Organizations

Chair(s): Fiona Fui-Hoon Nah, *United States*





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Shuyuan Mary Ho, Diogo Oliveira, Raghav Rathi, *United States*

- **The Privacy Paradox in HCI: Calculus Behavior in Disclosing PII Online**  
Cheryl Booth, Shuyuan Mary Ho, *United States*
- **Identifying Essential Factors for Deriving Value from Big Data Analytics in Healthcare**  
Brenda Eschenbrenner, *United States*
- **Understanding User Engagement Mechanisms on a Live Streaming Platform**  
Xinwei Wang, *New Zealand*; Dezhi Wu, *United States*
- **Creating Value with Proto-Research Persona Development**  
Prateek Jain, Soussan Djamassbi, John Wyatt, *United States*
- **Skill and the Art of Tax Filing Excellence: Comparison of Two Cultures**  
Craig Claybaugh, Peter Haried, *United States*; Linjia Tang, *P.R. China*

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### Learning and Collaboration Technologies

#### Language learning technologies

Chair(s): To be announced





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- **Design of a Novel Web Utility that Provides Multi-lingual Word Definitions for Child E-Book Applications**

Deeksha Adiani, Daniel Lewis, Vanessa Serao, Kevin Barrett, Amelia Bennett, Derick Hambly, Martina Shenoda, Samuel West, Garrett Coulter, Sultan Shagal, Toheeb Biala, Medha Sarkar, Joshua Wade, Nilanjan Sarkar, *United States*

- **An Immersive Virtual Reality Experience for Learning Spanish**

Sarah Garcia, Denis Laesker, Derek Caprio, Ronald Kauer, Jason Nguyen, Marvin Andujar, *United States*

- **When learning words with robots, children's answers are multimodal: a challenge for a dialogue design**

Nils Frederik Tolksdorf, Ulrich Mertens, Katharina Rohlfing, *Germany*

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### Human Aspects of IT for the Aged Population

#### Senior Cloud and Active Aging

Chair(s): Masatomo Kobayashi, *Japan*





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Christian Eichhorn, David A. Plecher, Martin Lurz, Nadja Leipold, Markus Böhm, Helmut Krcmar, Angela Ott, Dorothee Volkert, *Germany*; Atsushi Hiyama, *Japan*; Gudrun Klinker, *Germany*

- **Senior's Acceptance of Head-Mounted Display Using Consumer Based Virtual Reality Contents**

Kenichiro Ito, Ryogo Ogino, Atsushi Hiyama, Michitaka Hirose, *Japan*

- **Design and Implementation of Age-Friendly Activity for Supporting Elderly's Daily Life by IoT**

Soo In Kang, Reina Yoshizaki, Koki Nakano, Taiyu Okatani, Akihiko Kamesawa, Daisuke Yoshioka, Jiang Wu, Yuriki Sakurai, Kenichiro Ito, Mahiro Fujisaki-Sueda-Sakai, Ikuko Sugawara, Misato Nihei, Takahiro Miura, Ken-ichiro Yabu, Taketoshi Mori, Tohru Ifukube, Junichiro Okata, *Japan*

- **Are Mobile Apps Usable and Accessible for Senior Citizens in Smart Cities?**

Elenia Carrasco Almao, Fatemeh Golpayegani, *Ireland*

- **Usage of a Technical Communication and Documentation System by Older Adults and Professionals in Multidisciplinary Home Rehabilitation**

Anika Steinert, Jörn Kiselev, Robert Klebbe, Markus Schröder, Aaron Russ, Kinga Schumacher, Norbert Reithinger, Ursula Müller-Werdan, *Germany*

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### **Emerging technologies in an aging society**

Chair(s): Chaiwoo Lee, *United States*





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- **The oldest olds' perceptions of social robots**  
Chaiwoo Lee, Maryam FakhrHosseini, Julie Miller, Taylor Patskanick, Joseph Coughlin, *United States*
- **Smarter homes for older adults: Building a framework around types and levels of autonomy**  
Maryam FakhrHosseini, Chaiwoo Lee, Joseph Coughlin, *United States*
- **Understanding Long-term Adoption and Usability of Wearable Activity Trackers among Active Older Adults**  
Byung Cheol Lee, Toyin Ajisafe, Tri Van Thanh Vo, Junfei Xie, *United States*

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## HCI in Games

### Gaming Experiences

Chair(s): Amir Zaib Abbasi, *Pakistan*

- **Developing Entrepreneurship Skills with a Serious Game**  
Carlos Vaz de Carvalho, Ricardo Costa, Pedro Bessa, *Portugal*; Leire Monterrubio, Jaione Santos, *Spain*
- **Evaluating Player Immersion in Survival Horror Video Games**  
Melodie Griffin, *United States*
- **Increasing Motivation for Playing Blockchain Games Using Proof-of-Achievement Algorithm**  
Kosuke Komiya, Tatsuo Nakajima, *Japan*
- **Playful-Consumption Experience and Consumer Videogame Engagement in the lens of S-R model: An Empirical Study**  
Amir Zaib Abbasi, *Pakistan*; Ding Hooi Ting, *Malaysia*; Helmut Hlavacs, *Austria*; Muhammad Shahzeb Fayyaz, *Pakistan*; Bradley Wilson, *Colombia*

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Chair(s): To be announced

- **The influence of Visual advisory warning of Augmented reality head-up display on driver cognition behavior**  
Fang You, Jinghui Zhang, *P.R. China*
- **A Method to Assess the Effect of Vertical Dynamics on Driving Performance in Driving Simulators: A Behavioural Validation Study**  
Arben Parduzi, Joost Venrooij, Stefanie Marker, *Germany*
- **Investigating Temporal Changes of Behavioral Adaptation and User Experience during Highly Automated Driving**  
Dominique Stimm, Arnd Engeln, Julia Schäfer, Holger Schmidt, *Germany*

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### **Adaptive Instructional Systems**

#### **Learner and Domain Context in Adaptive Instructional Systems**

Chair(s): Jong Kim, *United States*





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- **Consideration of a Bayesian Hierarchical Model for Assessment and Adaptive Instructions**  
Jong Kim, Frank Ritter, *United States*
- **Adaptive Instructional Systems: The Evolution of Hybrid Cognitive Tools and Tutoring Systems**  
Jeanine DeFalco, Anne Sinatra, *United States*
- **Ibigkas! 2.0: Directions for the Design of an Adaptive Mobile-Assisted Language Learning App**  
Ma. Mercedes Rodrigo, *Philippines*; Jaclyn Ocumpaugh, *United States*; Dominique Marie Antonette Manahan, Jonathan Casano, *Philippines*
- **A Microworld for Improving Web-based Investigative Learning**  
Akihiro Kashihara, Yoshiki Sato, Miki Hagiwara, Koichi Ota, Shinobu Hasegawa, *Japan*

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#### **Standards for Adaptive Instructional System (AIS) Conceptual Models**

Chair(s): Robert A. Sottilare, *United States*





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- **Examining Elements of an Adaptive Instructional System (AIS) Conceptual Model**  
Robert A. Sottolare, Brian Stensrud, Andrew J. Hampton, *United States*
- **Capturing AIS Behavior using xAPI-like Statements**  
Xiangen Hu, Zhiqiang Cai, Andrew J. Hampton, Jody Cockroft, Arthur C. Graesser, Cameron Copland, Jeremiah Folsom-Kovarik, *United States*
- **Lessons from Building Diverse Adaptive Instructional Systems (AIS)**  
Eric Domeshek, Sowmya Ramachandran, Randy Jensen, Jeremy Ludwig, James Ong, Dick Stottler, *United States*
- **Adaptive Instructional Systems and Digital Tutoring**  
John Dexter Fletcher, *United States*

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**12:30 – 13:30**

**Lunch Break**

Participants are kindly asked to make their own arrangements for lunch

**13:30 – 15:30**

**Human-Computer Interaction**

**Facial expressions and emotions - I**

Chair(s): To be announced





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Runa Sumiya, Jinhui Chao, *Japan*

- **A Preliminary Experiment on the Estimation of Emotion using Facial Expression and Biological Signals**

Yuya Kurono, Peeraya Sripijan, Chen Feng, Midori Sugaya, *Japan*

- **How to compare and exchange facial expression perceptions between different individuals with Riemann geometry**

Masashi Shinto, Jinhui Chao, *Japan*

- **Affective Monitor: A Process of Data Collection and Data Preprocessing for Building a Model to Classify the Affective State of a Computer User**

Sudarat Tangnimitchok, Nonnarit O-larnnithipong, Neeranut Ratchatanantakit, Armando Barreto, *United States*

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### UI design and development

Chair(s): To be announced

- **Characterizing End-User Development Solutions: A Systematic Literature Review**

Mariana Santos, Maria Lucia Bento Villela, *Brazil*

- **Service-Oriented Control-Command Components for Designing Complex Systems**

Olga Goubali, Abdenour Idir, Line Poinel, Laurianne Boulhic, Djamal Kesraoui, Alain Bignon, *France*

- **Designing Design Resources: From Contents to Tools**

Carles Garcia-Lopez, Susanna Tesconi, Enric Mor, *Spain*

- **A New Method of Banner Color Design**

Zhijuan Zhu, Danqing Sun, Ren Long, Wenzhen Pan, *P.R. China*

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### Human Interface and the Management of Information

#### Information in aviation

Chair(s): To be announced





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- **Evaluating Human-Machine Interface (HMI) Learnability for Unmanned Aircraft Systems Command and Control**  
Tom Haritos, Ryan Wallace, John Robbins, Robert Thomas, *United States*
- **Modeling pilots' operation error based on Fitts' Law**  
Qianzheng Zhuang, Xiaoyan Zhang, Hua Zhao, Hongjun Xue, Tao Li, *P.R. China*
- **Research on the Information Layout of HMDs based on Flight Missions and Visual Cognition**  
Jiang Shao, Jun Yao, Kun Zhang, Ketong Yan, *P.R. China*

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### Engineering Psychology and Cognitive Ergonomics

#### Mental workload and productivity

Chair(s): To be announced

- **Effect of Mental Fatigue on Visual Selective Attention**  
Qianxiang Zhou, Jiaxuan Li, Zhongqi Liu, *P.R. China*
- **Comparing eye-gaze metrics of mental workload in monitoring process plants**  
Wenyan Huang, Yunshu Xu, *United States*; Michael Hildebrandt, *Norway*; Nathan Lau, *United States*
- **Work Fragmentation, Task Management Practices and Productivity in Individual Knowledge Work**  
Heljä Franssila, *Finland*
- **Development of a quantitative evaluation tool of cognitive workload in field studies through eye tracking**  
Giovanni Pignoni, Sashidharan Komandur, *Norway*

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### Universal Access in Human-Computer Interaction





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- **Feel Autism VR – Adding Tactile Feedback to a VR Experience**  
Foaad Haddod, Alexiei Dingli, Luca Bondin, *Malta*
- **Learning about Autism using VR**  
Vanessa Camilleri, Alexiei Dingli, Foaad Haddod, *Malta*
- **The Design of an Intelligent LEGO Tutoring System for Improving Social Communication Skills among Children with Autism Spectrum Disorder**  
Qiming Sun, Pinata Winoto, *P.R. China*
- **Attention Assessment: Evaluation of Facial Expressions with Children with Autism Spectrum Disorder**  
Bilikis Banire, Dena Al Thani, Mustapha Makki, Marwa Qaraqe, Kruthika Anand, Olcay Connor, Kamran Khowaja, Bilal Mansoor, *Qatar*
- **Design of an Intelligent and Immersive System to Facilitate the Social Interaction between Caregivers and Young Children with Autism**  
Guangtao Nie, Akshith Ullal, Amy Swanson, Amy Weitlauf, Zachary Warren, Nilanjan Sarkar, *United States*

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### **Universal Access to Learning**

Chair(s): To be announced





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- **Breaking Down the Wall of Text"- Software tool to address complex assignments for students with attention disorders**  
Breanna Desrochers, Ella Tuson, Asad Rizvi, John Magee, *United States*
- **Keeping Eyes on Science: Guidelines and design recommendations for the accessibility of structural bioinformatics systems to users who are blind**  
Vanessa Stangherlin Machado Paixão-Cortes, João Pedro Laureano, Walter Ritzel Paixão-Côrtes, Márcia De Borba Campos, Osmar Norberto de Souza, *Brazil*
- **DESIGN OF A DIDACTIC INSTRUMENT FOR THE VOCALIZATION LEARNING PROCESS IN KIDS WITH LANGUAGE DISORDER**  
Christian León, Anna Tripaldi, Pedro Pineda, *Ecuador*
- **Evaluation of User-Interface Designs for Educational Feedback Software for ASL Students**  
Utsav Shah, Matthew Seita, Matt Huenerfauth, *United States*

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### Virtual, Augmented and Mixed Reality

#### Developing virtual environments

Chair(s): To be announced





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Yun Liu, Zhejun Liu, Yunshui Jin, *P.R. China*

- **Surface Prediction for Spatial Augmented Reality Using Cubature Kalman Filtering**  
Keegan Fernandes, Adam Gomes, Cong Yue, Yousef Sawires, David Wang, *Canada*
- **GVRf and Blender: a Path for Android Apps and Games Development**  
Bruno Oliveira, Diego Azulay, Paulo Carvalho, *Brazil*
- **User Guidance for Interactive Camera Calibration**  
Pavel Rojtberg, *Germany*
- **Marker Concealment Using Print Color Correction and Its Application**  
Kang Hoon Lee, Kyudong Sim, Jong-Il Park, *Korea*
- **A Review of Augmented Reality-based Human-Computer Interaction Applications of Gesture-based Interaction**  
Chutisant Kerdvibulvech, *Thailand*

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#### **Alternative Control for Interaction**

Chair(s): Peter Smith, *United States*







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Mrudula Peddinti, Angel Rodriguez, Juan Vila, Brendan Jones, *United States*

- **A Biometrically Driven, Extended Reality (XR) Experience Designed To Improve Patient Compliance and Increase Patient Knowledge Retention During Treadmill-based Cardiac Rehabilitation**

Vance Souders, Yijie Hu, Brandon Garda, Steve Gussman, *United States*

- **Designing Inclusive Virtual Reality Experiences**

Matt Dombrowski, Peter Smith, Albert Manero, John Sparkman, *United States*

- **KnobCollector: Custom Device Controller for Dynamic Real-Time Subjective Data Collection in Virtual Reality**

Rajiv Khadka, Amy Banic, *United States*

- **Brain eRacing: An Exploratory Study on Virtual Brain-Controlled Drones**

Dante Tezza, Sarah Garcia, Tamjid Hossain, Marvin Andujar, *United States*

- **CHARM: Cord-based Haptic Augmented Reality Manipulation**

Konstantin Klamka, Patrick Reipschläger, Raimund Dachsel, *Germany*

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## Cross-Cultural Design

### Next Generation Natural UI

Chair(s): Paul Fu, *United States*





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Zhan Su, Li Cui, *P.R. China*

- **“Big Screen Is Watching Me?”: A study on the attractiveness and reading efficiency of a rotating screen**

Yuan Yao, *P.R. China*; Chao Wang, *United States*; Minghao He, Chuyi Yan, Robert Elder, Chen Zhao, Haipeng Mi, *P.R. China*

- **QianLi: A Modular System for Connecting Distant Family Members through Tacit Interaction**

Zhibin Zhou, Hao Jiang, Changyuan Yang, Jinglan Yang, *P.R. China*; Yong Yi Wendy Loy, Singapore; Lingyun Sun, *P.R. China*

- **3D Gesture Interface: Japan-Brazil Perceptions**

Anna Carolina Soares Medeiros, Photchara Ratsamee, Yuki Uranishi, Tomohiro Mashita, Haruo Takemura, *Japan*; Tatiana Aires Tavares, *Brazil*

- **Analysis on the Influencing Factors of User Experience in Bullet Screen**

Zhizheng Zhang, *P.R. China*

- **A Comparison of Critical Time Interval between Young and Old Subjects**

Hongbo Zhang, *United States*

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### Social Computing and Social Media

#### Data Analytics for Social Computing and Social Media

Chair(s): Meznah Almutairy, Shiroq Al-Megren, Sarah Alhumoud, *Saudi Arabia*





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- **Automating Instagram Activities and Analysis: A Survey of Existing Tools**  
Asma Alsaeed, Ola Alotaibi, Norah Alotaibi, Meznah Almutairy, *Saudi Arabia*
- **Arabic Speech Recognition with Deep Learning: A Review**  
Wijdan Alghaihb, Noura Alawwad, Anfal Aldawish, Sarah Alhumoud, *Saudi Arabia*
- **The Effectiveness of Twitter as a Tertiary Education Stakeholder Communication Tool: a Case of #FeesMustFall in South Africa**  
Nkululeko Makhubu, Adheesh Budree, *South Africa*

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### Augmented Cognition

#### Human-Machine Teaming: What makes a good teammate?

Chair(s): Leslie Blaha, Corey Fallon, *United States*

- **Machine Learning and Agent Transparency**  
Julia Wright, Michael Schwartz, Shan Lakhmani, *United States*
- **Hearing what isn't said: Affective and implicit aspects of intelligent agent communication.**  
Ryan Wohleber, Kimberly Stowers, Jessie Y.C. Chen, Michael Barnes, *United States*
- **Considerations for Human-Machine Teaming in Cyber Security**  
Steven Gomez, Vincent Mancuso, Diane Staheli, *United States*
- **Do We Need "Teaming" to Team with a Machine?**  
Craig Haimson, Celeste Paul, Sarah Joseph, Randall Rohrer, Bohdan Nebesh, *United States*
- **A Cross Functional Management Approach to Human Machine Teaming for the Warfighter**  
Shadya Maldonado Rosado, *United States*

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### Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management





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- **Usability Testing of a Mobile Application for Alleviating Postpartum Emotional Disorders: A Case of We'll**  
Wen-Ko Chiou, Shih-Chen Lai, Ding-Hau Huang, *Taiwan*
- **Uncovering User Affect towards AI in Cancer Diagnostics**  
Stephanie Tom Tong, Pradeep Sopory, *United States*
- **Digital Transformation of Prostate Cancer Pathway and Optimising Patient Experience, Patient Safety and Clinical Professionalism**  
Joan Cahill, *Ireland*; Ben Turney, *United Kingdom*; Sean Wetherall, Haseeb Khan, Maurice McGrath, Igor Widlicki, *Ireland*
- **An Empirical Study on the Influential Factors of User Loyalty in Digital Fitness community**  
Yao Shen, *P.R. China*
- **A Lightweight and Affordable Sleep Quality Monitoring and Visualization System with a GSR Sensor for Users in Rural Areas to Facilitate Tele-Health**  
Yang Du, Qiming Sun, Kou Wang, Tiffany Tang, *P.R. China*
- **Using CFD technology to simulate a model of human thermoregulation in the stable temperature environment**  
Hongjun Xue, Sina Dang, *P.R. China*

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### **Modelling human motion, abilities and skills**

Chair(s): To be announced





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- **Exploring the Feasibility of Classifying Fundamental Locomotor Skills Using an Instrumented Insole and Machine Learning Techniques**  
Toyin Ajisafe, Dugan Um, *United States*
- **Machine Learning to estimate the amount of training to learn a motor skill**  
Moisés R. Santos, Eduardo D.F. Souza, Mateus B.F. Carvalho, Alexandre C.M. Oliveira, Areolino De Almeida Neto, *Brazil*; Marco R. Curado, *Germany*; Paulo R.A. Ribeiro, *Brazil*
- **Continuous measurement of muscle fatigue using wearable sensors during light manual operations**  
Jiawei Fu, Liang Ma, Liuxing Tsao, Zhanwu Zhang, *P.R. China*
- **Classifying Non-elementary Movements In Vietnamese Mo Dances**  
Mustapha Bourahla, Abdelmoutia Telli, *Algeria*; Salem Benferhat, *France*; Ma Thi Chau, *Viet Nam*
- **Creating and Testing Objective Performance Metrics for the Manual Teleoperation of Robotic Arms**  
Shuqi Xue, Guohua Jiang, Ting Jiang, Chunhui Wang, Zhiqiang Tian, *P.R. China*

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### Design, User Experience, and Usability

#### Virtual Image, Interactive Storytelling

Chair(s): Feng Ye, *P.R. China*





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- **Exploration of the Interactive Narrative Modes and Application Form of AR Animations**  
Shen Yongliang, *P.R. China*; Niu Bosi, *Chad*
- **Study on Visual Guidance on Scene Art Design of Immersive Video**  
Songheng Wang, Zhimin Wang, *P.R. China*
- **Interactive Storytelling in V.R.: Coming Soon?**  
Andy Deck, *United States*
- **The Application of Visual Image and Interactive Storytelling to Stage Performance**  
Zhen Wu, Ximin Zhou, *P.R. China*
- **Storytelling Research of Virtual Image Based on User Experience**  
Jing Li, Ling Zou, *P.R. China*

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### **Research on the Practicability of Modern Design in User Experience**

Chair(s): Yanlin Liu, *P.R. China*





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Hui Li, Yi Wei, *P.R. China*

- **Research on Application of interaction design in landscape design**

Liu Yanlin, *P.R. China*

- **New Requirements for User Experience on Non-Legacy Contemporary Design of Traditional Handicraft Skills**

Yu Chen, *P.R. China*

- **Application Research of Chinese Traditional Medicine Health Concept in Indoor Environment Design**

Ming He, *P.R. China*

- **Talking about the Application of Human-Computer Interaction in Vocational Education**

Qian Li, *P.R. China*

- **On the Dialectical Relationship between Human-Computer Interaction and Education**

Li Li, *P.R. China*

- **User experience based mobile product interaction design principles**

Yanlin Liu, *P.R. China*

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### **User experience evaluation methods and tools**

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Kelly Roth, Dania Bilal, *United States*

- **Exploiting the meCUE Questionnaire to Enhance an Existing UX Evaluation Method based on Mental Models**

Stefano Filippi, Daniela Barattin, *Italy*

- **The Potential of User Experience (UX) as an approach of evaluation in Tangible User Interfaces (TUI)**

Vinicius Krüger Da Costa, Andreia Sias Rodrigues, Lucas Barreiro Agostini, Marcelo Bender Machado, Natália Toralles Darley, Rafael Da Cunha Cardoso, Tatiana Aires Tavares, *Brazil*

- **EMOINEC: Exploring the application of the EMOINAD guide to an E-commerce context**

Angela Patricia Villareal-Freire, Andrés Felipe Aguirre Aguirre, *Colombia*; Jaime Díaz, *Chile*; César A. Collazos, *Colombia*

- **Game for PLAYability Heuristic Evaluation (G4H-PLAY): Adapting G4H Gamification to Allow the Use of Playability Heuristics**

José Cezar De Souza Filho, Ingrid Teixeira Monteiro, Paulyne Matthews Juca, *Brazil*

- **Which instrument should I use? Supporting decision-making about the evaluation of User Experience**

Ticianne Darin, Bianca Coelho, Bosco Borges, *Brazil*

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## **Design thinking and UX theory - I**

Chair(s): To be announced







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Carlos Eduardo Ribeiro, Ederson Marcos Sgarbi, Fabio de Sordi Junior, *Brazil*

- **Design Thinking versus Design Sprint: A Comparative Study**

Carlos Magno Mendonca de Sa Araujo, Ivon Miranda Santos, Edna Dias Canedo, Aleteia Patricia Favacho de Araujo, *Brazil*

- **Extending the Concept of User Satisfaction from Customer Experience**

Andrés Felipe Aguirre Aguirre, Angela Patricia Villareal-Freire, *Colombia*; Jaime Díaz, *Chile*; Rosa Gil, *Spain*; César A. Collazos, *Colombia*

- **User experience and social influence: a new perspective for UX theory**

Jan Van der Linden, *Belgium*; Franck Amadieu, Emilie Vayre, *France*; Cécile Van de Leemput, *Belgium*

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### Distributed, Ambient and Pervasive Interactions

#### Remote Health Monitoring for Unreached and Aging Communities

Chair(s): Ashir Ahmed, *Bangladesh*





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Rakibul Hoque, *Bangladesh*; Golam Sorwar, *Australia*; Ashir Ahmed, *Bangladesh*; Rafiqul Islam, *Japan*

- **Feasibility of Digital Health Services for Educating the Community People Regarding Lifestyle Modification Combating Noncommunicable Diseases**

Mithila Faruque, Mohammad Badruddozza, Moinul H. Chowdhury, Farhana Sarker, Khondaker A. Mamun, *Bangladesh*

- **Differences in relationships and risk factors associated with hypertension, diabetes, and proteinuria among urban and rural adults in Bangladesh, Findings from Portable Health Clinic Research Project 2013-2018**

Fumihiko Yokota, *Japan*; Ashir Ahmed, *Bangladesh*; Mariko Nishikitani, Kimiyo Kikuchi, Rafiqul Islam Kazi, Rajib Chakraborty, Yasunobu Nohara, Rieko Izukura, Naoki Nakashima, *Japan*

- **Dhaka University Telemedicine Programme, targeting healthcare-deprived rural population of Bangladesh and other low resource countries**

Khondkar Siddique-e Rabbani, Abdullah Al Amin, Zihad Tarafdar, Mohammad Abu Yousuf, AKM Bodiuzzaman, Md. Kamrul Hussain, *Bangladesh*; Ahamad Imtiaz Khan, *Canada*; Maruf Ahmad, Mohammad Moniruzzaman, Shahed Md Abu Sufian, Papia Chowdhury, Ashir Ahmed, *Bangladesh*

- **A Framework of Longitudinal Study to Understand Determinants of Actual Use of the Portable Health Clinic System**

Sampa Begum Masuda, Md. Nazmul Hossain, Rakibul Hoque, *Bangladesh*; Rafiqul Islam, Fumihiko Yokota, Mariko Nishikitani, Akira Fukuda, *Japan*; Ashir Ahmed, *Bangladesh*

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## HCI in Business, Government and Organizations

### HCI in Social Computing and Service Innovation

Chair(s): Kaveh Abhari, *United States*





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Prateek Jain, Soussan Djamasbi, *United States*

- **Humanoid Robots as Interviewers for Automated Credibility Assessment**  
Aaron Elkins, Amit Gupte, Lance Cameron, *United States*
- **User Experiences of Incident Reporting Software in Fire Services: An Integrative Review and Meta-Analysis**  
Aimee Kendall Roundtree, *United States*
- **Effects of Conscientiousness on Users' Eye-Movement Behaviour with Recommender Interfaces**  
Lin Zhang, Heshan Liu, *P.R. China*

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### Learning and Collaboration Technologies

#### STEM learning technologies - I

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- **Learning Translation in Geometric Transformations through Digital and Manipulative Artefacts in Synergy**  
Antonella Montone, Michele Giuliano Fiorentino, Maria Alessandra Mariotti, *Italy*
- **Technology-enhanced Learning: Correlates of Acceptance of Assistive Technology in Collaborative Working Setting**  
Wiktoria Wilkowska, Thiemo Leonhardt, Matthias Ehlenz, Martina Ziefle, *Germany*
- **Let's Talk about Tools and Approaches for Teaching HCI**  
Adriano Luiz de Souza Lima, Fabiane Barreto Vavassori Benitti, *Brazil*
- **Student Emotion Recognition in Computer Science Education: A Blessing or Curse?**  
Dustin Terence Van der Haar, *South Africa*
- **Creative Learning and Artefacts Making: promises and challenges in practice**  
Eliana Alves Moreira, Marleny Luque Carbajal, M. Cecília C. Baranauskas, *Brazil*

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### Human Aspects of IT for the Aged Population





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- **Digital Home: Life Transitions and Digital Domestic Practices in Later Life**  
Sanna Kuoppamäki, *Finland*
- **Research on Interaction of Shopping Websites for Elderly People based on User Experience**  
Mingyi Wang, Delai Men, *P.R. China*
- **The Effect of Product Aesthetics on Older Consumers**  
Tyan-Yu Wu, *Taiwan*
- **Usability Study of Electronic Sphygmomanometers Based on Perceived Ease of Use and Affordance**  
Chao Li, Mei-yu Zhou, Xiang-yu Liu, Tian-xiong Wang, *P.R. China*

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### **Designing the elderly user experience - I**

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Susan Vorwerg, Cornelia Eicher, Heinrich Ruser, Felix Piela, Felix Obée, André Kaltenbach, Lars Mechold, *Germany*

- **Visualizing Organizational Culture in Old People's Homes and Hospitals in Japan: Human Interaction in the IoT Era**

Koji Hara, Takayo Nakabe, Toshiya Naka, Masayuki Tanaka, Yuichi Imanaka, *Japan*

- **Study on Usefulness of Smartphone Applications for the People with Parkinson's**

Mujahid Rafiq, Ibrar Hussain, C.M. Nadeem Faisal, Hamid Turab Mirza, *Pakistan*

- **Interfaces of Medication Reminder Applications: An analysis aimed at the elder age**

Jaqueline Donin Noletto, Vítor José Costa Rodrigues, Rhenan Castelo Cirilo Carvalho, Francisco Ribeiro Dos Santos Junior, *Brazil*

- **A Study of Performance on Multi-Touch Gesture for Multi-Haptic Feedback**

Shuo-Fang Liu, Yu-Shan Chueh, Ching-Fen Chang, Po-Yen Lin, Hsiang-Sheng Cheng, *Taiwan*

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### HCI in Mobility, Transport and Automotive Systems

#### Human Vehicle Interaction

Chair(s): To be announced

- **Development of Immersive Vehicle Simulator for Aircraft Ground Support Equipment Training as a Vocational Training Program**

Yongjae Park, Yonghyun Park, Hyungsook Kim, *Korea*

- **Make a Safe and Happy Self-Driving: A Service Design based on Mobility**

Qiong Peng, *Netherlands*

- **Combining Virtual Reality (VR) Technology with Physical Models – A New Way for Human-Vehicle Interaction Simulation and Usability Evaluation**

Chao Ma, Ting Han, *P.R. China*

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Coffee Break

16:00 – 18:00

### Human-Computer Interaction

#### Facial expressions and emotions - II

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- **Deep Convolutional Neural Networks for Feature Extraction in Speech Emotion Recognition**  
Panikos Heracleous, Yasser Mohammad, Akio Yoneyama, *Japan*
- **Facial Expression Recognition for Children: Can Existing Methods Tuned for Adults be Adopted for Children?**  
Zhi Zheng, Xingliang Li, Jaclyn Barnes, Chung Hyuk Park, Myounghoon Jeon, *United States*
- **Influence of EQ on the Difference of Biometric Emotion and Self-evaluated Emotion**  
Reiji Yoshida, Midori Sugaya, *Japan*
- **Preliminary Evaluation between Conscious Feeling and Unconscious Emotion Estimated by Bio-Signals Applied to CMC Comparison**  
Chen Feng, Midori Sugaya, *Japan*

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#### Human-Robot Interaction

Chair(s): To be announced





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- **Tool UTAUT applied to measure interaction experience with NAO Robot**  
Adrián Vega, Kryscia Ramírez-Benavides, Luis Guerrero, *Costa Rica*
- **Situational Awareness Oriented Interfaces on Human-Robot Interaction for Industrial Welding Processes**  
Caroline Waschburger dos Santos, Nelson Lopes Duarte Filho, Danúbia Espindola, *Brazil*
- **Semiotic Engineering Applied to Human-Robot Interaction in Industrial Welding Processes**  
Caroline Waschburger dos Santos, Mateus Schot, Patrick Baldez, Danúbia Espindola, Nelson Lopes Duarte Filho, Silvia Silva da Costa Botelho, *Brazil*

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### Human Interface and the Management of Information

#### Science / technology and society

Chair(s): Shin'ichi Fukuzumi, *Japan*





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Shin'ichi Fukuzumi, Mariko Jinno, Kasumi Inagaki, Haruka Maeda, Takuya Mizukami, Osamu Sakura, *Japan*

- **Analyses of Fukushima-Daiichi Accident and Other Seven Cases from Good Practice Viewpoint**

Hiroshi Ujita, Hiroshi Sakuda, *Japan*

- **Development and usability evaluation of a prototype conversational interface for biological information retrieval via bioinformatics**

Walter Ritzel Paixão-Côrtes, Vanessa Stangherlin Machado Paixão-Cortes, Cristiane Ellwanger, Osmar Norberto de Souza, *Brazil*

- **Interactive HMI for Qualification and Programming in Process Automation EduBrain 4.0**

Sebastian Schmitz, Daniel Schilberg, *Germany*

- **A New Motion-Based Tool for Occupation and Monitoring of Residents in Nursing Homes**

Déborah Foloppe, Paul Richard, Philippe Allain, Alphonse Calenda, *France*

- **Statistical Analysis of Micro-error Occurrence Probability for the Fitts' Law-based Pointing Task**

Hikaru Gyoji, *Japan*; Tania Giovannetti, Rachel Mis, Caitlyn Vega, Lorena Silva, *United States*; Atsuya Shirotori, Yuki Nagasawa, Maiko Sakamoto, Tetsuya Harada, Hayato Ohwada, Takehiko Yamaguchi, *Japan*

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### Universal Access in Human-Computer Interaction

#### Technologies for ASD - II

Chair(s): To be announced







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### Learning

Tiffany Tang, JiaSheng Xu, Pinata Winoto, *P.R. China*

- **A collaborative talking assistive technology for people with Autism Spectrum Disorders**  
Wajih Abdallah, *Tunisia*; Frédéric Vella, Nadine Vigouroux, Adrien Van den Bossche, Thierry Val, *France*
- **The PTC and Boston Children's Hospital Collaborative AR Experience for Children with Autism Spectrum Disorder**  
David Juhlin, Chris Morris, Peter Schmaltz, Howard Shane, Ralf Schlosser, Amanda O'Brien, Christina Yu, Drew Mancini, Anna Allen, Jennifer Abramson, *United States*
- **Improving Usability of a Mobile Application for Children with Autism Spectrum Disorder Using Heuristic Evaluation**  
Murilo C. Camargo, Tathia C.P. Carvalho, Rodolfo M. Barros, Vanessa T.O. Barros, Matheus Santana, *Brazil*
- **Usability Enhancement and Functional Extension of a Digital Tool for Rapid Assessment of Risk for Autism Spectrum Disorders in Toddlers based on Pilot Test and Interview Data**  
Deeksha Adiani, Michael Schmidt, Joshua Wade, Amy Swanson, Amy Weitlauf, Zachary Warren, Nilanjan Sarkar, *United States*

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### Access for motor-impaired users

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Cornelia Eicher, Jörn Kiselev, Kirsten Brukamp, Diana Kiemel, Susanne Spittel,  
André Maier, Ursula Oleimeulen, Marius Greuèl, *Germany*

- **ANA: a Natural Language System with Multimodal Interaction for People Who have Tetraplegia**

Maikon Soares, Lana Mesquita, Francisco Oliveira, Liliana Rodrigues, *Brazil*

- **Pseudo-adaptive augmentative and alternative communication systems for people with neuromuscular pathologies**

Jhon Fernando Sanchez Alvarez, Gloria Patricia Jaramillo Alvarez, *Colombia*;  
Tiziana Catarci, *Italy*

- **RingBoard 2.0 – A dynamic Virtual Keyboard Using Smart Vision**

Taylor Ripke, Eric O’Sullivan, Tony Morelli, *United States*

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### Virtual, Augmented and Mixed Reality

#### Applications of VAMR

Chair(s): To be announced





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- **Virtual Environment to Part Assembly using Displacement Coordinates**  
João Carlos Linhares, *Brazil*; Maria Teresa Braga Valente De Almenida Restivo, José Rodrigues, *Portugal*; Petterson Sousa Diniz, *Brazil*
- **Augmented Reality for Product Validation: Supporting the Configuration of AR-Based Validation Environments**  
Albert Albers, Jonas Reinemann, Joshua Fahl, Tobias Hirschter, *Germany*
- **Design Companion(s) Platform: Collaborative Environment supporting the Diversity in Sketching Tools and Materials**  
Tobias Holstein, Rikard Lindell, *Sweden*
- **Interaction Paradigms for Air Traffic Control & Management in Mixed Reality**  
Syed Hammad Hussain Shah, *Pakistan*; Kyungjin Han, Jong Weon Lee, *Korea*
- **AR Assistive System In Domestic Environment Using HMDs: Comparing Visual and Aural Instructions**  
Shuang He, Yanhong Jia, Zhe Sun, Chenxin Yu, Xin Yi, YuanChun Shi, Yingqing Xu, *P.R. China*

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### **VAMR in rehabilitation and pain management**

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Yu-Chen Huang, I-Jui Lee, *Taiwan*

- **Design parameters for optimizing the experience in VR rehabilitation**

Jon Ram Bruun-Pedersen, Paula Epure, Christina Gheorghe, Daniel Christensen, *Denmark*

- **Developing a VR Training Program for Geriatric Patients with Chronic Back Pain - a process analysis**

Rebecca Dahms, Oskar Stamm, Ursula Müller-Werdan, *Germany*

- **LumaPath: An Immersive Virtual Reality Game for Encouraging Physical Activity for Senior Arthritis Patients**

Xin Tong, Diane Gromala, Federico Machuca, *Canada*

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### Cross-Cultural Design

#### The Technical World and Communities

Chair(s): Yongqi Lou, *P.R. China*





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Jin Ma, *P.R. China*

- **The Social Production of Shared Spaces and Sustainable Community Building**  
Hao Yang, *P.R. China*
- **Design for Urban Resilience: A Case of Community-led Placemaking Approach in Shanghai China**  
Minqing Ni, *P.R. China*; Tiziano Cattaneo, *Italy*
- **Design for Bilingual Information in a Cross-cultural Context – Design Strategy and Conceptualization in Branding Tongji Design Week**  
Qin Du, *P.R. China*
- **UsabEU: Online Platform for Translation, Validation and Native Use of Usability Questionnaires with Multilingual User Groups**  
Bojan Blažica, Tome Eftimov, *Slovenia*

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### Social Computing and Social Media

#### Producing and Consuming Images and Videos in Social Media

Chair(s): Isabelle Dorsch, *Germany*

- **Using Twitter data to understand individual users' Twitter usage before, during and after major flooding events in the UK.**  
Nurhafizah Zainudin, *United Kingdom*
- **Gender-specific Tagging of Images on Instagram**  
Julia Philipps, Isabelle Dorsch, *Germany*
- **Product placements by micro and macro influencers on Instagram**  
Rachidatou Alassani, Julia Göretz, *Germany*

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### Augmented Cognition





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- **Human Performance Sensing Technologies for Training**  
Kevin B. Oden, *United States*
- **Construction of Air Traffic Controller's Decision Network Using Error-related Potential**  
Sim Kuan Goh, Ngoc Phu Tran, Duc-Thinh Pham, Sameer Alam, *Singapore*;  
Kurtulus Izzetoglu, *United States*; Vu Duong, *Singapore*
- **UAS Operator Workload Assessment During Search and Surveillance Tasks Through Simulated Fluctuations in Environmental Visibility**  
Jaime Kerr, Pratusha Reddy, Shahar Kosti, Kurtulus Izzetoglu, *United States*
- **Assessing Correlation between Virtual Reality Based Serious Gaming Performance and Cognitive Workload Changes via Functional Near Infrared Spectroscopy**  
Emin Aksoy, *Turkey*; Kurtulus Izzetoglu, Banu Onaral, *United States*; Dilek Kitapcioglu, Mehmet Erhan Sayali, Feray Guven, *Turkey*
- **Designing an Interactive Device to Slow Progression of Alzheimer's Disease**  
Ting-Ya Huang, Hsi-Jen Chen, Fong-Gong Wu, *Taiwan*
- **Calculating Cognitive Augmentation - A Case Study**  
Ron Fulbright, *United States*

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### **Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management**

#### **Quality in care - II**

Chair(s): To be announced





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- **Experimental Web Service and Eye-Tracking Setup for Unilateral Spatial Neglect Assessment**  
Timothé Rossa, Pierre Pompidor, Nancy Rodriguez, Arnaud Sallaberry, Pascal Poncelet, Marika Urbanski, Clémence Bourlon, Antoine Seilles, Guillaume Tallon, *France*
- **Increasing Availability Control of Human Biological Samples Using a Mobile Management System**  
Leonardo Lima Marinho, Isabel Cristina P. Da Nóbrega, Nayat Sanchez Pi, Rosa Maria E. Moreira Costa, Vera Maria B. Werneck, *Brazil*
- **Discrete-event Simulation for Performance Evaluation and Improvement of Gynecology Outpatient Departments: A Case Study in the Public Sector**  
Miguel Ortíz-Barrios, Pedro Lopez-Meza, *Colombia*; Sally McClean, *United Kingdom*; Giselle Polifroni-Avendaño, *Colombia*
- **VoicingHan: Avatar narrative medicine, exploring role methods**  
Semi Ryu, *United States*
- **Measuring Nursing Workload in an Intensive Care Unit using NGOMSL Model**  
Sivamanoj Sreeramakavacham, Jung Hyup Kim, Laurel Despins, *United States*

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#### **Ergonomic applications**

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- **Design and Evaluation of the System Device for Mitigation of the Low Back Pain Among Veterinarians**  
Tzulien Chou, Hsi-Jen Chen, Fong-Gong Wu, *Taiwan*
- **A Comparison between Virtual Reality and Digital Human Modeling for Proactive Ergonomic Design**  
Salman Ahmed, Lukman Irshad, H. Onan Demirel, Irem Y Tumer, *United States*
- **Research on Body Pressure Distribution of Office Chair with Different BMI**  
Pu Hong, Yinxia Li, Huimin Hu, Mengjing Cai, *P.R. China*
- **Comparison of Digital Human Model -based Ergonomic Software using Eye-Tracking Methodology – Presenting Pilot Usability Tests**  
Mária Babicsné Horváth, Karoly Hercegfı, *Hungary*; Tamás Fergencs, *Denmark*
- **An integrated ergonomics evaluation method of HWDs**  
Hongjun Xue, Hua Zhao, Xiaoyan Zhang, *P.R. China*

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### Design, User Experience, and Usability

#### Aesthetics and emotions in DUXU

Chair(s): To be announced







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*United States*

- **A New Method of Smartphone Appearance Evaluation Based on Kansei Engineering**  
Wen-jun Hou, Zhi-yang Jiang, Xiaohong Liao, *P.R. China*
- **Research on Production Form Attractiveness Factors based on Users' Emotional Needs**  
Tian-xiong Wang, Mei-yu Zhou, *P.R. China*
- **Comprehensive Application of Sight Tracking Technology and Perceptual Aesthetics in Street Landscape Evaluation**  
Tian Mi, Zhang Jie, *P.R. China*
- **Research on User Experience Evaluation Model of Smart Jewelry Based on Kansei Engineering**  
Jinghan Lin, Jian Shi, Chao Yu, *P.R. China*
- **The Research on Quantificational Method of chromatic-light Emotion in Automotive Interior Lighting**  
Jiaying Lu, Jiong Fu, *P.R. China*
- **Mobile Web Design: The Effect of Education on the Influence of Classical and Expressive Aesthetics on Perceived Credibility**  
Kiemute Oyibo, Ifeoma Adaji, Julita Vassileva, *Canada*

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**User research and user involvement**

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- **How to co-design with citizens for successful Living Lab?**  
Masayuki Ihara, Mizue Hayashi, Fumiya Akasaka, Atsunobu Kimura, Hiroshi Watanabe, *Japan*
- **Effectiveness and Cost-benefit Ratio of Weekly User Group Sessions**  
Helmut Degen, Gustavo Guillen, Holger Schmidt, *United States*
- **Sketch notes, a non-traditional way for user researchers to take notes**  
Maliheh Aghanasiri, Grace Phang, *United States*

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### Design thinking and UX theory - II

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- **Seeing Potential Is More Important Than Usability: Revisiting Technology Acceptance**  
Brian Pickering, *United Kingdom*; Mariet Nouri Janian, *Italy*; Borja López Moreno, *Spain*;  
Andrea Micheletti, Alberto Sanna, *Italy*; Mike Surridge, *United Kingdom*
- **Anticipating Ethical Issues When Designing Services That Employ Personal Data**  
Laura Varisco, *Italy*; Milica Pavlovic, *United States*; Margherita Pillan, *Italy*
- **A Value-Centered Approach for Unique and Novel Software Applications**  
Björn Senft, Florian Rittmeier, Holger Fischer, Simon Oberthür, *Germany*
- **Systematics and Metamorphosis of Design Idea in a UCD process**  
Markandeya Kunchi, *India*
- **Heuristics Evaluation, still a valid method for next generation of User Interfaces**  
Toni Granollers, *Spain*

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### Distributed, Ambient and Pervasive Interactions

### Design, Development and Implementation Issues in the 4th Industrial Revolution

Chair(s): Guochao (Alex) Peng, *P.R. China*





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Fei Xing, Guochao (Alex) Peng, Tian Liang, Simin Zuo, *P.R. China*; Shuyang Li, *United Kingdom*

- **From smart city to smart society: China's journey towards essential urban-rural transformation**

Tian Liang, Guochao (Alex) Peng, Fei Xing, Sirong Lin, Yichen Jia, *P.R. China*

- **Designing a cyber physical system prototype for the leaching process in producing high-purity materials**

Simin Zuo, Guochao (Alex) Peng, Yuanshan Zhang, Fei Xing, Le Qin, Jiangfeng Tang, *P.R. China*

- **reTessellate: Modular Dynamic Surfaces Reactive to Socio-Environmental Conditions**

Mostafa Alani, Arash Soleimani, *United States*

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## HCI in Business, Government and Organizations

### Banking and Finance

Chair(s): Choon Ling Sia, *Hong Kong*

- **Design of Kansei-supported Mode for Connectivity Operation in Financial Markets: A Case Study of Bond Connect**

Yili Wang, Miao Liu, Silu Liu, Chuchen Min, Yunxiao Sheng, Xinyu Shi, *P.R. China*

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