HCl 2020
International
22nd International Conference on Human - Computer Interaction

- Thematic areas
  HCl: Human-Computer Interaction
  HIMI: Human Interface and the Management of Information

- Affiliated conferences
  EPCE: 17th International Conference on Engineering Psychology and Cognitive Ergonomics
  UAHCI: 14th International Conference on Universal Access in Human-Computer Interaction
  VAMR: 12th International Conference on Virtual, Augmented and Mixed Reality
  CCD: 12th International Conference on Cross-Cultural Design
  SCSM: 12th International Conference on Social Computing and Social Media
  AC: 13th International Conference on Augmented Cognition
  DHM: 11th International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics & Risk Management
  DUXU: 9th International Conference on Design, User Experience and Usability
  DAPI: 8th International Conference on Distributed, Ambient and Pervasive Interactions
  HClIBGO: 7th International Conference on HCI in Business, Government and Organizations
  LCT: 7th International Conference on Learning and Collaboration Technologies
  ITAP: 6th International Conference on Human Aspects of IT for the Aged Population
  HCl-CPT: 2st International Conference on HCI for Cybersecurity, Privacy and Trust
  HCl-Games: 2st International Conference on HCI in Games
  MobiTAS: 2st International Conference on HCI in Mobility, Transport and Automotive Systems
  AIS: 2st International Conference on Adaptive Instructional Systems
  C&C: 8st International Conference on Culture and Computing
  MOBILE: 1st International Conference on Design, Operation and Evaluation of Mobile Communications
  AI-HCI: 1st International Conference on Artificial Intelligence in HCI

http://2020.hci.international/

19-24 July 2020
The times indicated are in Central European Summer Time
CEST (Copenhagen)

Under the auspices of 21 distinguished international boards, of 492 Members from 49 countries
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### Conference Program Overview

The times indicated are in

“Central European Summer Time - CEST (Copenhagen)”

You can check and calculate your local time, using an online time conversion tool, such as www.timeanddate.com

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### PROGRAM

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Dear Colleague,

It is with great honor and pleasure that I welcome you to HCI International 2020, the 22nd International Conference on Human-Computer Interaction, to be held 19 – 24 July 2020. The conference was planned to be held at the AC Bella Sky Hotel and Bella Center, Copenhagen, Denmark, but due to the COVID-19 coronavirus pandemic and the decision of the Danish government not to allow events larger than 500 people to be hosted until the 1st of September 2020, it will be held virtually.

HCI 2020 incorporates 21 Affiliated Conferences / Thematic Areas:

- HCI: Human-Computer Interaction Thematic Area
- HIMI: Human Interface and the Management of Information Thematic Area
- EPCE: 17th International Conference on Engineering Psychology and Cognitive Ergonomics
- UAHCI: 14th International Conference on Universal Access in Human-Computer Interaction
- VAMR: 12th International Conference on Virtual, Augmented and Mixed Reality
- CCD: 12th International Conference on Cross-Cultural Design
- SCIM: 12th International Conference on Social Computing and Social Media
- AC: 14th International Conference on Augmented Cognition
- DHM: 11th International Conference on Digital Human Modeling &; Applications in Health, Safety, Ergonomics &; Risk Management
- DUXU: 9th International Conference on Design, User Experience and Usability
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- HCIBGIO: 7th International Conference on HCI in Business, Government and Organizations
- LCT: 7th International Conference on Learning and Collaboration Technologies
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- HCI-Games: 2nd International Conference on HCI in Games
- MobiTAS: 2nd International Conference on HCI in Mobility, Transport and Automotive Systems
- AIS: 2nd International Conference on Adaptive Instructional Systems
- C&C: 8th International Conference on Culture and Computing
- MOBILE: 1st International Conference on Design, Operation and Evaluation of Mobile Communications
- AI-HCI: 1st International Conference on Artificial Intelligence in HCI

HCI International is the worldwide renowned international forum for the dissemination and exchange of up-to-date scientific information on theoretical, generic and applied areas of Human-Computer Interaction. Like its predecessor conferences, HCI 2020 promises to be an unforgettable cluster of high quality international scientific events, and an ideal occasion to come to be exposed to the rapidly evolving ICT market in the world. The Thematic Areas / Affiliated Conferences of HCI 2020 explore a wide variety of new hot topics which reflect and contribute to a paradigm shift towards ubiquitous interaction, intelligent environments and interactive technologies supporting all aspects of human life and activities in a global and social perspective.

The Conference Proceedings are published by Springer in the Lecture Notes in Computer Science (LNCs), Lecture Notes in Artificial Intelligence (LNAI) and Communications in Computer and Information Science (CCIS) series and are available on-line through the SpringerLink Digital Library (http://www.springer.com/lncs and http://www.springer.com/series/7899), readily accessible by all subscribing libraries around the world. HCI 2020 also offers the option of “Late Breaking Work”, for both for papers and posters, with the corresponding volumes of the proceedings to be published after the Conference. Full papers will be included in the “HCI 2020 - Late Breaking Papers” volumes (LNCs series), while Poster Extended Abstracts will be included as short papers in the “HCI 2020 - Late Breaking Posters” volumes (CCIS series).

All Conference participants are able to browse, search, read and download in PDF format, the initial 40 volumes of the Proceedings already available through their conference (CMS) account. After the conference, the “Late Breaking Work” volumes of the proceedings will also become available, all together forming the full set of the HCI 2020 Conference Proceedings. Springer also offers for sale all volumes, individually and as a full set, in soft cover, with a significant discount for authors.

An impressive number of more than 2,350 individuals from 77 countries are participating in this truly international in scope event, where the work of world leaders in the field is presented.

We are privileged to have Professor Gregg Vanderheiden, School of Information Studies, University of Maryland, Director of the Trace R&D Center and Co-Director of Raising the Floor – International and the Global Public Inclusive Infrastructure Project, joining us as the keynote speaker at the plenary session. His speech is entitled: “Advancing technologies will allow us to reinvent HCI. Can we use it to finally address digital interface inequality - with less effort - and to better effect?”.

As established in previous years, twenty-two awards will be conferred during the Plenary Session. The awards, in the form of a certificate, will be presented to the author(s) of the Best Paper of each Thematic Area / Affiliated Conference and of the Best Poster Extended Abstract.

I would like to thank each and every one of you for your valuable contribution towards the success of this Conference, and to wish you a professionally rewarding and enjoyable attendance of the virtual HCI 2020 Conference.

We are hopeful that the current situation with the pandemic will improve and allow us to meet each other in person next year for the HCI 2021 conference, scheduled to take place at the Washington Hilton Hotel, Washington DC, USA, 24-29 July 2021. And as we were obliged to miss Copenhagen this year, we are planning to schedule the conference venue there for 2023.

We look forward to welcoming you to the virtual HCI International Conference 2020!

Constantine Stephanidis
General Chair

HCI International 2021

The 23rd International Conference on Human-Computer Interaction, HCI International 2021, will be held jointly with the affiliated conferences in Washington DC, USA, at the Washington Hilton Hotel, 24-29 July 2021. It will cover a broad spectrum of themes related to Human-Computer Interaction, including theoretical issues, methods, tools, processes, and case studies in HCI design, as well as novel interaction techniques, interfaces, and applications. The proceedings will be published by Springer.

General Chair: Prof. Constantine Stephanidis
University of Crete and ICS-FORTH Heraklion, Crete, Greece
Email: general_chair@hcii2021.org

http://2021.hci.international

WELCOME NOTE
ADVANCING TECHNOLOGIES WILL ALLOW US TO REINVENT HCI

Can we use it to finally address digital interface inequality - with less effort - and to better effect?

Gregg Vanderheiden
Professor, School of Information Studies, University of Maryland, United States
Director, Trace R&D Center, University of Maryland, United States
Co-Director, Raising the Floor - International and the Global Public Inclusive Infrastructure Project

Abstract

When we think of access to or accessibility of ICT we often think of people with disabilities. But there is a much larger group of people who are finding it ever more difficult to learn, work or live in the increasingly “technified” world we are creating - perhaps a third of the population, young and old. Further, our current approaches to ICT access work only moderately well for today’s technologies, but will not work at all for many of the next-next-generation interface technologies.

In order to create interfaces that can really revolutionize the world - for everyone - we need to 1) understand the scope of the problem today, 2) understand the impact of each person’s TQ (Technology Quotient) on their ability to use our designs, 3) thoroughly explore both the barriers and the opportunities that next-next-generation interface technologies will create, and 4) look to new paradigms both for creating our (standard) interfaces and for creating alternate interfaces for those who cannot use the standard interfaces...interfaces (real and virtual) that we will be providing on almost everything and every activity in our environments.

We also need to find a different approach to creating products that are accessible/usable by all. An approach that does not expect every organization designing products to be able to understand the needs of everyone who cannot use our shipping interface, nor expect them to understand all the strategies needed to address their very varied needs. Can our emerging technologies, and a new social contract between consumers and industry, allow us to create such an alternate approach to accessibility and extended usability?

Gregg Vanderheiden

Dr Vanderheiden has worked in technology and disability for just shy of 50 years. He was a pioneer in Augmentative Communication (a term he coined in the 1970’s) and in cross-disability access to ICT. His work is found in every Windows and Macintosh computer, iOS and Android phone or tablet, US Automated Postal Stations, Amtrak ticket machines and many other products you encounter daily. Most of the initial access features in both Microsoft Windows and Apple Mac operating systems came from work of his research group.

Dr Vanderheiden created the first accessibility guidelines for computers and software (’85), consumer products (’91) and the web (’95)– and co-chaired both WCAG 1.0 and 2.0 working groups. He has worked with over 50 companies and numerous consumer groups and government advisory & planning committees, including the Federal Communications Commission (FCC), the National Science Foundation (NSF), National Institutes of Health (NIH), Global Mobile Suppliers Association (GSA), the United States Access Board and The White House. He has received over 35 awards for his work. Dr Vanderheiden holds a BS in Electrical Engineering, MS in Biomedical Engineering, and Ph.D in Technology in Communication and Child Development from the University of Wisconsin-Madison.
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14th International Conference on HCI for Cybersecurity, Privacy and Trust
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2nd International Conference on Adaptive Instructional Systems
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Shuqing Yang, P.R. CHINA
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Nick Degens, NETHERLANDS
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Francisco Grimaldo, SPAIN
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Rüdiger Heinigmüller, GERMANY
Jean Ippolito, USA
Tori Ishida, JAPAN
Donghui Lin, JAPAN
Yohei Murakami, JAPAN
Ryoei Nakatsu, JAPAN
Elisabet M. Nilsson, SWEDEN
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Kasper Rold, DENMARK
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Hooman Samani, TAIWAN
Vibeke Sørensen, SINGAPORE
Morishima Shigeho, JAPAN
Alistair Swale, NEW ZEALAND
Chaudhury Vikramshila, INDIA

17th International Conference on Engineering Psychology and Cognitive Ergonomics
Program Chair:
Don Harris, UK
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Shan Fu, P.R. CHINA
Crystal Ioannou, UAE
Peter Keary, IRELAND
Peng Liu, P.R. CHINA
Heikki Mansikka, FINLAND
Lothar Mayer, SWEDEN
Ling Rothrock, USA
Axel Schulte, GERMANY
Lei Wang, P.R. CHINA
Jing-Yu Zhang, P.R. CHINA

8th International Conference on Distributed, Ambient and Pervasive Interactions
Program Chairs:
Norbert Streitz, GERMANY
Shin’ichi Konomi, JAPAN
Yasmeen Abbas, USA
Andreas Braun, LUXEMBOURG
Sara Comai, ITALY
Paul Davidsson, SWEDEN
Mari Antonieta Grasso, FRANCE
Nuno Guimarães, PORTUGAL
Lars Erik Holmquist, SWEDEN
Volker Sorge, UK
Hiroki Takada, JAPAN
Kevin C. Tseng, TAIWAN
Gerhard Weber, GERMANY

International Program Boards
Note: The below list of LNCS and CCIS volumes will be updated to include the “Late Breaking Work” volumes, which will become available after the conference, to form the full set of volumes of the HCII 2020 proceedings. The updated list will become available at: http://2020.hci.international/proceedings.html

Proceedings

View ordering information at:
http://2020.hci.international/proceedings.html
or scan the QR-Code on the left

Book authors are entitled to order Springer eBooks and books at a 40% discount for personal orders (not for resale).

HCI International 2020 Proceedings Volumes List

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<td>Human-Computer Interaction: Design and User Experience (Part I)</td>
<td>Masaaki Kurosu</td>
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<td>Human-Computer Interaction: Multimodal and Natural Interaction (Part II)</td>
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<td>Human-Computer Interaction: Human Values and Quality of Life (Part III)</td>
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<td>Human Interface and the Management of Information: Designing Information (Part I)</td>
<td>Sakae Yamamoto; Hirohiko Mori</td>
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SEMINAR: CYBERSECURITY AND PRIVACY AWARENESS

Abbas Moallem. Ph.D.
UX Experts, LLC - Cupertino, California, USA
Adjunct professor at San Jose State University and California State

Objectives
The digital world has fundamentally changed and continues to change the way of life for all human beings. Hacking comes from a variety of sources: individuals, spying agencies, competitors, intellectual and so on for different reasons (financial gain, political influence, information, intellectual property, trade secrets, etc.). The growth of hacking continues to be exponential.

In today's world, each of us is responsible for protecting ourselves from all sorts of cyberattacks, and for protecting our privacy as we use the Internet. Thus, it is essential to have sufficient knowledge of risks and know exactly whom/what to protect yourself from when operating within cyberspace.

The main objective of this seminar is to review the results of an extensive investigation about cybersecurity awareness knowledge and trust in social media among college students and faculty. A discussion will take place on what needs to be done to protect ourselves in cyberspace.

Content and Benefits
In the first section of this seminar, we will review the main results of investigative studies conducted in 2019 and 2020. In the second section, we will discuss what needs to be done to improve awareness and what needs to be done to protect students and faculty in cyberspace.

Awards
For each of the Thematic Areas / Affiliated Conferences of HCI International 2020 the Best Paper has been selected to receive an award in the form of a plaque and a certificate in a brief ceremony during the Plenary Session. The Best Poster extended abstract will also receive an award.

Dr. Abbas Moallem is an executive director of UX Experts, LLC and an adjunct professor at San Jose State University, California State University, East Bay, where he teaches human-computer interaction.

Dr. Moallem has over 20 years of experience in the fields of human factors, ergonomics, human-computer interaction (HCI) and usability. He has also served as a UI Architect at PeopleSoft, Oracle Corporation, Tumbleweed, and Axway for over 11 years. He also served as a senior engineering product manager and usability expert at NETGEAR. Dr. Moallem has also consulted with numerous companies that include, Sears H.C., Polycom, Cisco System, HID Global, Lam Research, and Applied Materials. Dr. Moallem has also consulted a variety of industries in Europe, and Canada.

Abbas holds a Ph.D. in Human Factors and Ergonomics from the University of Paris (Paris XIII), a Master's degree in Biomechanics from the University of Creteil (Paris XI) and a Master's degree in Ergonomics from the Conservatoire Nation des Arts et Métiers in Paris, France. Dr. Moallem obtained his B.A. degree from the University of Tehran in 1978.

Abbas recently edited a book "Human-Computer Interaction and Cybersecurity Handbook", that provides insight into how understanding human factors could change how companies invest their resources in what is currently a $101 billion industry.

He currently serves as Communication and Exposition Chair of the HCI International and Conference and program chair of 1st International Conference on HCI for Cybersecurity, Privacy, and Trust (HCI-CPT).
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**Multimodal and Multisensory Interaction**  
Chair(s): To be announced

**S002**  
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**HIMI S003**  
**Visualization and Information Design**  
Chair(s): Markus Jelonek, Germany

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**Approaches to Human-Autonomy Teaming - I**  
Chair(s): Axel Schulte, Germany

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**A Human-centered Approach to Designing Gestures for Natural User Interfaces**  
Shannon K.T. Bailey, Cheryl I. Johnson, United States

**Comparing a Mouse and a Free Hand Gesture Interaction Technique for 3D Object Manipulation**  
Joao Bernardes, Brazil

**CountMarks: Multi-Finger Marking Menus for Mobile Interaction with Head-Mounted Displays**  
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**Utilizing Geographical Maps for Social Visualization to Foster Awareness in Online Communities of Practice**  
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**Rethinking the Usage and Experience of Clustering in Web Mapping**  
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**Human-Autonomy Teaming and Explainable AI Capabilities in RTS Games**  
Crisrael Lucero, Christianne Izymigawa, Kurt Frederiksen, Lena Nans, Rebecca Iden, Douglas Lange, United States

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#### Customer eXperience in e-Learning: A Systematic Mapping Study
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#### Customer eXperiences in Retail: Case Studies in Physical and Virtual Channels
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- Data Mining Methodology in Support of a Systematic Review of Human Aspects of Cybersecurity
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- Understanding how visitors interact with voice-based conversational systems
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- Speak to Me: Interacting with a Spoken Language Interface
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- What are People doing about XAI User Experience? A Survey on AI Explainability Research and Practice
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<td>Creating a feedback loop between persona development and user research towards better technology acceptance&lt;br&gt;Despoina Petsani, Evdokimos Konstantinidis, Greece; Joanne Carroll, Richard Lombard-Vance, Louise Hopper, Ireland; Maria Nikolaidou, Greece; UNAI DIAZ-ORUETA, Ireland; Wolfgang Kniejski, Germany; Panagiotis Bamidis, Greece</td>
<td>Identifying interaction patterns for face recognition interfaces through research, prototyping and testing&lt;br&gt;Flavio Ribeiro, Guto Kawakami, Taynah Miyagawa, Brazil</td>
<td>Circuit Game: A Craft-based Electronic Building Practice&lt;br&gt;Farzaneh Oghazian, Felecia Davis, United States</td>
<td>Effectiveness of Banner Ads: An Eye Tracking and Facial Expression Analysis&lt;br&gt;Thanh-An Nguyen, Constantinos Coursaris, Pierre-Majorique Léger, Sylvain Sénécal, Marc Fredette, Canada</td>
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<td>Positioning Participant Engagement in Participatory Design&lt;br&gt;Ziheng Zhang, Francesco Zurlo, Italy</td>
<td>Toward a Disability-Centric Model of User Participation in Accessibility Efforts: Lessons from a Case Study of School Children&lt;br&gt;Alison Gavine, Frank Spillers, United States</td>
<td>Responsive Origami - A Modular Approach to Fabricate Dynamic Surfaces Reactive to Socio-Environmental Conditions&lt;br&gt;Mostafa Alani, Iraq; Michael Kleiss, Arash Soleimani, United States</td>
<td>Insights from the Apple Human Interface Guidelines on Intuitive Interaction&lt;br&gt;Dan McAran, Norman Shaw, Canada</td>
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<td>Understanding User Engagement in Information &amp; Communications Technology for Development: An Exploratory Study&lt;br&gt;Tochukwu Arinze Ikwunne, Lucy Hederman, Patrick Wall, Ireland</td>
<td>The Aware User Experience Model, its Method of Construction and Derived Heuristics&lt;br&gt;Jorge Maya, Natalia Ariza, Colombia</td>
<td>Design of Real-time Individualized Comfort Monitoring System in Healthcare Facilities&lt;br&gt;Julian Wang, Yanxiao Feng, Nan Wang, United States</td>
<td>COVID-19 Pandemic – Role of Technology in Transforming Business to the New Normal&lt;br&gt;Fiona Nah, Keng Siau, United States</td>
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<td>Should We Measure UX Differently?&lt;br&gt;Apala Lahiri Chavan, Girish Prabhu, India</td>
<td>A Reusable Approach to Software Support for Adaptive Navigation&lt;br&gt;Yonglei Tao, United States</td>
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<td>Effects of Online Reviews on Consumer Evaluation of Products: How Are They Different among Search, Experience and Credence Products?&lt;br&gt;Welling Ke, Xiaorong Aileen Guo, United States</td>
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<td>Using traditional research methods in contemporary UX surveying&lt;br&gt;Csilla Herendy, Hungary</td>
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<td>A Comparative Study of Data Augmentation Methods for Brand Logo Classifiers&lt;br&gt;Aléssio Miranda Júnior, Matheus Moraes, Marcelo Sousa Balbino, Brazil</td>
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**LCT S021**

**Supporting Teachers**
Chair(s): Tiantian Jin, United States

The Current State of m-Learning in Higher Education: A Survey Study of Mobile Technology Usage in the Classroom
Tiantian Jin, Kinta D. Montilus, Alison Moore, Quincy Conley, United States

On the Design of a Teachers’ Dashboard: Requirements and Insights
Pedro Isaac, Australia; Adriana Bacax Noronha Viana, Brazil

**Applied Webservices Platform supported through Modified Edit Distance Algorithm: Automated Phonetnic Transcription Grading Tool (APTgt)**
Cheryl D. Seals, Sicheng Li, Marisha Speights Atkins, Dallin Bailey, Jueting Liu, Yang Cao, Robertson Bassy, United States

**Mudpoint: Evaluating Instructor Perception on a Continuous and Non-specific Feedback System**
Jamshidbek Mirzakhalov, Anoop Babu, Marvin Andujar, United States

**How Virtual Reality is Changing the Future of Learning in K-12 and Beyond**
Marta Adzgauskaite, Kaveh Abhari, Michael Pesavento, United States

**Learning Experience Studies**
Chair(s): Mark Dixon, United Kingdom

**User Experience Evaluation of an e-Assessment System**
Sidra Ittkhah, Ana-Elena Guerrero Roldan, Enric Mor, David Bañeres, Spain

**Usability Testing of a Digital Competence Assessment and Certification System**
Aleksandra Sobodic, Igor Balaban, Croatia

**Evaluating Portable Touch Projectors in the Context of Digital Education**
Marcel Schmittchen, Arlind Avdullahi, Germany;

**A Comparative Usability Study of Blackboard and Desire2Learn: Students’ Perspective**
Obead Alhadreti, Saudi Arabia

**The Influential Factors on E-learning Adoption and Learning Continuance**
Meryem Harzallah, Nizar Omenhi, Tunisia

**Tangible Storytelling to learn the Four Seasons: Design and Preliminary Observations**
Wafa Almukadi, Saudi Arabia

**New Media Use in the Everyday Life of Older People - I**
Chair(s): Eugène Loos, Netherlands

**Are Digital Twins becoming our Personal (predictive) Advisors?**
‘Our Digital Mirror of Who We Were, Who We Are and Who We Will Become’
Christel De Maeyer, Belgium; Panos Markopoulos, Netherlands

**Age and the City: The Case of Smart Mobility**
María Sourbati, United Kingdom

**To Do or Not to Do: How Socio-Demographic Characteristics of Older Adults are Associated with Online Activities**
Joerg Leukel, Barbara Schehl, Germany; Vijayan Sugumaran, United States

**Internet Use and Loneliness among Older Adults: The Moderating Role of Self-Perceptions of Ageing**
Wenqian Xu, Sweden; Hanna Köttl, Israel

**The Impact of the Relationship and Family Status in Retirement Age on Women’s Incorporation of Technical Devices in their Everyday Life**
Alina Gales, Germany; Eugène Loos, Netherlands

**Implementing a Digital Wellness Application into Use — Challenges and Solutions among Aged People**
Tuomas Kari, Anna Sell, Markus Makkonen, Stina Wallin, Pirko Walden, Christer Carlsson, Lauri Frank, Joanna Carlsson, Finland

**Digitalization in Health over the Lifespan**
Chair(s): Peter Rasche, Germany

**Digital Health Engineering and Entrepreneurial Innovation — Education for the Development of ICT for Older Adults**
Andrea Greve, Peter Rasche, Cara Droegoe, Alexander Mertens, Germany

**Practical Evaluation of the Emergency Usability Lab for Testing the Usability of Medical Devices in Emergency Situations**
Peter Rasche, Moritz Richter, Katharina Schäfer, Sabine Theis, Verena Nitsch, Alexander Mertens, Germany

**Perceived Self-efficacy in Parkinson’s Disease Through Mobile Health Monitoring**
Sabine Theis, Dajana Schäfer, Christina Haubrich, Christopher Brandl, Matthias Wille, Germany; Sonja A. Kotz, Netherlands; Verena Nitsch, Alexander Mertens, Germany

**Agent-based Simulation of Medical Care Processes in Rural Areas with the Aid of Current Data on ICT Usage Readiness Among Elderly Patients**
Christina Busing, Sabrina Schmitz, Maria Anapolska, Sabine Theis, Matthias Wille, Christopher Brandl, Verena Nitsch, Alexander Mertens, Germany

**ICF-based Analysis of Barriers and Facilitators for Smartphone Usage in an App-supported Training Program for Health and Well-Being of Older Users**
Anke Osterhoff, Liane Günther, Christian Thiell, Christian Grüneberg, Sascha Sommer, Germany
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<td>Responsible Design for Ageing: a Multidisciplinary Perspective</td>
<td>Hua Dong, United Kingdom</td>
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<td>HCI-CPT S026</td>
<td>Human Factors in Cybersecurity - I</td>
<td>Heather Molyneaux, Canada</td>
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<td>MobiTAS S027</td>
<td>Experience Design and Mobility</td>
<td>Jung Hyup Kim, United States</td>
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<td>AIS S028</td>
<td>Methods of Human Interaction in Support of Adaptive Instruction</td>
<td>Thomas E.F. Witte, Germany</td>
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**Value and values in inclusive design**
Haiou Zhu, Thorsten Gruber, Hua Dong, United Kingdom

**Technology Development with Older People: The Role of “Unfettered Design”**
Björn Fischer, Britt Östlund, Sweden

**Active Participation of Older Adults in the Development of Stimulus Material in an Storytelling Context**
Torben Volkmann, Deniz Akyildiz, Fabian Vorholt, Nicole Jochens, Germany

**Home as Experience: The Challenge and Opportunity of Care Home Design**
Ying Jiang, P.R. China; Hua Dong, United Kingdom

**Expectations and Sensemaking: Older People and Care Robots**
Susanne Frennert, Sweden

Luis Martín Sánchez-Adame, Sonia Mendoza, Beatriz A. González-Beltrán, Amilcar Meneses-Viveros, José Rodríguez, Mexico

**Security Matters ... Until Something Else Matters More: Security Notifications on Different Form Factors**
Heather Molyneaux, Elizabeth Stobert, Irina Kondratova, Manon Gaudet, Canada

**Authentication of choice on mobile devices: A preliminary investigation**
Akintunde Jeremiah Oluwafemi, Jinjuan Feng, United States

**Mental Model Mapping Method for Cybersecurity**
Kaur Kuliman, Laurin Buchanan, Anita Komlodi, Don Engel, United States

**Awareness and Working Knowledge of Secure Design Principles: A User Study**
May Almousa, Mahsa Keshavarz, Mohd Anwar, United States

**Effective Alerts for Autonomous Solutions to Aid Drivers Experiencing Medical Anomalies**
Mariah Havoro, Tony Morelli, United States

**The Effects of Collision Avoidance Warning Systems on Driver’s Visual Behaviors**
Jung Hyup Kim, United States

**Expert Cyclist Route Planning: Hazards, Preferences, and Information Sources**
Mary Still, United States

**BLOKCAR: a Children Entertainment System to Enrich and Enhance Family Car Travel Experience**
Hsin-Man Wu, Zhenyu Cheryl Qian, Yingjie (Victor) Chen, United States

**PRONTOMovel – A Way of Transporting Creativity and Technology**
Regiane Pupo, Brazil

**UI Proposal for Shared Autonomous Vehicles: Focusing on Improving User’s Trust**
Minhee Lee, Younjoon Lee, Korea

**The Impact of Adaptive Activities in Acrobatiq Courseware: Investigating the Efficacy of Formative Adaptive Activities on Learning Estimates and Summative Assessment Scores**
Rachel Van Campenhout, Bill Jerome, Benny Johnson, United States

**Exploring Video Engagement in an Intelligent Tutoring System**
David Quigley, Donna Caccamise, John Weatherley, Peter Foltz, United States

Thomas E.F. Witte, Jonas D. Hasbach, Jessica Schwarz, Verena Nitsch, Germany

**Supporting Metacognitive Learning Strategies through an Adaptive Application**
Rachel Van Campenhout, United States

**Usability Dimensions of Simulated Detectors for Improvised Explosive Devices**
Crystal Maraj, Jonathan Hurter, Deen Reed, Clive Hoayun, Adam Moodle, Latika “Bonnie” Effert, United States
### Sunday, 19 July 17:00 - 19:00 (CEST - Copenhagen)

**AIS S029**

**Conceptual Modeling of Adaptive Instructional Systems (AISs)**  
Chair(s): Robert A. Sottilare, United States

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<td>Representing Functional Relationships of Adaptive Instructional Systems in a Conceptual Model</td>
<td>Robert A. Sottilare, Anne Knowles, Jim Goodell, United States</td>
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<td>A Learning Engineering Model for Learner-Centered Adaptive Systems</td>
<td>Jim Goodell, KP Thai, United States</td>
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<td>Bridging Conceptual Models and Architectural Interchange for Adaptive Instructional Systems</td>
<td>Keith Brawner, United States</td>
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### AI-HCI S030

**AI for Core Tasks in Application Domains - I**  
Chair(s): Donald M. Allen, United States

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<td>Customer Self-Remediation of Proactive Network Issue Detection and Notification</td>
<td>Donald M. Allen, United States; Dmitry Goloubew, Belgium</td>
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<td>Educators in the Loop: Using Scenario Simulation as a Tool to Understand and Investigate Predictive Models of Student Dropout Risk in Distance Learning</td>
<td>Rômulo Freitas, Luciana Salgado, Brazil</td>
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<td>Why Did the Robot Cross the Road? A User Study of Reasoning and Explanation in Human-Robot Interaction</td>
<td>Zac Taschdjian, United States</td>
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<td>Explainable Classification of EEG Data for an Active Touch Task using Shapley Values</td>
<td>Haneen Alsuradi, United States; Wanjoo Park, Mohamad Eid, United Arab Emirates</td>
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<td><strong>An Examination of Dispositional Trust in Human and Autonomous System Interactions</strong>&lt;br&gt;Priscilla Fernonato, Masooda Bashir, United States</td>
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<td><strong>The Impact of Trust and Fairness on Information System’s Resistance</strong>&lt;br&gt;Zoubeir Tkouat, Ryad Titah, Pierre-Majorique Léger, Canada</td>
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<td><strong>Effects of Reputation, Organization, and Readability on Trustworthiness Perceptions of Computer Code</strong>&lt;br&gt;Gene M. Alarcon, Anthony M. Gibson, Sarah A. Jessup, August Capiola, Haider Raad, Michael A. Lee, United States</td>
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**Large Scale Augmented Reality for Collaborative Environments**

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

- Arnis Cirulis, Latvia
- On the Allocation of Resources in Sensor Clouds Under the Se-aaS Paradigm
  - Joel Guerreiro, Luis Rodrigues, Noelia Correia, Portugal
- Low-Resolution Retinal Image Vessel Segmentation
  - Hasan Zengin, Turkey; José Camara, Brazil; Paulo Coelho, João M.F. Rodrigues, António Cunha, Portugal
- The Influence of Social Networking Technology on Centennials Purchase Intent
  - Célia M.Q. Ramos, João M.F. Rodrigues, Portugal
- Efficient Small-Scale Network for Room Layout Estimation
  - Ricardo J.M. Veiga, Pedro J.S. Cardoso, João M.F. Rodrigues, Portugal

**A Web Authoring Tool for the Generation of Adventure Educational Games for Deaf Children**

Chair(s): Rafael Dos Passos Canteri, Laura Sánchez García, Tanya Amara Felipe, Brazil

- A Case Study about Usability, User Experience and Accessibility Problems of Deaf Users with Assistive Technologies
  - Tatiany X. De Godoi, Deogenes P. Da Silva Junior, Natasha M. Costa Valentim, Brazil
- Integrated Assistive Auxiliary System - Developing Low Cost Assistive Technology to Provide Computational Accessibility for Disabled People
  - Paulo André Da Rocha Perras, Fernando Da Fonseca de Souza, Brazil
- Providing a Tangible and Visual Feedback of Affective States Self-Expressions
  - Eliana Alves Moreira, Julián Alberto Herrera, M. Cecilia C. Baranauskas, Brazil
- Automatic Contrast Evaluation for Android Themes
  - Adriano Gil, Juliana Postal, Adélia Ferreira, Daydilene Gonçalves, Blanca Hayek Bianco, Mikhail R. Gadelha, Brazil

**Development and Human Factors Considerations for Extended Reality Applications in Medicine: The Enhanced Electrophysiology Visualization and Interaction System (ÉLVIS)**

Chair(s): Rafael Dos Passos Canteri, Laura Sánchez García, Tanya Amara Felipe, Brazil

- Jennifer N. Avari Silva, Mary Beth Privitera, Michael K. Southworth, Jonathan R. Silva, United States
- Using Laser Scans and ‘Life History’ to Remember Heritage in Virtual Environments
  - Lori C. Walters, Robert A. Michkowitz, Michelle J. Adams, United States
- Crew Workload Considerations in Using HUD Localizer Takeoff Guidance in Lieu of Currently Required Infrastructure
  - Daniela Kratchounova, Mark Humphreys, Larry Miller, Theodore Mofle, Inchul Choi, Blake Nesmith, United States

**The Effects of Asset Degradation on Human Trust in Swarms**

Chair(s): Rafael Dos Passos Canteri, Laura Sánchez García, Tanya Amara Felipe, Brazil

- August Capiola, Joseph B. Lyons, Izz Aldin Hamdan, Keitaro Nishimura, Katia Syca, Michael Lewis, Michael A. Lee, Morgan Borders, United States
- Usability of the Virtual Agent Interaction Framework
  - David Novick, Mahdokht Afravi, Oliver Martinez, Aaron Rodriguez, Laura J. Hinojos, United States
- Emotions Synthesis Using Spatio-Temporal Geometric Mesh
  - Diego Addan Gonçalves, Eduardo Todt, Brazil
- Appropriately Representing Military Tasks for Human-Machine Teaming Research
  - Chad Tossell, Boyoung Kim, Bianca Donadio, Ewart De Visser, Ryan Holec, Elizabeth Phillips, United States

**Interactions Between Humans, Virtual Agents Characters and Virtual Avatars**

Chair(s): Rafael Dos Passos Canteri, Laura Sánchez García, Tanya Amara Felipe, Brazil

- Tamara Griffith, Cali M. Fidopiastis, Patricia S. Bockelman, Joan Johnston, United States

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VAMR S039

Virtual, Augmented, and Mixed Reality for Human-Robot Interaction

Chair(s): Tom Williams, United States

Enabling Situational Awareness via Augmented Reality of Autonomous Robot-Based Environmental Change Detection
Christopher Reardon, Jason Gregory, Carlos Nieto-Granda, John G. Rogers, United States

Virtual Reality for Immersive Human Machine Teaming with Vehicles
Michael Novitzky, Robert Semmens, Nicholas H. Franck, Christa M. Chewar, Christopher Korpela, United States

Using Augmented Reality to Better Study Human-Robot Interaction
Tom Williams, Leanne Hirshfield, Nhan Tran, Trevor Grant, Nicholas Woodward, United States

Visual Reference of Ambiguous Objects for Augmented Reality-Powered Human-Robot Communication in a Shared Workspace
Peng Gao, Brian Reily, Savannah Paul, Hao Zhang, United States

A Robotic Augmented Reality Virtual Window for Law Enforcement Operations
Nate Phillips, Brady Kruse, Farzana Alam Khan, J. Edward Swan II, Cindy L. Bethel, United States

S040

Mobile and Wearable VAMR
Chair(s): Aasim Khurshid, Brazil

A Shader-Based Architecture for Virtual Reality Applications on Mobile Devices
Adriano M. Gil, Thiago S. Figueira, Brazil

A Scene Classification Approach for Augmented Reality Devices
Aasim Khurshid, Sergio Cleger, Ricardo Grunitzki, Brazil

Video Player Architecture for Virtual Reality on Mobile Devices
Adriano M. Gil, Afonso R. Costa Jr, Atacilio C. Cunha, Thiago S. Figueira, Antonio A. Silva, Brazil

MRCAT: In Situ Prototyping of Interactive AR Environments
Matt Whitlock, Jake Mitchell, Nick Pfeufer, Brad Arnot, Ryan Craig, Bryce Wilson, Brian Chung, Danielle Albers Szafr, United States

Camera-Based Selection with Cardboard Head-Mounted Displays
Siqi Luo, Robert J. Teather, Victoria McArthur, Canada

SCSM S041

Customer eXperience and Behavior - I
Chair(s): Cristian Rusu, Chile

Evaluation of Customer eXperience and Behaviour: A Literature Review
Sandra Cano, Colombia; Cristian Rusu, Daniela Quiñones, Chile

Technology-Based Social Skills Learning for People with Autism Spectrum Disorder
Katherine Valencia, Virginia Zarara Rusu, Erick Jamet, Constanza Zúñiga, Eduardo Garrido, Cristian Rusu, Daniela Quiñones, Chile

Understanding User Needs and Customer eXperience in Tourism Area
Luis Rojas, Daniela Quiñones, Cristian Rusu, Chile

User eXperience Heuristics for National Park Websites
Dania Delgado, Daniela Zamora, Daniela Quiñones, Cristian Rusu, Silvana Roncagliolo, Virginia Rusu, Chile

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Matt Whitlock, Jake Mitchell, Nick Pfeufer, Brad Arnot, Ryan Craig, Bryce Wilson, Brian Chung, Danielle Albers Szafr, United States

Camera-Based Selection with Cardboard Head-Mounted Displays
Siqi Luo, Robert J. Teather, Victoria McArthur, Canada

S042

Experiences and Service Science
Chair(s): Virginica Rusu, Chile

Identifying User Experiences for Decision-Making in Service Science
Silvana Acier, Argentina; Mayela Coto, Costa Rica; Gabriela Acier, Argentina

Programmer eXperience: A Set of Heuristics for Programming Environments
Jenny Morales, Cristian Rusu, Chile; Federico Botella, Spain; Daniela Quiñones, Chile

An Analysis of The Current Policies for Social Media Use in Saudi Higher Education
Faowzia Alharthy, Yuanqiong Wang, Alfreda Dudley, United States

Improving the Web Accessibility of a University Library for People with Visual Disabilities through a Mixed Evaluation Approach
Milda Galkute, Luis A. Rojas P., Victor A. Sagal M., Chile

An Agile Product Design in a Smart City Context: A Use Case for Air Pollution Awareness
Jaime Diaz, Oscar Ancan Bastias, Chile
### SCSM S043

**Data, Algorithms, and Humans in Digital Manipulation - II**

Chair(s): Dennis Assenmacher, Christian Grimme, Lena Clever, Germany

- **A Two-Phase Framework for Detecting Manipulation Campaigns in Social Media**
  - Dennis Assenmacher, Lena Clever, Janina Susanne Pohl, Heike Trautmann, Christian Grimme, Germany

- **A New Information Theory based Clustering Fusion Method for Multi-view Representations of Text Documents**
  - Juan Zamar, Chile; Jérémie Sublime, France

- **Filter Bubbles and Content Diversity? An Agent-based Modeling Approach**
  - Poomina Belavadi, Laura Burbach, Patrick Halbach, Johannes Nakayama, Nils Piettenberg, Martina Ziefle, André Calero Valdez, Germany

- **User-oriented Quality Estimation of Social News Systems and its Content - Gender-dependent Assessment of Reddit**
  - Katrin Scheibe, Franziska Zimmer, Germany

- **Emotions in Online Gambling Communities: A Multilevel Sentiment Analysis**
  - Markus Kaakinen, Atte Oksanen, Anu Sirola, Jina Savolainen, Finland; David Garcia, Austria

### AC S044

**Perspectives, Challenges, and Designs of Augmented Cognition**

Chair(s): Martha E. Crosby, Michael-Brian C. Ogawa, Hana Vrzakova, United States

- **Tracking Technostress: A Task-Interuption of Data Entry Study**
  - Bruce W. Barnes, Randall K. Minas, United States

- **Metastimuli: an Introduction to PIMS Filtering**
  - Rico A.R. Picone, Dane Webb, Bryan Powell, United States

- **Understanding Challenges Presented using Emojis as a Form of Augmented Communication**
  - Mariam Dolashvili, Michael-Brian C. Ogawa, Martha E. Crosby, United States

- **Cognitive Variability Factors and Passphrase Selection”**
  - Lila A. Loos, Michael-Brian C. Ogawa, Martha E. Crosby, United States

- **Probing for Psycho-Physiological Correlates of Cognitive Interaction with Cybersecurity Events**
  - Nancy Mogire, Randall K. Minas, Martha E. Crosby, United States

- **Flip-Flop Quizzes: A Case Study Analysis to Inform the Design of Augmented Cognition Applications**
  - Branden Ogata, Jan Stelovsky, Michael-Brian C. Ogawa, United States

### DHM S045

**AHP & Applications in Decision Making in Health, Safety, Risk Management and Integrated Management Systems**

Chair(s): Genett Jimenez-Delgado, Colombia

- **Improving the Performance in Occupational Health and Safety Management in the Electric Sector: An Integrated Methodology using Fuzzy Multicriteria Approach**
  - Genett Jimenez-Delgado, Alea Senior-Naveda, Freddy Marin-Gonzalez, Jesus Garcia-Guillay, Lina Paola Fontalvo-Molina, Miguel José Ruíz-Muñoz, Hugo Hernandez-Palma, Colombia; Bertha Santos-Hernandez, Mexico

- **Identifying the Most Appropriate Classifier for Underpinning Assistive Technology Adoption for People with Dementia: An Integration of Fuzzy AHP and VIKOR Methods**
  - Miguel Ortiz-Barrios, Colombia; Chris Nugent, Matias Garcia-Constantino, United Kingdom; Genett Jimenez-Delgado, Colombia

- **End-User Programming Architecture for Physical Movement Assessment: An Interactive Machine Learning Approach**
  - Jessica M. Palomares-Pecho, Greis Francy M. Silva-Capla, Cesar A. Sierra-Fraco, Alberto Barbosa Raposo, Brazil

- **Choosing the Most Suitable Classifier for Supporting Assistive Technology Adoption in People with Parkinson’s Disease: A Fuzzy Multi-Criteria Approach**
  - Miguel Ortiz-Barrios, Colombia; Ian Cieland, Mark Donnelly, Jonathan Greer, United Kingdom; Antonio Petilro, Italy; Zaury Fernandez-Mendoza, Natalia Jaramillo-Rueda, Colombia

- **Integrating Lean Six Sigma and Discrete-event Simulation for Shortening the Appointment Lead-time in Gynecobstetrics Departments: A Case Study**
  - Miguel Ortiz-Barrios, Colombia; Sally McLean, United Kingdom; Genett Jimenez-Delgado, David Martinez-Sierra, Colombia

- **A Combined AHP-TOPOS Approach for Evaluating the Process of Innovation and Integration of Management Systems in the Logistic Sector**
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**Chair(s):** To be announced

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**Chair(s):** Rodolfo Ward, Brazil

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**Chair(s):** Fan Zhao, United States

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**Chair(s):** Michelle D. Barrett, United States

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| Quantification of Natural Multimodal Interaction Capacity |
| Jian Zheng, Pei-Luen Patrick Rau, Jingyu Zhao, P.R. China |

| Trends in Human-Computer Interaction in the 5G Era: Emerging Life Scenarios with 5G Networks |
| Jingyu Zhao, Andong Zhang, Pei-Luen Patrick Rau, Lili Dong, Liang Ge, P.R. China |

| Contrastive Study on User Satisfaction of Weibo and Instagram Common Users |
| Huijun Qin, P.R. China |

| Towards the ethnic understanding of Taiwanese indigenous peoples: A Mashup based on semantic web and open data |
| Yu-Liang Chi, Han-Yu Sung, Ying-Yuan Lien, Taiwan |

| Improving Memory Recall and Measuring User Ability Through Gamified Techniques with ‘Chatty’: An E-learning Application for Foreign Languages |
| Hyeyeon Park, Korea; Jacob D. Burke, United States; Volny Blin, France; Harris Chrysanthou, Cyprus |

| Exploring Gaze Behaviour and Perceived Personality Traits |
| Koki Ijuin, Kristiina Jokinen, Japan |

| Investigation on the Fusion of Multi-modal and Multi-person Features in RNNs for Detecting the Functional Roles of Group Discussion Participants |
| Hung-Hsuan Huang, Toyooki Nishida, Japan |

| Personality Trait Classification based on Co-occurrence Pattern Modeling with Convolutional Neural Network |
| Ryo Kimura, Shogo Okada, Japan |

| Effects of Linguistic Proficiency and Conversation Topic on Listener’s Gaze in Triadic Conversation |
| Ichiro Umata, Koki Ijuin, Tsuneo Kato, Seiichi Yamamoto, Japan |

| Methods of Efficiently Constructing Text-dialogue-agent System using Existing Anime Character |
| Ryo Ishii, Ryuichiro Hitashinaka, Koh Mitsuda, Taichi Katayama, Masahiro Mizukami, Junji Tomita, Hideyoshi Kawabata, Emi Yamaguchi, Noritake Adachi, Yushi Aono, Japan |

| Neural Network Risks Suggested by Optical Illusions |
| Hiroyuki Nishimoto, Japan |

| Verifying the Usefulness of Monitoring Sensors Used by Caregivers in Nursing Homes |
| Yasuko Kitajima, Isamu Kajitani, Mitsuhiro Nakamura, Keiko Homma, Yoshio Matsumoto, Jukai Maeda, Japan |

| Deep Learning based Gesture Classification for Hand Physical Therapy Interactive Program |
| Maleewan Rungruangananukul, Thibirat Sriboroomratanakul, Thailand |

| Comfort Evaluation of the Range of Motion of Human Upper Limb Joints |
| Zhongqi Liu, Xiaocong Niu, Qianxiang Zhou, P.R. China |

<p>| Application of Game Therapy in the Health of Future Elderly: An Experience Design Perspective |
| Yuqi Liu, Ryoichi Tamura, Japan |</p>
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<td>Tools for Taking Fatigue into Account in Human Task Simulations</td>
<td>Damien Chablat, France</td>
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<td>DUXU S078</td>
<td>Digital Contents Technology</td>
<td>Masasuke Yasumoto, Japan</td>
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<td>S079</td>
<td>Ergonomics in Design - I</td>
<td>Marcelo M. Soares, P.R. China</td>
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<td>DAPI S080</td>
<td>Ambient and Civic Computing</td>
<td>Tatsuo Nakajima, Japan</td>
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**Tools for Taking Fatigue into Account in Human Task Simulations**
Chair(s): Damien Chablat, France

- **Excessive Smartphone Use and Associated Physiological Disorders**
  - Status in India: D. Bhanu Priya, Murali Subramaniyam, India; Seung Nam Min, Korea

- **Sign Language to Speech Converter Using Raspberry-Pi**
  - Sreya Koppuravuri, Sukumar Sai Pondari, Deep Seth, India

- **Determining Endurance Limit under Intermittent Physical Operations based on a Combined Fatigue-recovery Model**
  - Jiawei Fu, Liang Ma, P.R. China

- **Research and Design of Relieving Neck Muscle Fatigue Based on Serious Game**
  - Dian Zhu, Zishan Song, Jingran He, Chufan Jin, Xi Chen, P.R. China

- **Study on the Effect of Cervical Spine Somatosensory Games of Virtual Reality and Augmented Reality on Relieving Neck Muscle Fatigue**
  - Zishan Song, Ting Han, Dian Zhu, Yufei Xie, Hanyue Xiao, Tianjia Shen, Jingran He, P.R. China

**Digital Contents Technology**
Chair(s): Masasuke Yasumoto, Japan

- **Interactive Pavement: Moving Spatial Surface to Dynamically Convey Information**
  - Voraphan Vorakitphan, Takashi Ohta, Japan

- **VR Appreciation System for Fountain Pens and Analysis of User Behaviors in Museum Exhibition**
  - Asako Soga, Takuzi Suzuki, Japan

- **Possibility of Using High-quality Bow Interface in VAIR Field**
  - Masasuke Yasumoto, Kazumasa Shida, Takehiro Teraoka, Japan

- **Proposal of Perception Method of Existence of Objects in 3D Space using Quasi-electrostatic Field**
  - Kenta Suzuki, Koya Abe, Hisashi Sato, Japan

**Ergonomics in Design - I**
Chair(s): Marcelo M. Soares, P.R. China

- **User Experience in Kiosk Application for Traceability of Fishery Products**
  - José Oliveira, Pedro Miguel Faria, António Miguel Rosado da Cruz, Portugal

- **A Usability Testing Comparing Two Mobile Phone Gimbal**
  - Keke Zhong, Junfei Liu, Zhiyong Gu, Chang Meng, Marcelo M. Soares, P.R. China

- **Systematic Review on Using Biofeedback (EEG and Infrared Thermography) to Evaluate Emotion and User Perception Acquired by Kansei Engineering**
  - Jiayu Zeng, Marcelo M. Soares, Renke He, P.R. China

- **Babe: An Experience Sharing Design for Enhancing Fatherhood during Pregnancy**
  - Jingyu Lin, Danni Chang, P.R. China

- **Research of Comfort Model of Eye Massager During Siesta in the Office**
  - Qi Huang, Hongmiao Liu, P.R. China

- **Does the Kindle Conform to Chinese Users’ Usage Habits? A Usability Assessment of the Kindle Paperwhite**
  - Yuxi He, Fang Lin, Jiniao Song, Tao Su, Marcelo M. Soares, Zhiyong Gu, Jiayu Zeng, P.R. China

**Ambient and Civic Computing**
Chair(s): Tatsuo Nakajima, Japan

- **Digitally Enhancing Society through Structuralism: Virtualizing Collective Human Eyesight and Hearing Capabilities as a Case Study**
  - Risa Kimura, Tatsuo Nakajima, Japan

- **Civic CrowdSensing through Location-aware Virtual Monsters**
  - Takuro Yonezawa, Mina Sakamura, Nobuo Kawaguchi, Jin Nakazawa, Japan

- **iOS crowd-sensing won’t hurt a bit!: AWARE Framework and Sustainable Study Guideline for iOS Platform**
  - Yuuki Nishiyama, Japan; Denzil Ferreira, Finland; Yusaku Eigen, Wataru Sasaki, Tadashi Okoshi, Jin Nakazawa, Japan

- **Tele Echo Tube for Historic House Tojo-Tei in Matsudo International Science Art Festival 2018**
  - Hill Hiroki Kobayashi, Daisuke Shimotoku, Japan

- **Development of One-Stop Smart City Application by Interdisciplinary Data Linkage**
  - Kenro Aihara, Atsuhiro Takasu, Japan
### HCI in Business, Government and Organizations (HCIBGO) S081

**Interactive Sales Scenarios**  
Chair(s): Andrea Mueller, Germany

- User Experience Testing vs. Marketing Experts – Can Empirical Research Beat Practical Knowledge in Dialog Marketing?
  - Christina Miclau, Barbara Woerz, Laura Heiland, Dennis Hess, Beatrice Weber, Alice Emmler, Hans-Peter Saar, Jonas Belke, Niklas Hose, Oxana Ernst, Andrea Mueller, Germany
- Protect Our Health with Cleaner Cars – How to Gain Customer Acceptance for Air Pollution Decreasing Retrofit Purchase  
  - Joachim Reiter, Uwe Hartmann, Larissa Greschuchna, Jaleine Westrich, Aliyah Mörtl, Laura Cherkouaui, Maik Breier, Malgorzata Olbrich, Carolin Hoffmann, Andreas Franz, Johannes Wensert, Andrea Mueller, Germany
- Captivating Product Experiences: How Virtual Reality Creates Flow and Thereby Optimize Product Presentations  
  - Kai Israel, Lea Buchweitz, Dieter K. Tscheulin, Christopher Zerres, Oliver Korn, Germany
- Usability Studies of E-Commerce Checkout Process: A Perspective from Thailand  
  - Patcharee Butnampetch, Panja Sasithowan, Butsakorn Teeranan, Thippaya Chintakovid, Thailand
- POS Product Presentation Concepts - Analysis of Affective, Conative and Cognitive Components in Decision Making  
  - Vanessa Schwahn, Achim Burkhardt, Andrea Mueller, Christina Miclau, Germany

### Interactive Learning Ecosystems - II (LCT) S082

**Case Studies of Developing and Using Learning Systems in a Department of Engineering**  
Sachiko Deguchi, Japan

- Development of a Visualization System to Analyze Student-Teacher Conversations  
  - Jun Iio, Ryuichi Sugiyama, Japan
- Tirana Plug-in River: Catalyst Playful Experiences to Revitalize Albanian Informal Settlements  
  - Saimir Kristo, Valerio Perna, Keti Hoxha, Albania
- StickAndClick – Sticking and Composing Simple Games as a Learning Activity  
  - Andrea Valente, Emanuela Marchetti, Italy
- Immersive Telepresence Framework for Remote Educational Scenarios  
  - Jean Botet, Luxembourg; Francisco J. Rodríguez-Lera, Spain

### Intelligent Environments for Healthy and Active Aging - II (ITAP) S083

**Research on Cognitive Training of Digital Application System Introducing Reminiscence Therapy for the Experience of People with Dementia**  
PeiFen Wu, Hui-Jien Hu, WenFu Wang, KuangYi Fan, ChunWe Huang, Taiwan

- Explore the Demands of the Elderly by Integrating QFD and Scenario-Based Design  
  - Shuo-Fang Liu, Chun-Han Tsai, Ching-Fen Chang, Taiwan
- Active Aging AI Community Care Ecosystem Design  
  - Hsiao-Ting Tseng, Hsieh-Hong Huang, Taiwan
- Research on the Standing Movement of the Elderly by Integrating Design  
  - Mengjing Cai, Yinxia Li, Huimin Hu, P.R. China
- Understanding the Exclusion Issues of Mobility-as-a-Service (MaaS): the Potential Problems of Older Travellers’ Involvement  
  - Yuanjun Li, P.R. China; Sharon Cook, Andrew May, United Kingdom

### Human Factors in Cybersecurity, Privacy and Trust (HCI-CPT) S084

**Usable Security by Design: a Pattern Approach**  
Bilal Naqvi, Jari Porras, Finland

- The Impact of Advertisements on User Attention During Permission Authorization  
  - Yousra Javed, Pakistan; Elham Al Qahtani, Mohamed Shehab, United States
- Examining Human Individual Differences in Cyber Security and Possible Implications for Human-Machine Interface Design  
  - Laura M. Bishop, Phillip L. Morgan, Phoebe M. Asquith, George Raywood-Burke, Adam Wedgbury, Kevin Jones, United Kingdom
- Assessing the human factor of cybersecurity: Can surveys tell the truth?  
  - Špela Orehek, Gregor Petrič, Jan Šinigoj, Slovenia
- Not Annoying the User for Better Password Choice: Effect of Incidental Anger Emotion on Password Choice  
  - Laheem Khan, Kovila P.L., Coopamootoo, Magdalene Ng, United Kingdom
- Natural vs. Technical Language Preference and their Impact on Firewall Configuration  
  - Artem Voronkov, Leonardo A. Martucci, Sweden
##HCI S085

###Digital Game and Playful Experiences

Chair(s): Amir Zaib Abbasi, Pakistan

- **Serious Games Design for and with Adolescents: Empirically based Implications for Purposeful Games**  
  Barbara Göbl, Dayana Hristova, Suzana Jovicic, Helmut Hlavacs, Austria

- **Customer Inspiration via Advertising Value of Pop-Up Ads in Online Games**  
  Amir Zaib Abbasi, Pakistan; Ali Hussain, Malaysia; Helmut Hlavacs, Austria; Muhammad Umair Shah, Canada; Ding Hooi Ting, Malaysia; Umair Rehman, Canada

- **Virtual Tourism in a Game Environment: Untangling Judged Affordances and Sense of Place**  
  Ingvart Tjostheim, Norway; John A. Waterworth, Sweden

- **A simulation game to acquire skills on Industry 4.0**  
  ROSSANO VERONICA, Rosa Lanzilotti, Teresa Roselli, Italy

- **Games for Cybersecurity Decision-making**  
  Atif Hussain, Kristen Kuhn, Siraj Ahmed Shaikh, United Kingdom

- **Mixed Method Approach to Evaluate Web 2.0 Applications in Business Games**  
  Susann Zeiner-Fink, Anne Goy, Angelika C. Bullinger, Germany

##MobiTAS S086

###Highly Automated Driving: What Drivers Need

Chair(s): Josef F. Krems, Germany

- **The Relationship between Drowsiness Level and Takeover Performance in Automated Driving**  
  Yanbin Wu, Ken Kihara, Yuji Takeda, Toshihisa Sato, Motoyuki Akamatsu, Satoshi Kitazaki, Japan

- **User Perception and the Effect of Forms and Movements in Human-Machine Interaction Applying Steer-by-Wire for Autonomous Vehicles**  
  Dokshin Lim, Jihoon Lee, Sung Mahn Kim, Korea

- **The More You Know, the More You Can Trust: Drivers’ Understanding of the Advanced Driver Assistance System**  
  Jiyoung Cho, Yuni (JeongYun) Heo, Korea

- **Decision-making in Interactions between Two Vehicles at a Highway Junction**  
  Asaya Shimojo, Yuki Ninomiya, Shotaro Matsubayashi, Kazuhisa Miwa, Hitoshi Terai, Hiroyuki Okuda, Tatsuya Suzuki, Japan

- **Vehicle movement as implicit communication cue: Comparing pedestrians’ detection performance between simulation and test track**  
  Claudia Ackermann, Matthias Beggiani, Germany

- **User Needs in Automated Driving: Why and How to Support the User in Trip Planning?**  
  Tobias Hecht, Klaus Bengler, Germany

- **Evaluation of Driver Drowsiness while Using Automated Driving Systems on Driving Simulator, Test Course and Public Roads**  
  Toshihisa Sato, Yuji Takeda, Motoyuki Akamatsu, Satoshi Kitazaki, Japan

##S087

###Proposals on Smart Mobility - I

Chair(s): To be announced

- **A Decision Support System for Terminal Express Delivery Route Planning**  
  Jiazhuo Fu, Wenzhuo Liao, P.R. China

- **From the Parking Lot to Your Gate: A Need-Centered Approach for Optimizing User Experience in Automated Valet Parking System**  
  Jun Ma, Xuejing Peng, Zaiyan Gong, Qianwen Zhang, P.R. China

- **Investigating the Influencing Factors of User Experience in Car-sharing Services: an Application of DEMATEL Method**  
  Yufei Xie, Hanyue Xiao, Tianjia Shen, Ting Han, P.R. China

- **A Filed Study of External HMI for Autonomous Vehicles When Interacting with Pedestrians**  
  Ya Wang, Qianwen Zhang, P.R. China

- **Smart and Seamless: Investigating User Needs and Recognition for Smartphone-Automobile Interactive Features**  
  Jiazhuo Fu, Wenzhuo Liao, P.R. China

##MOBILE S088

###Mobile Social Media and Mobile Commerce

Chair(s): Shuiqing Yang, Peiyan Zhou, P.R. China

- **How does Censorship Shape Citizens’ Participations of Mobile Government Social Media? A Value Perspective**  
  Miao Zhang, Shuiqing Yang, P.R. China

- **Factors Influencing Mobile Tourism Recommender Systems Adoption by Smart Travellers: Perceived Value and Parasocial Interaction Perspectives**  
  Dedi I. Inan, Zaenal Abidin, Achmad Nizar Hidayanto, Muhammad Erlanga Rianto, Fadhlan Zakiri, Muhammad Dimas Praharisa, Indonesia; Kongkiti Phusavat, P.R. China

- **Optimization of Online Dispute Resolution Process in Mobile Electronic Commerce —A Case of the ODR Platform’s Process Optimization in China Zhejiang Province**  
  Lian Yang, Tianjiao Niu, P.R. China

- **The effect of mobile app design features on student buying behavior for online food ordering and delivery**  
  Narayan Prabhu, Vishal Soodan, India
### C&C S089

**HCI from Within: Developing Locally and Regionally Relevant HCI Theory - I**  
Chair(s): Torkil Clemmensen, Denmark; Jyoti Kumar, India

- Detriments to Cultural Sensitivity in HCI Design Processes: Insights from Practitioners’ Experiences in India  
  Jyoti Kumar, Surbhi Pratap, India

- Open City Museum: Unveiling the Cultural Heritage of Athens through an Augmented Reality Based- Time Leap  
  Georgios Kallergis, Marios Christoulakis, Aimilios Diakakis, Marios Ioannidis, Jasonas Paterakis, Nefeli Manoudaki, Marianthi Liapi, Konstantinos-Alketas Oungrinis, Greece

- The application of urban AR technology in cultural communication and innovation  
  Yueyun Fan, Italy; Yaqi Zheng, P.R. China

- Deep Fake and Cultural Truth - Custodians of Cultural Heritage in the Age of a Digital Reproduction  
  Susan Hazan, Israel

- Wechat Redesign for Foreigners Living in China from Culturally Adaptive Design Perspective  
  Qinyan Zhang, Finland

### AIS S090

**AI for Core Tasks in Application Domains - II**  
Chair(s): To be announced

- Joking AI via Visual cues  
  Ryota Suzuki, Kota Yoshida, Munetaka Minoguchi, Kazuki Tsubura, Takumu Ikeya, Akio Nakamura, Hirokatsu Kataoka, Japan

- Multi-view Visual Question Answering Dataset for Real Environment Applications  
  Yue Qiu, Yutaka Satoh, Ryota Suzuki, Kenji Iwata, Japan

- Interactive Method to Elicit Local Causal Knowledge for Creating a Huge Causal Network  
  Genki Yamashita, Taro Kanno, Kazuo Furuta, Japan

- What Emotions Make One or Five Stars? Understanding Ratings of Online Product Reviews by Sentiment Analysis and XAI  
  Chaehan So, Korea

- A Heterogeneous Ensemble Learning-based Acoustic Fall Detection Method for Elderly People in Indoor Environment  
  Xiaoling Li, JiaWei Li, JiaRui Lai, Ziming Zheng, WeiWei Jia, Bin Lu, P.R. China

### NOTES

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<td><strong>Research on AI Art and Practice - II</strong>&lt;br&gt;Chair(s): Yi Ji, P.R. China</td>
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<td><strong>Design and Research of Intelligent Products for the Management of Chronic Diseases of the Elderly</strong>&lt;br&gt;Xinmin Sun, Zhenzhou Li, Minglin Yang, P.R. China</td>
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<td><strong>Research on Evaluation of Perceptual Experience Quality of Web-based Panoramic Navigation System Based on Cognitive Mechanism</strong>&lt;br&gt;Haowei Wang, Bin Jiang, Qianwen Chen, P.R. China</td>
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<td><strong>Research on Evaluation Index System of Artificial Intelligence Design Based on User Experience</strong>&lt;br&gt;Qianwen Chen, Haowei Wang, P.R. China</td>
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**Sunday, 19 July 17:00 - 19:00 (CEST - Copenhagen)**

**Engineering Psychology and Cognitive Ergonomics**

- **EPCE S095**
  - Flight Safety and Human Factors
    - Chair(s): Lei Wang, P.R. China
  - Effects of Mental Workload and Risk Perception on Pilots’ Safety Performance in Adverse Weather Contexts
    - Shan Gao, Lei Wang, P.R. China
  - Evaluating Pilot’s Perceived Workload on Interacting with Augmented Reality Device in Flight Operations
    - Wen-Chin Li, United Kingdom; Zepu Yan, Jingyi Zhang, P.R. China; Graham Brathwaite, Samuel Court, Mudasir Lone, Bikram Thapa, United Kingdom
  - An Overview of Paper Documentation Moving to Onboard Information System (OIS) for Commercial Aircraft
    - Wei Tan, Yin Jiang, P.R. China
  - Establishment of National Safety Performance Evaluation Indicator System
    - Min Luo, YiJie Sun, Yanqiu Chen, P.R. China

**Psychological Research for Designing Better Intelligent Systems**

- **S096**
  - Psychological Research for Designing Better Intelligent Systems
    - Chair(s): Jing-Yu Zhang, P.R. China
  - Comparison of Pedestrians’ Gap Acceptance Behavior towards Automated and Human-Driven Vehicles
    - Wenxiang Chen, Qianmi Jiang, Xiangling Zhaung, Guojie Ma, P.R. China
  - Whether Information Source should be Provided in the Response of Voice Interaction System?
    - Yaping Zhang, Ronggang Hou, Yanjun Sun, Liming Zou, Huifeng Wang, Min Zhao, P.R. China
  - The Effect of Group Membership, System Reliability and Anthropomorphic Appearance on user’s trust in Intelligent Decision Support System
    - Xiangying Zou, Chunhui Lv, Jing-Yu Zhang, P.R. China
  - Design Suggestions for Smart Tax Return Software based on Reviewing Tax Compliance literature
    - Bo Zhang, Jing-Yu Zhang, P.R. China
  - The Cueing Effect in Retrieval of Expertise: Designing for Future Intelligent Knowledge Management System
    - Liang Zhang, XiaoQin Li, Ting Xiong, Xiaoyue Pang, Jing-Yu Zhang, P.R. China

**Studies on Human Physiology and Cognition**

- **S097**
  - Studies on Human Physiology and Cognition
    - Chair(s): Asterios Leonidis, Greece
  - Hand Movements influence Time Perception of Visual Stimuli in Sub or Supra Seconds duration
    - Weiwei Cheng, Han Zhao, Yichen Zhang, Jiaxin Ma, Ziyuan Ren, P.R. China
  - Consideration of How Different Rearview Presentations Used for Electronic Mirrors on Automobiles Affect Human Spatial Cognition
    - Yutaro Kido, Sora Kanzaki, Tomonori Okutsubo, Japan; Yoshiaki Matsuba, Daichi Sugawara, P.R. China; Miwa Nakanishi, Japan
  - Relationship Between Thermal Sensation and Human Cognitive Performance Based on PMV
    - Jiawei Fu, Rui Yan, Fulin Wang, Liang Ma, P.R. China
  - The Effects of Face Inversion and the Number of Feature Differences on Eye-movement Patterns
    - Min-Fang Zhao, P.R. China; Hubert Zimmer, Germany
  - Using Guided Cognitive Illusions to Compensate for the Motion Limits of 4D Seats
    - Zhejun Liu, Guodong Yu, Jing Lin, Tianrun Gu, Qin Guo, P.R. China

**Cutting Edge in Artificial Intelligence and Biosignal Analysis for Automatic Control Systems, Virtual Reality and the Education**

- **UAHCI S098**
  - Cutting Edge in Artificial Intelligence and Biosignal Analysis for Automatic Control Systems, Virtual Reality and the Education
    - Chair(s): Hiroki Takada, Japan
  - Being Aware of One’s Self in the Auto-Generated Chat with a Communication Robot
    - Shu Matsuura, Reika Omokawa, Japan
  - Usability Evaluation of Short Dwell-time Activated Eye Typing Techniques
    - Sayan Sarcar, Japan
  - A Virtual Rehabilitation System for Occupational Therapy with Hand Motion Capture and Force Feedback -Implementation with Vibration Motor- Koushi Nagamune, Shinto Nakamura, Japan
  - Numerical Analysis of Bio-signal Using Generative Adversarial Networks
    - Kohki Nakane, Hiroki Takada, Shota Yamamoto, Rentaro Ono, Masumi Takada, Japan
  - Effect of Background Element Difference on Regional Cerebral Blood Flow while Viewing Stereoscopic Video Clips
    - Fumiya Kinoshita, Honoka Okuno, Hideaki Touyama, Masumi Takada, Masaru Miyao, Hiroki Takada, Japan
  - Relationship between Eye Movements and Individual Differences in Motion Sickness Susceptibility While Viewing Stereoscopic Movies under Controlled Consciousness
    - Akihiro Sugiyama, Kunihiko Tanaka, Hiroki Takada, Japan

**Universal Access in Human-Computer Interaction**

- **UAHCI S099**
  - Universal Access in Human-Computer Interaction
    - Chair(s): Hiroki Takada, Japan
  - Being Aware of One’s Self in the Auto-Generated Chat with a Communication Robot
    - Shu Matsuura, Reika Omokawa, Japan
  - Usability Evaluation of Short Dwell-time Activated Eye Typing Techniques
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  - A Virtual Rehabilitation System for Occupational Therapy with Hand Motion Capture and Force Feedback -Implementation with Vibration Motor- Koushi Nagamune, Shinto Nakamura, Japan
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  - Effect of Background Element Difference on Regional Cerebral Blood Flow while Viewing Stereoscopic Video Clips
    - Fumiya Kinoshita, Honoka Okuno, Hideaki Touyama, Masumi Takada, Masaru Miyao, Hiroki Takada, Japan
  - Relationship between Eye Movements and Individual Differences in Motion Sickness Susceptibility While Viewing Stereoscopic Movies under Controlled Consciousness
    - Akihiro Sugiyama, Kunihiko Tanaka, Hiroki Takada, Japan
UAHCI S099  Designing Social Equity - Politics, Social Equality, and the Digital Society  
Chair(s): Miriam E.N. Begnum, Norway

UAHCI S100  Design for All Methods and Tools  
Chair(s): Margherita Antona, Greece

VAMR S101  VAMR in Therapy, Well-being and Medicine  
Chair(s): Maria Matsangidou, Cyprus

VAMR S102  New Virtualities - II  
Chair(s): To be announced

Understanding Organizations through Systems Oriented Design: Mapping Critical Intervention Points for Universal Design  
Karina Ludwig, Miriam E.N. Begnum, Linda Blaasær, Norway

Situated Ability: A Case from Higher Education on Digital Learning Environments  
Diana Saplacan, Norway

Co-creating Persona Scenarios with Diverse Users Enriching Inclusive Design  
Kristin Skeide Fuglerud, Trenton Schulz, Astrid Letnes Janson, Anne Moen, Norway

Institutionalizing Universal Design: How Organizational Practices Can Promote Web Accessibility  
G. Anthony Giannoumis, Lars Henrik Nordli, Norway

Universal Design of ICT: A Historical Journey from Specialized Adaptations towards Designing for Diversity  
Miriam E.N. Begnum, Norway

User Centred Design for Accessibility in Media Content – Sign Language and Virtual Signer  
Vaishnavi Upadrasta, Astrid Oehme, Sandra Böhm, Germany

Exploring WAI-Aria Techniques to Enhance Screen Reader Interaction: The Case of a Portal for Rating Accessibility of Cultural Heritage Sites  
Marina Buzzi, Barbara Leporini, Francesca Romano, Italy

From Accessible Interfaces to Useful and Adapted Interactions  
Laura Burzagli, Pier Luigi Emilliani, Italy

Stakeholder Journey Analysis for Innovation: A Multiparty Analysis Framework for Startups  
Jo E. Hannay, Kristin Skeide Fuglerud, Bjarte M. Østvold, Norway

Development of a Multilingual Questionnaire for the Deaf Community – Guidelines and Challenges  
Astrid Oehme, Vaishnavi Upadrasta, Philipp Kotsch, Germany

Multi-Channel Interaction Design and Implementation of Medical Pendant Based on Virtual Reality Technology  
Dini Duan, Zhisheng Zhang, Hao Liu, Zhijie Xia, P.R. China

Classifying the Levels of Fear by Means of Machine Learning Techniques and VR in a Holonic-Based System for Treating Phobias - Experiments and Results  
Oana Balan, Gabriela Moise, Alin Moldoveanu, Florica Moldoveanu, Marius Leordeanu, Romania

eTher – An Assistive Virtual Agent for Acrophobia Therapy in Virtual Reality  
Oana Balan, Stefania Cristea, Gabriela Moise, Livia Petrescu, Silviu-Nicolea Ivașcu, Alin Moldoveanu, Florica Moldoveanu, Marius Leordeanu, Romania

A Virtual Reality Dental Anxiety Mitigation Tool Based on Computerized Cognitive Behavioral Therapy  
Ting Han, Manyue Xiao, Tianjia Shen, Yufei Xie, Zeshi Zhu, P.R. China

Sampling Electrocardiography Conformation for a Virtual Reality Pain Management Tool  
Maria Matsangidou, Cyprus; Alexis R. Mauger, Chee Siang Ang, United Kingdom; Constantinos Pattichis, Cyprus

Desktop and Virtual-reality training under varying degrees of task difficulty in a complex search-and-shoot scenario  
Akash Rao, Sushil Chandra, Varun Dutt, India

Study on Assessing User Experience of Augmented Reality Applications  
Lei Wang, Meiyu Lv, P.R. China

A HMD-based Virtual Display Environment with Adjustable Viewing Distance for Improving Task Performance  
Makio Ishihara, Yukio Ishihara, Japan
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<td><strong>Design for Cross-Culture - II</strong>&lt;br&gt;Chair(s): John Kreifeldt, United States; Rungtai Lin, Taiwan</td>
<td><strong>Kansei Issues in Cross-Cultural Design - II</strong>&lt;br&gt;Chair(s): Kuohsiang Chen, Taiwan; Szu-Chi Chen, Australia</td>
<td><strong>Affective Computing and User Experience Design - II</strong>&lt;br&gt;Chair(s): Pei-Luen Patrick Rau, P.R. China; Yu-Liang Chi, Taiwan; Xiaoang Irene Wan, P.R. China</td>
<td><strong>Design Issues in Social Computing</strong>&lt;br&gt;Chair(s): Maria Koroi, Greece</td>
<td><strong>continues</strong>&lt;br&gt;<strong>Application of Visual Saliency in the Background Image</strong>&lt;br&gt;<strong>Cutting for Layout Design</strong>&lt;br&gt;Liyu Zhu, Xueni Cao, Ying Fang, Liqun Zhang, Xiaodong Li, P.R. China</td>
<td><strong>Federated Artificial Intelligence for Unified Credit Assessment</strong>&lt;br&gt;Minh-Duc Hoang, Australia; Linh Le, Anh-Tuan Nguyen, Viet Nam; Trang Le, Hoang D. Nguyen, Singapore</td>
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**A Study of the Qualia Characteristics of Taiwanese Food**<br>Cheng Hsiang Yang, Po-Hsien Lin, Taiwan

**Application of Auspicious Cultural In Metalworking Jewelry Design**<br>Minghong Shi, Chi Zhang, P.R. China; Yiwen Ting, Po-Hsien Lin, Taiwan

**Research on the utilization of unconventional materials in fashion styling**<br>Tuck Fai Cheng, Malaysia; Yanru Lyu, P.R. China; Cheng Hsiang Yang, Po-Hsien Lin, Taiwan

**The Pilot Study of the Theater of the Bauhaus**<br>Yiwen Ting, Taiwan; Minghong Shi, P.R. China; Po-Hsien Lin, Rungtai Lin, Taiwan

**Museum Immersion Interactive Design: Taking the Children Art Gallery Exhibition as an Example**<br>Ching Wen Chang, Taiwan

**A Case Study of Applying 'Black Humor' to Ceramic Art Performance**<br>Mei-Ling Hsu, Taiwan; Wenting Fang, P.R. China; Po-Hsien Lin, Rungtai Lin, Taiwan

**Applied the Technology Acceptance Model to Survey the mobile-learning adoption behavior in Science Museum**<br>Cheng-Wei Fan, Taiwan

**Explore the Appeal of Social Media in Aesthetics Communication Among Different Culture**<br>Kai-Shuan Shen, Kuohsiang Chen, Yen-Tao Liu, Taiwan

**What Would be the Next Design Evolution under the Auspices of Industry 4.0?**<br>Jyh-Rong Chou, Taiwan

**Interactive Assistive Technology with Corporate Sponsor and Crowdfunding for Children with Physical Disabilities**<br>Chien-Yu Lin, Taiwan

**Research on Sticker Cognition for Elderly People Using Instant Messaging**<br>Chyi Ying Chen, Taiwan

**A Literature Review of the Research on the Uncanny Valley**<br>Jie Zhang, Shuo Li, Jing-Yu Zhang, Feng Du, Yue Qi, Xun Liu, P.R. China

**Enlightenments to the Beijing Winter Olympic Games: A Review of Main Color Schemes for Olympic Games**<br>Meiyu Lu, Huijun Qin, P.R. China

**How to Inherit and Innovate Patterns on the Silk Road in Modern Design**<br>Chuan Wang, P.R. China

**The effect of multisensory information on the sense of control in stressful virtual environment**<br>Xiaofang Sun, Pei-Luen Patrick Rau, P.R. China

**PIKAR: A Pixel-Level Image Kansei Analysis and Recognition System Based on Deep Learning for User-Centered Product Design**<br>Yun Gong, Bingcheng Wang, Pei-Luen Patrick Rau, P.R. China
### SCSM S107
**Data Based Social Signal Processing - II**
Chair(s): Hung-Hsuan Huang, Shogo Okada, Ryo Ishii, Japan

**An Examination of Gaze during Conversation for Designing Culture-based Robot Behavior**
Louisa Hardjesa, Atsushi Nakazawa, Japan

**Utilization of Human-Robot Interaction for the Enhancement of Performer and Audience Engagement in Performing Art**
Nihan Karatas, Japan; Hideo Sekino, United States; Takahiro Tanaka, Japan

**Review of Electronic Word-of-Mouth Based on Bibliometrics**
Peihan Wen, Ruiquan Wang, P.R. China

**Analysis of Imitating Behavior on Social Media**
Ying Zhong, Hailian Zhang, Japan

**Knowledge Sharing and Community Promotion in Online Health Communities: Examining the Relationship between Social Support, Community Commitment, and Trust Transfer**
Zaenal Abidin, Achmad Nizar Hidayanto, Dedi I. Inan, Amira Luthfi Fitriani, Atikah Zahrah Halim, Muhammad Farhan Mardadi, Rizkah Shailihah, Indonesia

### AC S108
**EEG and Physiological Signals**
Chair(s): Shunji Shimizu, Japan

**Investigation of Biological Signals under the Stimulation of Basic Tastes**
Masaki Hayashi, Peeraya Sripian, Uma Maheswari Rajagopalan, Japan; Runqing Zhang, P.R. China; Midori Sugaya, Japan

**A Preliminary Experiment on the Evaluation of Aroma Effects using biological signals**
Runqing Zhang, Chen Feng, P.R. China; Peeraya Sripian, Midori Sugaya, Japan

**Examination of Stammering Symptomatic Improvement Training using Heartbeat-linked Vibration Stimulation**
Shogo Matsuno, Yuya Yamada, Naoaki Itakura, Tota Mizuno, Japan

**User Preference toward Appearance of Mobile Input Method Editor based on Kansei Engineering**
Yun Zhang, Yaqin Cao, Yi Ding, Yujie Zhao, P.R. China

**Semi-Autonomous Collaborative Mobile Platform with Pre-Diagnostics for Hospitals**
Vishal Reddy Gade, Ashish Soni, Bhargava Rajaram, Deep Seth, India

**A Visual Tracking Method to Explore the Effect of Presence on Online Consumers**
Yu Sun, P.R. China

**Threat or Opportunity -- Analysis of the Impact of Artificial Intelligence on Future Employment**
Fenglian Wang, Mingqing Hu, Min Zhu, P.R. China

**Multi-pose Face Recognition based on Block Adaptation**
Jianguo Shi, Yuanyuan Zhao, P.R. China

### DHM S109
**Human-Robot Interaction**
Chair(s): Yaqin Cao, P.R. China

**User Preference toward Appearance of Mobile Input Method Editor based on Kansei Engineering**
Yun Zhang, Yaqin Cao, Yi Ding, Yujie Zhao, P.R. China

**Semi-Autonomous Collaborative Mobile Platform with Pre-Diagnostics for Hospitals**
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Fenglian Wang, Mingqing Hu, Min Zhu, P.R. China

**Multi-pose Face Recognition based on Block Adaptation**
Jianguo Shi, Yuanyuan Zhao, P.R. China

### S110
**Anthropometry, Posture and Motion Modelling and Ergonomic Applications**
Chair(s): To be announced

**Ergonomic-based Clothing Design for The Elderly**
Jingxiao Liao, Xiaoping Hu, P.R. China

**Study on Chinese Elderly Women’s Clothing Design based on Ergonomics**
Longlin Luo, Xiaoping Hu, P.R. China

**Investigation on Heavy Truck Cab Ergonomics**
Junmin Du, Weiyu Sun, Haoshu Gu, Xin Zhang, Huimin Hu, Yang Liu, P.R. China

**The effect of break on discomfort and variation in EMG activities while using a smartphone: A preliminary study in a Chinese university population**
Pellin Li, Yi Wang, Yi Ding, Yaqin Cao, P.R. China; Vincent G. Duffy, United States

**Individual Differences in Office Comfort: What Affects Comfort Varies by Person**
Masashi Sugimoto, Fan Zhang, Noriko Nagata, Kota Kurihara, Seiro Yuge, Makoto Takata, Koji Ota, Seiji Furukawa, Japan
Sunday, 19 July   17:00 - 19:00 (CEST - Copenhagen)

**Learning and Collaboration Technologies**
Chair(s): Ilia Adami, Greece

- **The Use of Augmented Reality for Solving Arithmetic Problems for Preschool Children**
  Siyuan Zhou, Xu Sun, Zhiyu Shi, Yanyi Lu, P.R. China

- **First-person Perspective Physics Learning Platform Based On Virtual Reality**
  Yu Han, Yining Shi, Juanjuan Wang, Yue Liu, Yongtian Wang, P.R. China

- **Preschool Safety Education with Digital Media-based Learning Application— Kinder**
  Cheng-Feng Sun, United States; Yao-Cheng Chan, Shih-Yi Chien, Yi-Ling Lin, Taiwan; I-Han Hsiao, United States

- **The Influence of Picture Book Interaction Design on Preschool Children’s Reading Experience**
  Lijing Wang, P.R. China

- **The Influence of Simulation Tool Usage on Architecture Student Design: Shifting from a Technical Perspective to a Design-Focused Perspective**
  Camilla Maia, Jaewon Park, Sungeun Lee, Bokgiu Choi, Suji Choi, Sangwon Lee, Korea

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**Learning and Collaboration Technologies**
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  Camilla Maia, Jaewon Park, Sungeun Lee, Bokgiu Choi, Suji Choi, Sangwon Lee, Korea

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**Design with Interactivity and Connectivity**
Chair(s): Jun Hu, Netherlands

- **A Usability Study of a Brother Printer and Improvement with Ergonomic Recommendations**
  Linlai Shen, Ziren Zhou, Xinnan Su, Jing Wang, Marcelo M. Soares, P.R. China

- **Research on usability evaluation and redesign of treadmill man-machine interface**
  Du Qin, Wan Tianzian, Zhang Xinru, Dai Roujing, Marcelo M. Soares, P.R. China

- **Usability Assessment of the Camera GR II**
  Zhanyan Luo, Tao Ruoyu, Yiling Zeng, Rui Zhang, Marcelo M. Soares, P.R. China

- **Usability Testing of Bank of China Automatic Teller Machine**
  Yingnan Weng, Shuxin Xia, Shuang Liang, Marcelo M. Soares, P.R. China

- **Voice-based Bodyweight Training Support System using Smartphone**
  Ruiyun Wang, Shin Takahashi, Buntarou Shizuki, Ikkaku Kawaguchi, Japan

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**Design, User Experience, and Usability**
Chair(s): Marcelo M. Soares, P.R. China

- **Voice-based Bodyweight Training Support System using Smartphone**
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- **A Usability Study of a Brother Printer and Improvement with Ergonomic Recommendations**
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**DUXU S111**
**Ergonomics in Design - II**
Chair(s): Marcelo M. Soares, P.R. China

**DAPI S112**
**Design with Interactivity and Connectivity**
Chair(s): Jun Hu, Netherlands

**S113**
**Designing Intelligent Environments - II**
Chair(s): Justina Lydekaityte, Denmark

**S114**
**Learning in Virtual, Augmented and Simulated Environments**
Chair(s): Ilia Adami, Greece

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**Monday, 20 July   11:30 - 13:30 (CEST - Copenhagen)**
### ITAP S115  
**Senior Cloud and Active Aging**  
Chair(s): Masatomo Kobayashi, Kenichiro Ito, Japan  
- **Evaluating Seniors’ Virtual Reality Experience Performed at a Local Community Event in Japan**  
  Kenichiro Ito, Ryogo Ogino, Atsushi Hiyama, Michitaka Hirose, Japan  
- **Combining Motivating Strategies with Design Concepts for Mobile Apps to Increase Usability for the Elderly and Alzheimer Patients**  
  Christian Eichhorn, David A. Plecher, Martin Lurz, Nadja Leipold, Markus Böhm, Helmut Krcomar, Angela Ott, Dorothee Volkert, Germany; Atsushi Hiyama, Japan; Gudrun Klinker, Germany  
- **Mobile Application to Record Daily Life for Seniors Based on Experience Sampling Method (ESM)**  
  Takahiro Miura, Masafumi Arata, Yasushi Sukenari, Rinpei Miura, Akiko Nishino, Yasushi Sukenari, Japan  
- **Approaching Behavior Analysis for Improving a Mobile Communication Robot in a Nursing Home**  
  Misato Nihei, Mio Nakamura, Kohei Ikeda, Kazuki Kawamura, Hiroki Yamashita, Minoru Kamata, Japan  
- **Services for Cognitive Health Co-created with Older Adults**  
  Mihoko Otake-Matsuura, Yoshi Taguchi, Katsutoshi Negishi, Mitsuteru Matsumura, Kiyomi Shimizu, Eiko Nagata, Hideko Nagahisa, Akane Uotani, Akira Suzuki, Mieko Yoshida, Norihisa Miyake, Japan  

### HCI-CPT S116  
**Privacy and Personal Data**  
Chair(s): To be announced  
- **Parents Unwittingly Leak Their Children’s Data: A GDPR Time Bomb?**  
  Suzanne Prior, Natalie Coull, United Kingdom  
- **To Allow, or Deny? That is the Question**  
  Panagiotis Andriotis, United Kingdom; Atsushi Takasu, Japan  
- **Modelling and Presentation of Privacy-Relevant Information for Internet Users**  
  Denis Feth, Germany  
- **A Study on User Preference: Influencing App Selection Decision with Privacy Indicator**  
  Sven Bock, Germany; Nurul Momen, Sweden  
- **Perspectives on Information Technology Artefacts in Trust-related Interactions**  
  Holger Koelmann, Germany  

### HCI-Games S117  
**Modelling Learning and Optimal Performance in Games for Human and AI Players**  
Chair(s): Benjamin Ultan Cowley, Finland  
- **Utilization of Neurophysiological Data to Classify Player Immersion to Distract from Pain**  
  Kellyann Stamp, United Kingdom; Chelsea Dobbins, Australia; Stephen Fairclough, United Kingdom  
- **Behavlet Analytics for Player Profiling and Churn Prediction**  
  Darryl Charles, United Kingdom; Benjamin Ultan Cowley, Finland  
- **Generalised Player Modelling: why Artificial Intelligence in Games should Incorporate Meaning, with a Formalism for So Doing**  
  Benjamin Ultan Cowley, Finland  
- **Adaptive Puzzle Generation for Computational Thinking**  
  Marco Scirea, Italy  

### MobiTAS S118  
**Proposals on Smart Mobility - II**  
Chair(s): Arjan Kuijper, Germany  
- **Range InSight - Visualizing Range-Related Information in Battery Electric Buses**  
  Jacob Stahl, Markus Gödker, Thomas Franke, Germany  
- **NannyCaps - Monitoring Child Conditions and Activity in Automotive Applications Using Capacitive Proximity Sensing**  
  Sebastian Frank, Arjan Kuijper, Germany  
- **A Passenger Context Model for Adaptive Passenger Information in Public Transport**  
  Christine Keller, Waldemar Titov, Thomas Schlegel, Germany  
- **A Multi-Device Evaluation Approach of Passenger Information Systems in Smart Public Transport**  
  Waldemar Titov, Hoa Tran, Christine Keller, Thomas Schlegel, Germany  
- **Privacy by Design: Analysis of Capacitive Proximity Sensing as System of Choice for Driver Vehicle Interfaces**  
  Sebastian Frank, Arjan Kuijper, Germany
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<td><strong>Artificial Intelligence in HCI</strong>&lt;br&gt;<strong>AI for Core Tasks in Application Domains - III</strong>&lt;br&gt;Chair(s): Margaux Fourie, South Africa</td>
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<td>Research on Cross-Cultural Participatory Design by Design Teams Based on Chinese Cultural Background&lt;br&gt;Rui Xi, Xin-Li Wei, De-Chuan Wang, Xian-Gang Qin, P.R. China; Torkil Clemmensen, Denmark; Wen-Jun Hou, P.R. China</td>
<td>Support Vector Machine Algorithm to Classify Instagram Users’ Accounts Based on Users’ Interests&lt;br&gt;Al-Batool Al-Ghamdi, Ameenah Al-Sulami, Nouf Al-Jadani, Maha Aljohani, Saudi Arabia</td>
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<td><strong>TrackKenzan: Digital Flower Arrangement using Trackpad and Stylus Pen</strong>&lt;br&gt;Anna Yokokubo, Yuyi Kato, Itiro Siio, Japan</td>
<td><strong>A Feature Importance Study in Ballet Pose Recognition with OpenPose</strong>&lt;br&gt;Margaux Fourie, Dustin Van der Haar, South Africa</td>
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<td><strong>Study on the Development of Ruichang Bamboo Weaving Patterns based on Computer Graphics and Machine Learning</strong>&lt;br&gt;Miao Liu, Chenyue Wang, Jiale Zhou, P.R. China</td>
<td><strong>Socio-Technical Design of Hybrid Intelligence Systems – the Case of Predictive Maintenance</strong>&lt;br&gt;Thomas Herrmann, Germany</td>
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<td><strong>Research on the Regenerated Design of Blue Calico based on Computer Image Processing</strong>&lt;br&gt;Yuanyuan Wang, Rongrong Fu, P.R. China</td>
<td><strong>Using Artificial Intelligence to Predict Academic Performance</strong>&lt;br&gt;Arséno Reis, Tânia Rocha, Paulo Martins, João Barroso, Portugal</td>
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<td><strong>A Study on Symbolic Aesthetics of China’s Splashed Ink Freehand Landscape Painting</strong>&lt;br&gt;Liming Liu, P.R. China</td>
<td><strong>Design Intelligence - Pitfalls and Challenges when Designing AI Algorithms in B2B Factory Automation</strong>&lt;br&gt;Jennifer Heier, Jan Willmann, Karsten Wendland, Germany</td>
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**MONDAY 11:30 - 13:30**
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<td>Social Organization and Democracy</td>
<td>Masaaki Kurosu, Japan</td>
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<td>S122</td>
<td>HCI for Health and Well-being</td>
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<td>S123</td>
<td>Interacting with Conversational Agents</td>
<td>Margherita Antonia, Greece</td>
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<td>S124</td>
<td>Research on AI Art and Practice - III</td>
<td>Yi Ji, P.R. China</td>
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**Human-Computer Interaction**

- **Ideal Election Method by Adopting the Interval Scale instead of the Ordinal scale**
  - Masaaki Kurosu, Ayako Hashizume, Japan
- **Using blink rate to detect deception: a study to validate an automatic blink detector and a new dataset of videos from liars and truth-tellers**
  - Merylin Monaro, Pasquale Capuozzo, Federica Ragucci, Antonio Maffei, Antonietta Curci, Cristina Scarpazza, Alessandro Angrilli, Giuseppe Sartori, Italy
- **Gaps in Neuroethics in Relation to Brain Computer Interfaces: Systematic Literature Review**
  - Negar Hosseini, Australia; Praveen Kumar, India
- **The Impact of Increasing and Decreasing the Professionalism of News Webpage Aesthetics on the Perception of Bias in News Articles**
  - Brendan Spillane, Séamus Lawless, Vincent Wade, Ireland
- **How to Present Calorie Information on The Electronic Menu to Help People Order More Healthily**
  - Shiyuan Zhang, Liang Zhou, Ying Zhao, P.R. China
- **A New Analysis Method for User Reviews of Mobile Fitness Apps**
  - Pehan Wen, Mo Chen, P.R. China
  - Chih-Chang Lin, Hao-Yu Liao, Fang-Wu Tung, Taiwan
- **A Bibliometric Analysis and Social Network Analysis on Ergonomics Studies of Emergency Equipment**
  - Hao Tan, Yuyue Hao, Aobo Sun, Xuyuan Guo, Dongdong Guo, P.R. China
- **Comparing the User Preferences towards Emotional Voice Interaction Applied on Different Devices: An Empirical Study**
  - Qinglin Liao, Shanhan Zhang, Mei Wang, Jia Li, Xinrong Wang, Xuemei Deng, P.R. China
- **Expectation and Reaction as Intention for Conversation System**
  - Qiang Zhang, Japan
- **A Sociable Robotic Platform to make Career Advice for Undergraduates**
  - W. K. Malithi Mithsara, Sri Lanka; Udaka A. Manawadu, Japan; P. Ravindra S. De Silva, Sri Lanka
- **MUCOR: A Multiparty Conversation Based Robotic Interface to Evaluate Job Applicants**
  - H. A. S. Senaratna, Sri Lanka; Udaka A. Manawadu, Japan; W. K. N. Hansika, S. W. A. M. D. Samarasinghe, P. Ravindra S. De Silva, Sri Lanka
- **How to Design the Expression Ways of Conversational Agents Based on Affective Experience**
  - Chenyang Zhang, Ronggang Zhou, Yaping Zhang, Yanyan Sun, Liming Zou, Min Zhao, P.R. China

**Research on Service Design of Real-time Translation based on Scenario Analysis**
- Yingying Miao, Shaolun Zhang, Bin Jiang, P.R. China

**Research on Design of Intelligent Creeping Blanket for Infants Based on Sustainable Design**
- Han Gao, P.R. China

**Research on Interactive Usability Evaluation of Mobile Map Navigation Based on User Behavior Pattern**
- Licheng Deng, Zhicheng Ren, P.R. China

**Research of Interactive Gesture Usability of Navigation Application Based on Intuitive Interaction**
- Zhicheng Ren, Bin Jiang, Licheng Deng, P.R. China
### Tuesday, 21 July 10:00 - 12:00 (CEST - Copenhagen)

**HIMI S125**

**Relationality Design and Relationality-oriented Systems**
Chair(s): Katsunori Shimohara, Japan

- Drowsy Bather Detection Using a Triaxial Accelerometer
  - Hisashi Kojima, Chika Oshima, Koichi Nakayama, Japan
- Optimizing Combinations of Teaching Image Data for Detecting Objects in Images
  - Keisuke Nakamura, Ryodai Hamasaki, Chika Oshima, Koichi Nakayama, Japan
- Does Visualization of Health Data Using an Accelerometer be Associated with Promoting Exercise among Elderly People?
  - Yurika Shiozu, Shoki Muramatsu, Ryo Shioya, Katsuhiko Yonezaki, Mizuki Tanaka, Katsunori Shimohara, Japan
- System Design of Community Toward Wellbeing
  - Katsunori Shimohara, Japan
- Home Care System for Supporting Caregivers and Elderly Care Receivers
  - Madoka Takahara, Kahi Goshio, Fanwei Huang, Ivan Tanev, Katsunori Shimohara, Japan
- How to Emote for Consensus Building in Virtual Communication
  - Yoshinori Maekawa, Fumito Uwano, Elki Kitajima, Keiki Takadama, Japan
- A Model of Decision Makings with Predictions
  - Tetsuya Maeshiro, Yuri Ozawa, Japan; Midori Maeshiro, Brazil

**HIMI S126**

**Embodied Interaction and Communication**
Chair(s): Tomio Watanabe, Saizo Aoyagi, Japan

- Speech Recognition Approach for Motion-Enhanced Display in ARM-COMS System
  - Teruaki Ito, Takashi Oyama, Tomio Watanabe, Japan
- A Long-term Evaluation of Social Robot Impression
  - Saizo Aoyagi, Satoshi Fukumori, Michiya Yamamoto, Japan
- Development of an Interface that Expresses Twinkling Eyes by Superimposing Human Shadows on Pupils
  - Yoshihiro Sejima, Makiko Nishida, Tomio Watanabe, Japan
- Basic study on incidence of micro-error in visual attention-controlled environment
  - Taisei Ando, Takehiko Yamaguchi, Japan; Tania Giovannetti, United States; Maiko Sakamoto, Japan
- A Proposal of Estimating Method for Agreement in Face-to-Face Communication
  - Masashi Okubo, Yuki Fujimoto, Japan
- Experimental Study on Improvement of Sign Language Motion Classification Performance using Pre-trained Network Models
  - Kaito Kawaguchi, Zhizhong Wang, Tomoki Kuniwa, Japan; Paporn Daraseneeyakul, Phaphimon Veeraksatik, Thailand; Eiji Ohta, Hiromitsu Nishimura, Hiroshi Tanaka, Japan

**HIMI S127**

**Service-oriented Interaction**
Chair(s): Hirohiko Mori, Japan

- CHESTNUT: Improve Serendipity in Movie Recommendation by an Information Theory-based Collaborative Filtering Approach
  - Xiangjun Peng, Hongzhi Zhang, Xiaosong Zhou, Shoulei Wang, Xu Sun, Qingfeng Wang, P.R. China
- Feedback Control of Middle Finger MP Joint Using Functional Electrical Stimulation Based on the Electrical Stimulus Intensity-Joint Torque Relation Model
  - Kyoosuke Watanabe, Makoto Oka, Hirohiko Mori, Japan
- Interaction by Taking a Picture for Smartphone Generation
  - Keita Kaida, Hirohiko Mori, Makoto Oka, Japan
- Proposal for the Tablet-Based Disaster Response Evacuation Drill for Elementary School Children
  - Makoto Oka, Chiharu Terui, Sakae Yamamoto, Hirohiko Mori, Japan
- Appeal of Inconspicuous Body Movements during Spatial Invasion: Frequency Analysis of Movements
  - Yosuke Kine, Yuna Akimori, Japan

**HIMI S128**

**Design information Usage - I**
Chair(s): Yen-Yu Kang, Taiwan

- Proposal and Evaluation of Contribution Value Model for Creation Support System
  - Yoshiharu Kato, Tomonori Hashiyama, Shunichi Tano, Japan
- Design Education Regarding Products for Use by Elderly People
  - Takamitsu Tanaka, Japan; Kun Xue, Yunan Wang, Yongjian Huang, P.R. China; Yen-Yu Kang, Taiwan
- Research on Design of Tai-chong and Yong-quan Acupoints Physiotherapy Apparatus Based on Traditional Chinese Medicine Theory
  - Huabin Wang, Baoping Xu, P.R. China; Yu-Chi Lee, Taiwan
- Dynamic Generative Design System
  - Yinghsiu Huang, Huan-Nian Chen, Taiwan
- Early Findings from a Large-scale User Study of CHESTNUT: Validations and Implications
  - Xiangjun Peng, Zhentao Huang, P.R. China; Chen Yang, United States; Zilin Song, Xu Sun, P.R. China
**EPCE S129**

Human Factors and Ergonomics in Safety-critical Systems - I

Chair(s): Zhizhong Li, Qin Gao, P.R. China

- Cognitive-Based Severe Accident Information System Development in a Human Factors Project
  Zheng Zhi, Qiuju Wang, Haitao Lian, Yufan Wang, Fei Song, Shuhui Zhang, P.R. China

- Assessment of Mental Workload Using Physiological Measures with Random Forests in Maritime Teamwork
  Yu Zhang, Yi-Jing Zhang, Yue Cui, Zhizhong Li, Yuan Liu, P.R. China

- Using IDHEAS to Analyze Incident Reports in Nuclear Power Plant Commissioning: A Case Study
  Zijian Yin, Zhaopeng Liu, Dongfang Yang, Zhizhong Li, P.R. China

- Integration of Human Factors Principles and Methodologies in the Operating Procedure Development of Nuclear Power Plant
  Fei Song, Qiuju Wang, Shuhui Zhang, Guoqiang Wang, Zheng Zhi, P.R. China

- Information Visualization Design of Nuclear Power Control System based on Attention Capture Mechanism
  Xiaoli Wu, Panpan Xu, P.R. China

- Research on Eye Ellipse of Chinese Drivers
  Ding Li, Ding Yi, Shi Huijuan, P.R. China

**UAHCI S130**

Enabling Universal Access in Real-world Contexts

Chair(s): Simeon Keates, United Kingdom

- Applications of Speaker Identification for Universal Access
  Saritha Kinkiri, Simeon Keates, United Kingdom

- Brain-Computer Interfaces for Communication in Severe Acquired Brain Damage: Challenges and Strategies in Clinical Research and Development
  Kirsten Brukamp, Germany

- ArSign: Toward a Mobile Based Arabic Sign Language Translator Using LMC
  Slim Kammoun, Dawlat Darwish, Hanan Althubeany, Reem Aifull, Saudi Arabia

- Service Design for Accessible Tourism
  Hans-Peter Hutter, Alireza Davishy, Stephan Roth, Susanne Gläumann, Heidi Kaspar, Switzerland; Tatjana Thimm, Maksym Gaiduk, Sandra Evans, Germany; Martin Rosenberg, Switzerland

- Assistive Technology for the Visually Impaired: Optimizing Frame Rate (Freshness) to Improve the Performance of Real-time Objects Detection Application
  Basel Barakat, Aiste Steponenaite, Gurprit S. Lall, United Kingdom; Kamran Arshad, United Arab Emirates; Ian Wassell, Simeon Keates, United Kingdom

**VAMR S131**

New Virtualities - III

Chair(s): Nitesh Bhatia, United Kingdom

- WikiNectVR: A Gesture-based Approach for Interacting in Virtual Reality Based on WikiNect and Gestural Writing
  Vincent Kühn, Giuseppe Abrami, Alexander Mehler, Germany

- Virtual Scenarios for Pedestrian Research: A Matter of Complexity?
  Sonja Schneider, Guojin Li, Germany

- The Virtual Dressing Room: A Return Rate Study
  Michael Boelstoft Holte, Denmark

- Fake People, Real Effects - The Presence of Virtual Onlookers can Impair Performance and Learning
  Wouter Dunnez, Klaas Bombeke, Jamil Joundi, Aleksandra Zheleva, Emiel Cracco, Fran Copman, Marcel Brass, Jelle Saldien, Lieven De Marez, Belgium

- A GPU Accelerated Lennard-Jones System for Immersive Molecular Dynamics Simulations in Virtual Reality
  Nitesh Bhatia, Erich A. Müller, Omar K. Matar, United Kingdom

**CCD S132**

Cultural Differences in Product Management - I

Chair(s): Zhe Chen, P.R. China

- Technology Intelligence Practice for NTBFs in Developing Countries
  Thi Ha Htun, Myanmar; Weiguo Fang, Yun Zheng, P.R. China

- Developing Persona for the Chinese Learning Application for Foreigners in China on Mobile Devices
  Zhe Chen, Déborah Dauly, Sara Amaral, Rita Martinho, Sandra Ruppel, Juho Toro, Yashuai Li, Jichang Zhao, P.R. China

- A comparison study of trust in m-commerce between Qatari and non-Qatari customers
  Eiman AlKhalaf, Pilsung Choe, Qatar

- Application of Design Thinking to Optimize Change Management Procedures with a Case Study on Reference Book Stores
  Yu Lun Huang, Ding-Hau Huang, Taiwan

- Understanding Learning of Chinese Characters for International Students in China
  Zhe Chen, Cynthia Kunda, Dennis Oweke, Bayo Komolafe, Buyan-Erdene Badamsereejid, Zhe Chen, Déborah Dauly, Sara Amaral, Rita Martinho, Sandra Ruppel, Juho Toro, Yashuai Li, Jichang Zhao, P.R. China

- The Trend Analysis Method of Urban Taxi Order based on Driving Track Data
  Linchao Yang, Guozhu Jia, Fangjie Wei, Wenbin Chang, Shenghan Zhou, P.R. China
Chair(s): Zhiyong Fu, P.R. China |
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| S134 | Design for Cross-Culture  
Research Tools  
Trends on Design Tools under Futurology  
Creative Initiative: Design Thinking Drives  
Envisioning the future scenario through design fiction generating toolskits  
Research on Intelligent Design Tools to Stimulate Creative Thinking  
We’ll App and Corporate Mandala Improves Mental Health and Creativity  
Flow and Interflow: The Design Principles of Cooperative Mandala Coloring (CMC)  
The Reliability and Validity of Multidimensional Scale Perceived Social Support of Chinese Version for MBI-PDD  
Chair(s): Po-Hsien Lin, Rungtai Lin, Taiwan |
| S135 | Social Computing and Social Media  
Information/Communication Design for Social Issues - I  
Chair(s): Hidenori Fujino, Japan |
| S136 | Novel Approaches in AC  
Chair(s): Ana Rita Teixeira, Portugal |

**Designing the Future: Innovative Theories, Tools, and Practices - I**

Chair(s): Zhiyong Fu, P.R. China

**Design for Cross-Culture - III**

Chair(s): Po-Hsien Lin, Rungtai Lin, Taiwan

**Information/Communication Design for Social Issues - I**

Chair(s): Hidenori Fujino, Japan

**Novel Approaches in AC**

Chair(s): Ana Rita Teixeira, Portugal

**Overview of Technical Sessions**

- **Trends on Design Tools under Futurology**
  - Quantum Computing and Social Media
  - Social Computing and Social Media
  - Social Media

- **Creative Initiative: Design Thinking Drives**
  - Design Thinking Drives K12 Education from a Design Thinking Drives Perspective
  - Future Thinking

- **Envisioning the future scenario through design fiction generating toolskits**
  - Design Fiction Generating Toolkit

- **Research on Intelligent Design Tools to Stimulate Creative Thinking**
  - Intelligent Design Tools

- **We’ll App and Corporate Mandala Improves Mental Health and Creativity**
  - App and Corporate Mandala

- **Flow and Interflow: The Design Principles of Cooperative Mandala Coloring (CMC)**
  - Cooperative Mandala

- **The Reliability and Validity of Multidimensional Scale Perceived Social Support of Chinese Version for MBI-PDD**
  - Multidimensional Scale Perceived Social Support
**Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management**

**User Behavior and Awareness of Filter Bubbles in Social Media**
Nils Plettenberg, Johannes Nakayama, Poornima Belavadi, Patrick Halbach, Laura Burbach, André Calero Valdez, Martina Ziefle, Germany

**Performance Evaluation of Text-Oriented Artificial Chat Operation System (TACOS)**
Seiki Tokunaga, Kazuhiro Tamura, Mihoko Otake-Matsuura, Japan

**Extracting and Evaluating Personal Interests with Dialogue Agent**
Yuki Tokuda, Shota Nakatani, Sachio Saiki, Masahide Nakamura, Kiyoshi Yasuda, Japan

**Investigating Key Factors for Social Network Evolution and Opinion Dynamics in an Agent-Based Simulation**
Patrick Halbach, Laura Burbach, Poornima Belavadi, Johannes Nakayama, Nils Plettenberg, Martina Ziefle, André Calero Valdez, Germany

**Netlogo vs. Julia: Evaluating Different Options for the Simulation of Opinion Dynamics**
Laura Burbach, Poornima Belavadi, Patrick Halbach, Lilian Kojan, Nils Plettenberg, Johannes Nakayama, Martina Ziefle, André Calero Valdez, Germany

**Identification of Target Speech Utterances from Real Public Conversation**
Naoto Kosaka, Yumi Wakita, Japan

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**HCI International 2020**

**Facilitating Individual Creativity, Understanding Team Design Process, and Developing Advanced Tools and Methods - I**
Chair(s): Wei Liu, P.R. China

**Research on the Influence of Emotional Valence and Road Environment Monotony on Driving Behavior**
Siyao Lu, Xin Xin, P.R. China; Nan Liu, Hong Kong; YiJi Wang, Yanrui Qu, P.R. China

**Automotive HMI Guidelines for China Based on Culture Dimensions Interpretation**
Zaiyan Gong, Jun Ma, Qianwen Zhang, Yining Ding, Lu Liu, P.R. China

**User Research on Digital Consumption Behavior and Design Guidelines in Connecting Vehicle Context**
Di Zhu, Wei Liu, Yanru Qu, P.R. China

**How motion graphics affect emotional quality: In the context of an in-vehicle information system**
Meen Jong Kim, Gui Young Kim, Jae Moon Sim, Yong Gu Ji, Korea

**Interaction Design of Smart Fitness Reminder in Car Based on Internet of Vehicle**
Yan-cong Zhu, Wei Liu, Yu-Zu Shen, P.R. China

**User Experience and Usability Driven Design: Emerging Theory and Practice - I**
Chair(s): Zhen Liu, P.R. China

**Exploring Experience Activity Potential for Art Therapy to High School Students in International School, Guangzhou, China**
Zhen Liu, Meihuan Liu, P.R. China

**Pedagogical Discussion on the Application of Role Immersion in Interior Design Teaching**
Chen Wang, Wenjing Yin, Yue Chen, P.R. China

**A Study on the Space Usability Driven Design of the Ancestral Temple of Xihu Village from the Perspective of Spatial Syntax**
Xinghai Luo, Mingjie Liang, P.R. China

**Real-Time Interactive Online 3D Graphical User Interface (GUI) Technical Implementation and Usability Test for Architectural Technical Teaching**
Zhen Liu, Yifang Wang, P.R. China

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**Design Practice in Online Courses: Application of Service Design to MOOC**
ZiYang Li, Xiangnuo Li, Limin Wang, XianDong Cheng, Hao He, Bin Liang, P.R. China

**Rich Media 2.0: A Methodology to Enhance Media Information Construction for Creating a Better User Experience**
Jie Hao, Chengxing Pan, Enxin Zhang, P.R. China

**Teaching Discussion on Information Visualization Design**
XiaiDong Cheng, Hao He, Yan Ren, Shengqi Ba, P.R. China

**Service Design in the Preservation of Intangible Cultural Heritage: A Case Study in the Legend of the Kitchen God**
DanDan Yu, Limin Wang, Xiaowei Feng, Shuhao Wang, Bin Liang, P.R. China

**Changes in Design Education Promoted by Collaborative Organization: Distribution and Fragmentation**
Wenjing Li, DanDan Yu, Yinan Zhang, FuMei Zhang, Limin Wang, P.R. China

**Service Design and Upgrade of Domestic-Ceramic Consumption Idea -- Service Design for Customized Domestic-Ceramic**
Liu Hong, Limin Wang, Wang Song, P.R. China
### Tuesday, 21 July 10:00 - 12:00 (CEST - Copenhagen)

#### DUXU S141
- **Designing and Evaluating User Experience in Contemporary Interactive Systems - II**
  - Chair(s): Takashi Ohta, Japan

#### DAPI S142
- **Factors Influencing the Acceptance and Usage of Smart City Services: A Systematic Review and Meta-analysis**
  - Bingqian Zhang, Guochao (Alex) Peng, P.R. China; Qiong Wu, P.R. China
- **Driving Innovation with the Application of Industrial AI in the R&D Domain**
  - Fei Xing, Guochao (Alex) Peng, Bingqian Zhang, Simin Zuo, Jiangfeng Tang, P.R. China; Shuyang Li, United Kingdom

#### HCIBGO S143
- **Ubiquitous Display: Research on interaction Design Based on Flexible Display**
  - Xinwei Guo, P.R. China
- **Investigating Users Attitudes and Perceptions towards the Usage of Smart City Apps**
  - Strong Lin, Xinting Liang, Bingqian Zhang, Fei Xing, Guochao (Alex) Peng, P.R. China

#### HCI-CPT S144
- **Non-Invasive Sleep Assistance System Design based on IoT**
  - Dong Wang, Shijiao Qin, Zhenyu Gu, P.R. China

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### Tuesday, 21 July 10:00 - 12:00 (CEST - Copenhagen)

#### DUXU S141
- **SyncMeet: Virtual Work Environment for Collaborative Manga Creation**
  - Maria Consuelo Tenorio Morales, Keiko Yamamoto, Yoshihiro Tsujino, Japan
- **Dive2Views: A Mobile Camera Application that Dives into Another Device’s Camera View**
  - Takashi Ohta, Kansei Fujikawa, Japan

#### DAPI S142
- **Design for the Decentralized World: Democratization of Blockchain-Based Software Design**
  - Vladislav Gladyshev, Qiong Wu, P.R. China

#### HCIBGO S143
- **Spectator Experience Design for AR Sport Events from a Service Design Perspective – Using HADO as an Example**
  - Pei-Ling Shih, Hsien-Hui Tang, Shu-Yi Chen, Taiwan

#### HCI-CPT S144
- **Private Cloud Storage: Client-side Encryption and Usable Secure Utility Functions**
  - Akihiro Tachikawa, Akira Kanaoka, Japan
- **Time-lapse Detection for Evolution of Trustworthy Network User Operation Behavior using Bayesian Network**
  - Yuhan Wang, Qian Yi, Shuping Yi, Jiajia Li, Shiquan Xiong, P.R. China

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### Wednesday, 22 July 10:00 - 12:00 (CEST - Copenhagen)

#### DUXU S141
- **A Method for Increasing User Engagement with Voice Assistant System**
  - Daechee Park, Heesung Park, Scott Song, Korea

#### DAPI S142
- **Model-Based Systems Engineering for Sharing Economy Service Systems Design Using Structure-Behavior Coalescence Process Algebra**
  - Yu-Chen Yang, William S. Chao, Taiwan

#### HCIBGO S143
- **Forecasting the Subway Volume using Local Linear Kernel Regression**
  - Yu-Chen Yang, Taiwan; Chao Ding, Yong Jin, Hong Kong

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### Wednesday, 22 July 10:00 - 12:00 (CEST - Copenhagen)

#### DUXU S141
- **Evaluation of Secure Pad Resilient to Shoulder Hacking**
  - Kokoro Kobayashi, Tsuyoshi Oguni, Masaki Nakagawa, Japan

#### DAPI S142
- **Features of Smart City Services in the Local Government Context: A Case Study of San Francisco 311 System**
  - Wei-Ning Wu, Taiwan

#### HCIBGO S143
- **Massive Semantic Video Annotation in High-end Customer Service - Example in Airline Service Value Assessment**
  - Ken Fukuda, Japan; Julio Vizcarra, Mexico; Satoshi Nishimura, Japan

#### HCI-CPT S144
- **How to Attract More Viewers in Live Streams? A Functional Evaluation of Streamers’ Strategies for Attraction of Viewers**
  - Xiaoyun Jia, Ruili Wang, James H. Liu, New Zealand; Tian Xie, P.R. China

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### Wednesday, 22 July 10:00 - 12:00 (CEST - Copenhagen)

#### DUXU S141
- **Forecasting the Subway Volume using Local Linear Kernel Regression**
  - Yu-Chen Yang, Taiwan; Chao Ding, Yong Jin, Hong Kong

#### DAPI S142
- **Time-lapse Detection for Evolution of Trustworthy Network User Operation Behavior using Bayesian Network**
  - Yuhang Wang, Qian Yi, Shuping Yi, Jiajia Li, Shiquan Xiong, P.R. China

#### HCIBGO S143
- **An Improved Method of Time-Frequency Joint Analysis of Mouse Behavior for Website User Trustworthiness Authentication**
  - Wei Li, Shuping Yi, Qian Yi, Jiajia Li, P.R. China; Shiquan Xiong, Pakistan

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#### DUXU S141
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- **How to Attract More Viewers in Live Streams? A Functional Evaluation of Streamers’ Strategies for Attraction of Viewers**
  - Xiaoyun Jia, Ruili Wang, James H. Liu, New Zealand; Tian Xie, P.R. China
Whose Risk is it Anyway: How Do Risk Perception and Organisational Commitment Affect Employee Information Security Awareness?
Andrew Reeves, Kathryn Parsons, Dragana Calic, Australia

Sleeping with the Enemy: Does Depletion Cause Fatigue with Cybersecurity?
Andrew Reeves, Dragana Calic, Australia; Paul Delfabbro, Austria

The Impact of Gamification Factor in the Acceptance of Cybersecurity Awareness Augmented Reality Game (CybAR)
Hamed Alqahtani, Saudi Arabia; Manolya Kavakli-Thorne, Majed Alrowaily, Australia

Does Decision-Making Style Predict Individuals’ Cybersecurity Avoidance Behaviour?
Hamed Alqahtani, Saudi Arabia; Manolya Kavakli-Thorne, Australia

Effect of Privacy Prime and Fear Stimulus on Disclosure Behavior
Kovila P.L. Coopamootoo, Jacob Carey, United Kingdom

Weaving Social Networks from Smart Card Data: An On-Journey-Accompanying Approach
Wei Geng, Dingzhe Zhang, P.R. China

User Preference for Vehicle Warning Sounds to Develop AUI Guideline focusing on Differences between Sex and among Age Groups
Jun Young An, Young Jin Kim, Hoon Sik Yoo, Korea

Human Factor Considerations on Timing of Driver Taking Over in Automated Driving Systems: A Literature Review
Hua Qin, Ran Zhang, Tingru Zhang, P.R. China

Complexity in In-vehicle Touchscreen Interaction: A Literature Review and Conceptual Framework
Young Woo Kim, Da Yeong Kim, Yong Gu Ji, Korea

The Effect of Multiple Visual Variables on Size Perception in Geographic Information Visualization
Yun Lin, Chengqi Xue, Yanfei Zhu, Mu Tong, P.R. China

The Situation Awareness and Usability Research of Different HUD HMI Design in Driving while Using Adaptive Cruise Control
Jiajinmin Wang, Wenjuan Wang, P.R. China; Preben Hansen, Sweden; Yang Li, Fang You, P.R. China

Influence of Position and Interface for Central Control Screen on Driving Performance of Electric Vehicle
Ran Zhang, Hua Qin, JiTao Li, HaoBo Chen, P.R. China

Development of a Driving Model that Understands Other Drivers’ Characteristics
Shota Matsubayashi, Hitoshi Terai, Kauhisa Miwa, Japan

Optimization of the Method of Maintaining Arousal Level by Inducing Intrinsic Motivation: Using Presentation of Information in Autonomous Driving
Yuki Mekata, Shuhei Takeuchi, Tsuneuyuki Yamamoto, Naoki Kamiya, Takashi Suzuki, Miwa Nakanishi, Japan

Influencing Driver’s Behavior on an Expressway with Intrinsic Motivation
Toshiki Takeuchi, Ryosuke Mita, Naoya Okada, Tomohiro Tanikawa, Takuji Narumi, Michitaka Hirose, Japan

Voice User-Interface (VUI) in Automobiles: Exploring Design Opportunities for using VUI through the Observational Study
Fangang Meng, Peiyao Cheng, Yiran Wang, P.R. China

Research on Innovative Vehicle Human–Machine Interaction System and Interface Level Design
Jia-xin Liu, Xue Zhao, Ying Cao, P.R. China

Good Life Ecosystems – Ethics and Responsibility in the Silver Market
Jaana Leikas, Taina Kalliokoski, Finland

How AI Systems Challenge the Conditions of Moral Agency?
Jaana Hallamaa, Taina Kalliokoski, Finland

How to Utilize the HuValue Tool for Daily Life Product Design
Shadi Kheirandish, Matthias Rauterberg, Netherlands

Cognitive Mimetics for AI Ethics: Tacit Knowledge, Action Ontologies and Problem Restructuring
Antero Karvonen, Finland

Hume’s Guillotine Resolved
Pertti Saariluoma, Finland
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<td>HCI in Cultural and Creative Industries - I</td>
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<td>Influences on Livestreaming Usage in China: Contents, Motivations, and Engagements</td>
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<td>Research on the Design and Method of Innovation System of Cultural and Creative Industries Based on Social Development</td>
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<td>Research on Consumers’ Decision-making Factors of Cultural and Creative Products of the Palace Museum under the Background of New Media</td>
<td>Ziwei Chen, Jiaqian Xu, Bing Xiao, P.R. China</td>
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Usability and Quality
Chair(s): Shin’ichi Fukuzumi, Japan

Product Design Model for E-Commerce
Cantonese Porcelain based on User Perceptual Image in China
Shengyang Zhong, Peng Tan, Tieming Fu, Yi Ji, P.R. China

Observations and Categorisations of Art Practices associated with AI
Timothy Gruchy, P.R. China

Development of an Assessment Model for the Human Centered Design Processes specified in ISO 9241-220
Rüdiger Heimgärtner, Germany

Usability of Software-Intensive Systems from Developers’ Point of View – Current Status and Future Perspectives of International Standardization of Usability Evaluation
Toshihiro Komiyama, Motoei Azuma, Hironori Washizaki, Naohiko Tsuda, Japan

Proposal of Quality in Use in Software quality Shin’ichi Fukuzumi, Nowky Hirasawa, Noriko Wada, Toshihiro Komiyama, Motoei Azuma, Japan

Conception and Development of a Support System for Assembly Technology
Bernhard Rupprecht, Emanuel Tunzer, Jozsef Kovac, Birgit Vogel-Heuser, Germany

Human Factors Engineering Development Process in Civil Aircraft Flight Deck Design and Integration
Fei Li, Xianchao Ma, Yuan Wang, Yao Zhu, Jing Zhang, Pu Hong, P.R. China

Research on Information Interface Interaction Design Based on Unconscious Cognition
Wenwen Yang, P.R. China

HIMI

Galvanic Taste Stimulation Method for Virtual Reality and Augmented Reality
Kazuma Aoyama, Japan

Developing an AR Remote Collaboration System with Semantic Virtual Labels and a 3D pointer
Tzu-Yang Wang, Yuji Sato, Mai Otsuki, Hideaki Kuzuoka, Yusuke Suzuki, Japan

Information Visualization-Based Study on Interactive Design of Elderly Health Management Application
Yuzhao Liu, P.R. China

Transmission of Rubbing Sensation with Wearable Stick-Slip Display and Force Sensor
Honoka Haramo, Vibol Yem, Yasushi Ikei, Japan

Virtual Reality Applications using Pseudo-Attraction Force by Asymmetric Oscillation
Tomohiro Amemiya, Japan

Gender Difference in Preference for Apple Watch Dial Interface
Jian Wang, P.R. China; Yen Hsu, Taiwan

A Research and Development of User Centered Zongzi Leaves Cleaning Machine Design
Yann-Long Lee, Feng-Che Tsai, Tai-Shen Huang, Chuan-Po Wang, Wei-Lun Lo, Taiwan

A Study of Size Effects of Overview Interfaces on User Performance in Virtual Environments
Meng-Xi Chen, P.R. China; Chien-Hsiung Chen, Taiwan

Analysis of Human Factor in Air Traffic Control Unsafe Events Based on Improved DECIDE Model
Jun-Jie Liu, Rui-rui Zhang, Yin-lan Du, Qian-yu Bao, P.R. China

Tuesday, 21 July 12:30 - 14:30
Analysis of Mental Model of Users with Network Malfunction  
Haruka Yoshida, Kenta Tsukatsune, Sumaru Nida, Japan

Augmented Reality Shopping System through Image Search and Virtual Shop Generation  
Zhinan Li, Ruichen Ma, Kohei Obuchi, Boyang Liu, Kelvin Cheng, Soh Masuko, Jiro Tanaka, Japan

Augmented Reality Fashion Show using Personalized 3D Human Models  
Shihui Xu, Japan; Jingyi Yuan, P.R. China; Xitong Sun, Yuhuan Liu, Yuzhao Liu, Kelvin Cheng, Soh Masuko, Jiro Tanaka, Japan

Data Paradigm Shift in Cross-Media IoT System  
Shih-Ta Liu, Su-Chu Hsu, Yu-Hsiung Huang, Taiwan

The adoption of mobile technologies in healthcare: the perceptions of healthcare professionals regarding knowledge management practices in developing countries  
Avijit Chowdhury, Abdul Hafeez-Baiq, Raj Gururajan, Australia; Mirza Akmal Sharif, Pakistan

Waiting Time Analysis at University Hospitals based on Visitor Psychology  
Shigeyoshi Iizuka, Shozo Nishii, Eriko Tanimoto, Hiro Nakazawa, Asuka Kodaka, Takanori Takebe, Japan

EPCE S157  
Cognition and Design - I  
Chair(s): Qianxiang Zhou, P.R. China

Rationality, Cognitive Bias, and Artificial Intelligence: A Structural Perspective on Quantum Cognitive Science  
Yoshihiro Maruyama, Japan

The Effect of Time Pressure and Task Difficulty on Human Search  
Qianxiang Zhou, Chao Yin, Zhongqi Liu, P.R. China

Research on Interface Complexity and Operator Fatigue in Visual Search Task  
Keran Wang, Wen-jun Hou, P.R. China

A Study on Search Performance and Threshold Range of Icons  
Aiguo Lu, Chengqi Xue, P.R. China

Handling Design Tasks: Effects of Music on Mood and Task Performance  
Ying Fang, Ruiqian An, Junxia Wang, Zhanxun Dong, P.R. China

Examining the relationship between songs and psychological characteristics  
Mirin Pyun, Donghun Kim, Chaeyun Lim, Eunbyul Lee, Jihye Kwon, Sangyup Lee, Korea

UAHCI S158  
Non Visual Interaction  
Chair(s): Doris Hooi-Ten Wong, Malaysia

Usability of User-centric Mobile application design from Visually Impaired People's Perspective  
Hammad Hassan Qureshi, Doris Hooi-Ten Wong, Malaysia

Walking Support for Visually Impaired Using AR/MR and Virtual Braille Block  
Katsuya Hommaru, Jiro Tanaka, Japan

Travel Service Design for the Visually Impaired: User Experience from Combining Real Human Assistants and AI Devices in An Appropriate Proportion  
Linghong Li, P.R. China

Effects of Cognitive Consistency in Microtask Design with only Auditory Information  
Ying Zhong, Masaki Matsubara, Makoto Kobayashi, Atsuyuki Morishima, Japan

Gen_braille: Development of a Braille Pattern Printing Method for Parametric 3D CAD Modelling  
Kazunori Minatani, Japan

iVision: An Assistive System for the Blind based on Augmented Reality and Machine Learning  
Jinyang Shen, Zhanxun Dong, Difu Qin, Jingyu Lin, Yahong Li, P.R. China
### UAHCI S159

**Technological Advances Towards Universal Access**
Chair(s): Abeer Al-nafjan, Saudi Arabia

- **Co-Design of Augmented Reality Storybooks for Children with Autism Spectrum Disorder**
  Bushra Alkadihi, Nofou Alkouafi, Layan Aljowair, Ghadah Alnafisi, Leena Alotaibi, Raghad Alhumood, Saudi Arabia

- **Empowering Assistive Technology Communities to Make Strategic Use of Intellectual Property: Three Case Studies from the CoCreate Project**
  Sarah Almoaikel, Shiroq Al-Megren, Saudi Arabia; Mark Oleksak, United States; Ghadeer Alfajhan, Areej Al-Wabli, Saudi Arabia

- **Designing SignSpeak, an Arabic Sign Language Recognition System**
  Abeer Al-nafjan, Layan Al-Abdullatif, Mayar Al-Ghamdi, Nada Al-Khalaf, Wejdan Al-Zaharni, Saudi Arabia

- **A Low-Cost Gaze-Based Arabic Augmentative and Alternative Communication System for People with Severe Speech and Motor Impairments**
  Rabia Jafari, Ameera Almasoud, Reema Alshammari, Shahad Alsaimi, Raghad Alhamad, Amzan Aldobwighri, Saudi Arabia

- **Co-Design of Color Identification Applications Using Scenario-based Personas for People with Impaired Color Vision**
  Mawaddah AlSaabban, Anwa Karim, Saudi Arabia; Ginny Sun, United States; Jood Hashem, Osama AlSaayed, Saudi Arabia

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### VAMR S160

**Gesture and Expression-based Interaction in VAMR**
Chair(s): To be announced

- **An Empirical Evaluation on Arm Fatigue in Free Hand Interaction and Guidelines for Designing Natural User Interfaces in VR**
  Xiaolong Lou, Xiangdong Li, P.R. China; Preben Hansen, Sweden; Zhipeng Feng, P.R. China

- **Hand Gesture Recognition for Smartphone-Based Augmented Reality Applications**
  Eric Cesar E. Vidal, Jr., Ma. Mercedes T. Rodrigo, Philippines

- **User-Centric AR Scenized Gesture Interaction Design**
  Xin-Li Wei, Rui Xi, Wen-Jun Hou, P.R. China

- **An Augmented Reality Approach to 3D Solid Modeling and Demonstration**
  Shu Han, Shuxia Wang, Peng Wang, P.R. China

- **How Interaction Paradigms Affect User Experience and Perceived Interactivity in Virtual Reality Environment**
  Duo Wang, Xiwei Wang, Qingxiao Zheng, Bingxin Tao, Guomeng Zheng, P.R. China

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### VAMR S161

**VAMR in Simulation, Learning and Training**
Chair(s): Manos Zidianakis, Greece

- **AR Assisted Process Guidance System for Ship Block Fabrication**
  Jiawao Ding, Yu Zhu, Mingyu Luo, Minghua Zhu, Xiumin Fan, Zelin Zhou, P.R. China

- **Development of an Augmented Reality system achieving in CNC Machine Operation Simulations in Furniture Trial Teaching Course**
  Yu Ting Lin, I-Jui Lee, Taiwan

- **Study on Learning Effectiveness of Virtual Reality Technology in Retail Store Design Course**
  Chu-Jun Yang, P.R. China; Chih-Fu Wu, Taiwan

- **Augmented Reality and Microbit for Project-based Learning**
  Poonsiri Jailungka, Siam Charnoenseang, Chaowwalit Thammatinno, Thailand

- **Quick Projection Mapping on Moving Object in the Manual Assembly Guidance**
  Wei Ling He, Bokai Zheng, Shuxia Wang, Shouxia Wang, P.R. China

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### CCD S162

**Design for Cross-Culture - IV**
Chair(s): Wen-Ko Chiou, Rungtai Lin, Taiwan

- **Research on Development of Guangdong Porcelain Design Driven by Export Trade in the 16th - 19th Century**
  Xiao Song, P.R. China

  Yonghui Lin, P.R. China; Hailin Liu, Taiwan

- **Design of Intelligent Public Restrooms in Tourist Cities**
  Qing Yang, Dan Li, Ya Tan, P.R. China

- **Aesthetic Contemplation of the Tang Dynasty Dunhuang Frescoes Elements on Contemporary Costume Design**
  Hong Zhang, P.R. China

- **Infiltration of sustainable environmental space service design in a cross-cultural context**
  Xing Ji, Liuyi Huang, Chengyao Cai, Jie Tang, P.R. China
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**Research on the Path Integration Behavior of Firefighters in the Dark**
Hua Qin, Xiao-Tong Gao, Wei Zhao, Yi-Jing Zhang, P.R. China

**The Effect of Long Time Simulated Voyage on Sailors’ Athletic Ability**
Zhen Liao, Chi Zhang, Yuqian Zhang, Zhanhuo Zhang, Ye Deng, Yingwei Zhou, Yang Yu, Jin Liang, Zhiqiang Tian, Xin Wang, Hao Meng, P.R. China

**The effect of a long simulated voyage on sailors’ alertness**
Jin Liang, Xin Wang, Liang Zhang, Ye Deng, Yingwei Zhou, Yuqian Zhang, Yang Yu, Zhen Liao, Zhiqiang Tian, Zhanhuo Zhang, Yongjiang Fu, P.R. China

**Risk-taking propensity during a prolonged voyage at sea: A simulator experiment study**
Xin Wang, Liang Zhang, Tuoyang Zhou, Zhen Liao, Zhanhuo Zhang, Ning Li, Qiang Yao, Jin Liang, Yang Yu, Zhiqiang Tian, Tianqi Chen, P.R. China

**The influence of a long voyage on mental status: an experimental study**
Yang Yu, Zhanhuo Zhang, Jin Liang, Zhiqiang Tian, Chi Zhang, Qiang Yao, Ning Li, Tuoyang Zhou, Xin Wang, Zhen Liao, Baochao Zong, P.R. China

**Study on Restoration-Oriented Digital Visualization for Architectural Trimwork of Guanlan Hall in Yuanming Yuan**
Huan Wang, Yue Zhong, Wen Li, P.R. China; Cameron Clarke, Denmark

**Cross-cultural Design of Facial Expressions of Robots**
Ichi Kanaya, Meina Tawaki, Keiko Yamamoto, Japan

**Focus on Automotive User Interfaces Research: A Bibliometric Analysis and Social Network Analysis during 1994–2019**
Chen Lu, Hao Tan, P.R. China

**How Drivers Categorize ADAS Functions --Insights from a Card Sorting Study**
Liping Li, P.R. China; Hsinwen Chang, Taiwan; Weihan Sun, Jin Guo, Jianchao Gao, P.R. China

**Secure Agents for Supporting Best-balanced Multilingual Communication**
Mondheera Pituxcoosuvan, Takao Nakaguchi, Donghui Lin, Toru Ishida, Japan

**Does Delivery Method Matter for Multicultural Undergraduate Students? A Case Study of an Australian University in the United Arab Emirates**
Ajina Hysaj, Doaa Hamam, United Arab Emirates

**Being Together Apart: Does Communication via Social Media Help or Harm Romantic Relationships?**
Mark Turner, Emma Prince, United Kingdom

**The Tributes and Perils of Social Media Use Practices in Ethiopian Socio-Political Landscape**
Elefelious Getachew Belay, Getachew Hailemariam Mengesha, Moges Ayele Asale, Ethiopia

**Development of a Vision Training System Using an Eye Tracker by Analyzing Users’ Eye Movements**
Ryoosuke Kita, Michiya Yamamoto, Katsuya Kitade, Japan

**A Study on Bilingual Superimposed Display Method on Digital Signage**
Takumi Uotani, Yoshiki Sakamoto, Yuki Takashima, Takashi Kurushima, Kimi Ueda, Hirotake Ishii, Hiroshi Shimoda, Rika Mochizuki, Masahiro Watanabe, Japan

**The Power of Social Media Marketing on Young Consumers’ Travel-Related Co-Creation Behavior**
Farzana Sharmin, Mohammad Tipu Sultan, P.R. China

**An Exploratory Investigation of Facebook Live Marketing by Women Entrepreneurs in Bangladesh**
Mohammad Tipu Sultan, Farzana Sharmin, P.R. China
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**Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management (DHM)**

**HCI International 2020**

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**User Experiences - I**

**HCI International 2020**

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**HCI International 2020**

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**HCI International 2020**

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**HCI International 2020**
**User Experience and Usability Driven Design: Emerging Theory and Practice - II**

Chair(s): Zhen Liu, P.R. China

**Usability Heuristic Evaluation for the Hearing Impaired Language Training Mobile App**

Wei Xiong, Tian Yao, Qiong Pan, Zhen Liu, P.R. China

**Interactive Behavior Model for Physically Disabled People Based on Airport Travel Scene**

Yi Liu, Jiang Chen, Wa An, Tao Wang, P.R. China

**Lifestyle as the Object of Design: Elements Exploration from Experience Perspective**

Wa An, Xiangyang Xin, Xiong Ding, Yi Liu, P.R. China

**Research on the Interactive Relations of People with Mobility Difficulties in the Airport Service-Scape**

Weifeng Xue, Yi Liu, Miao Cui, Jiang Chen, P.R. China

**Definition of People with Impediments and Universality Evaluation of Public Service in Airport Travel Scenarios**

Miao Cui, Tao Wang, Zilin Pan, Liyang Ni, P.R. China

**Visualizing Studying Activities for a Learning Dashboard Supporting Meta-cognition for Students**

Min Lu, Li Chen, Yoshiko Goda, Atsushi Shimada, Masanori Yamada, Japan

**Going Beyond Computer-assisted Vocabulary Learning: Research Synthesis and Frameworks**

Mohammad Nehal Hasnine, Masatoshi Ishikawa, Kosuke Mouri, Keiichi Kaneko, Japan

**Learning Support for Career Related Terms with SCROLL and InCircle**

Noriko Usakai, Kosuke Mouri, Takahiro Yonekawa, Chengjiu Yin, Akiko Ieshina, Hiroaki Ogata, Japan

**Internet of Toys for Measuring Development of Ball Handling Skills in Support of Childcare Workers**

Keiko Yamamoto, Koshiro Matsumoto, Tomonori Usui, Ichi Kanaya, Yoshihiro Tsujino, Japan

**Analyzing Analytics Data Flow and Visualizing for Ubiquitous Learning Logs in LMS and Learning Analytics Dashboard**

Songran Liu, Kosuke Mouri, Hiroaki Ogata, Japan

**Visualization and Analysis for Supporting Teachers using Clickstream Data and Eye Movement Data**

Tsubasa Minematsu, Atsushi Shimada, Rin-ichiro Taniguchi, Japan

**Building Student Interactions Outside the Classroom: Utilizing a Web-Based Application in a University Flipped Learning Course for EFL Learners**

Yasushi Ishikawa, Yasushi Tsubota, Takayoto Unemoto, Masayuki Murakami, Mutsumi Kondo, Ayako Sato, Koichi Nishiyama, Japan

**The Impact of Corpus Linguistics on Language Teaching in Russia’s Educational Context: Systematic Literature Review**

Marina Kogan, Victor Zakharov, Nina Popova, Nadezda Almazova, Russia

**Digital Competences for Language Teachers: Do Employers Seek the Skills Needed from Language Teachers Today?**

Tord Taimo, Norway; Maria Victoria Soule, Cyprus; Mikhail Fominikh, Norway; Antonio Giordano, Italy; Maria Perifanou, Greece; Vilma Sukacke, Lithuania; Anna Novozhilova, Estonia; Roberta D’Ambrosio, Italy; Alev Elci, Turkey

**Creating the Profile of Participants in Mobility Activities in the Context of Erasmus+: Motivations, Perceptions, and Linguistic Needs**

Panagiots Kosmas, Antigoni Parmaxi, Cyprus; Maria Perifanou, Anastasios Economides, Greece; Panagiotis Zaphiris, Cyprus

**Designing a Virtual Exchange Intervention for the Development of Global Competence: An Exploratory Study**

Anna Nicolaou, Cyprus

**Supporting Online Video e-Learning with Semi-automatic Concept-map Generation**

Tessai Hayama, Shuma Sato, Japan

**Using Arduino in service learning to engage pre-service STEM teachers into collaborative learning**

Yu-Liang Ting, Yu-Chen Lin, Shing-Ping Tsai, Yaming Tai, Taiwan

**STEAM-X: An Exploratory Study Adding Interactive Physical Activity to the STEAM Model**

Jina Shin, Yuni (JeongYun) Heo, Korea

**Building STEM Capability in a Robotic Arm Educational Competition**

Lin Chu, Yu-Liang Ting, Yaming Tai, Taiwan

**Framework of Manga Application for Teaching Japanese Language**

Masahide Kawanoh, Ryosuke Yamanishi, Yoko Nishihara, Japan; Naoko Takei, Canada
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**Human Aspects of IT for the Aged Population**

Understanding Older Adults’ Vulnerability and Reactions to Telecommunication Fraud: The Effects of Personality and Cognition<br>Honglian Xiang, Jia Zhou, Bingjun Xie, P.R. China

Visual Attention of Younger and Older Drivers in Takeover Tasks of Highly Automated Driving<br>Qijia Peng, Sunao Iwaki, Japan

Understanding Privacy and Trust in Smart Home Environments<br>Eva-Maria Schomakers, Hannah Biermann, Martina Ziefle, Germany

Predicting Tap Locations on Touch Screens in the Field using Accelerometer and Gyroscope Sensor Readings<br>Emanuel Schmitt, Jan-Niklas Voigt-Antons, Germany

Clearing the Hurdles: How to Design Privacy Nudges for Mobile Application Users<br>Susen Döbelt, Josephine Halama, Sebastian Fritsch, Minh-Hoang Nguyen, Franziska Bocklisch, Germany

Analysis of Factors Improving Accuracy of Passive User Identification with Streams of Face Images for Ubiquitous Commerce<br>Adam Wójtcowicz, Jacek Chmielewski, Poland

“Alexa, are you spying on me?”: Exploring the Effect of User Experience on the Security and Privacy of Smart Speaker Users<br>George Chalhoub, Ivan Flechais, United Kingdom

I Care Who and Where you Are – Influence of Type, Position and Quantity of Oncoming Vehicles on Perceived Safety during Automated Driving on Rural Roads<br>Patrick Rossner, Angelika C. Bullinger, Germany

In the Passenger Seat: Differences in the Perception of Human vs. Automated Vehicle Control and Resulting HMI Demands of Users<br>Franziska Hartwich, Cornelia Schmidt, Daniela Gräfing, Josef F. Krems, Germany

Ambivalence in Stakeholders’ Views on Connected and Autonomous Vehicles<br>Celina Kacperski, Tobias Vogel, Florian Kutzner, Germany

Towards User-Focused Vehicle Automation: the Architectural Approach of the AutoAkzept Project<br>Uwe Drewitz, Klas Ihme, Carsten Bahnmüller, Tobias Fleischer, HuuChuong La, Anna-Antonia Pape, Daniela Gräfing, Dario Niermann, Alexander Trende, Germany
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<td>Sachin Kumarswamy, Netherlands <strong>Enriching Social Media Personas with Personality Traits: A Deep Learning Approach Using the Big Five Classes</strong> Joni Salminen, Qatar; Rohan Gurunandan Rao, India; Soon-gyo Jung, Korea; Shammar A. Chowdhury, Bernard J. Jansen, Qatar <strong>Usability in Mixed Initiative Systems</strong> Sachin Kumarswamy, Netherlands <strong>SANDFOX Project Optimizing the Relationship between the User Interface and Artificial Intelligence to Improve Energy Management in Smart Buildings</strong> Christophe Bortolaso, Stéphanie Combettes, Marie-Pierre Gleizes, Berangere Lartigue, Mathieu Raynal, Stéphanie Rey, France <strong>Beyond the Buzzwords: On the Perspective of AI in UX and Vice Versa</strong> Dieter P. Wallach, Lukas A. Flohr, Annika Kaltenhauser, Germany</td>
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**Deadlock-Free and Collision-Free Liver Surgical Navigation by Switching Potential-Based and Sensor-Based Functions**
Hiroshi Noborio, Kiyoumi Kawai, Kaoru Watanabe, Katsunori Tachibana, Takahiro Kuni, Kiminori Mizushima, Japan

**Stability Maintenance of Depth-Depths Matching of Steepest Descent Method using an Incision Shape of an Occluded Organ**
Mho Asano, Tomohiro Kuroda, Satoshi Numata, Tseunoe Jozen, Tomoki Yoshikawa, Hiroshi Noborio, Japan

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**A Hashing Algorithm of Depth Image Matching for Liver Surgery**
Satoshi Numata, Masanori Koeda, Katsuhiko Onishi, Kaoru Watanabe, Hiroshi Noborio, Japan

**A Portable Measurement System for Spatially-varying Reflectance using Two Handheld Cameras**
Zar Zar Tun, Seiji Tsunezaki, Takashi Komuro, Shojo Yamamoto, Norimichi Tsumura, Japan

**Human-Drone Interaction: Using Pointing Gesture to Define a Target Object**
Anna C. S. Medeiros, Phothara Ratsamee, Yuki Uranishi, Tomohiro Mashita, Haruo Takemura, Japan

**User Expectations of Social Robots in Different Applications: An Online User Study**
Xiao Dou, P.R. China; Chih-Fu Wu, Taiwan; Xi Wang, Jin Niu, P.R. China

**Reviewing and Predicting Human-Machine Cooperation Based on knowledge Graph Analysis**
Yujia Liu, P.R. China

**Single Image Contrast Enhancement by Training the HDR Camera data**
Kenji Iwata, Ryota Suzuki, Yue Qiu, Yutaka Satoh, Japan

**Play to Improve: Gamifying Usability Evaluations in Virtual Reality**
Abhijai Miglani, Sairam Kidambi, Praveen Mareguddi, India

**Human Factors Evaluation Principals for Civil Aircraft Flight Deck Controls Design and Integration**
Fei Li, Kaifeng Chen, Pu Hong, Yuan Wang, P.R. China

**Research on Method of Acquiring and Screening of Personalized Functional Requirements of Smart Watches for the Elderly based on Kano Model**
Shengqing Huang, Quan Gu, Jie Zhang, Chaoxiang Yang, P.R. China

**Usability Evaluation of Smartphone Keyboard Design from an Approach of Structural Equation Model**
Yincheng Wang, Junyu Huo, Yuqi Huang, Ke Wang, Di Wu, Jibo He, P.R. China

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**Consumer Analysis of High Sensitivity Layer**
Yoshio Matsuyama, Yumi Asahi, Japan

**Feature Analysis of Customers Purchasing Cars in Japan**
Kenta Hara, Yumi Asahi, Japan

**Creating New Strategies for the Changing Sports Business ~The Case of Nippon Professional Baseball~**
Masaru Kondo, Yumi Asahi, Japan

**Ontology Construction for Annotating Skill and Situation of Airline Services to Multi-Modal Data**
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<td><strong>A Visual-based Approach for Manual Operation Evaluation</strong>&lt;br&gt;Yiyao Zhao, Zhen Wang, Yanyu Lu, Shan Fu, P.R. China</td>
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**Design for Cross-Culture - V**
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Jinze Li, Mingming Zong, Yu Wang, P.R. China

Effects of Loving Kindness Meditation on Mindfulness, Spirituality and Subjective Well-being of Flight Attendants
Chao Liu, Hao Chen, P.R. China; Chia-Yi Liu, Rungtai Lin, Wen-Ko Chiu, Taiwan

Visual Data Storytelling: A Case Study of Turning Big Data into Chinese Painting
Yanru Lyu, P.R. China; Tuck Fai Cheng, Malaysia; Rungtai Lin, Taiwan

An Exploration of the Development of Visual Design in Taiwan - A Case Study of the Cover Design of Industrial Design Magazine
Po-Hsien Lin, Taiwan; Jianping Huang, P.R. China; Rungtai Lin, Mo-Li Yeh, Taiwan

New digital media technologies put forth cross-domain design
Jie Tang, ChengYao Cai, Liuxing Huang, Xing Ji, P.R. China

**SCSM S195**

**The World of Consumers in Social Media: People and Organizations**
Chair(s): Adela Coman, Romania

The Key Role of Social Media in Identifying Consumer Opinions for Building Sustainable Competitive Advantages
Armenia Andronicianu, Irina Alexandra Georgescu, Romania; Jani Kinnunen, Finland

The World of Museums and Web 2.0: Links between Social Media and the Number of Visitors in Museums
Adela Coman, Ana-Maria Grigore, Andreea Ardelean, Robert Maracine, Romania

The Effect of Social Media based Electronic Word of Mouth on Propensity to Buy Wearable Devices
David Ntumba, Adheesh Budree, South Africa

A Practice-Based Artificial Society Approach to Exploring the Evolution of Trust
Michael Heidt, Andreas Bischof, Germany

**S196**

**Consumer Behavior from the Viewpoint of Data Science**
Chair(s): Kohei Otake, Takashi Namatame, Japan

Comparison of the Purchasing Behavior for Oneself or Other Using Eye Tracking Gaze Data
Mei Nonaka, Kohei Otake, Takashi Namatame, Japan

A Study on the Similarity of Fashion Brands Using Consumer Relationship and Consumer Sense
Yuzuki Kitajima, Kohei Otake, Takashi Namatame, Japan

Analysis of Fashion Market Trend Using Advertising Data of Shopping Information Site
Retsuya Saito, Kohei Otake, Takashi Namatame, Japan

Analysis of Consumer Community Structure and Characteristic within Social Media
Shin Miyake, Kohei Otake, Takashi Namatame, Japan

Analysis of the Exposing Media Pattern that Affect Accessing Own Website
Yuhu Katagiri, Kohei Otake, Takashi Namatame, Japan

**DHM S197**

**Robots, Agents, and Bots for Super Smart Society - III**
Chair(s): Masahide Nakamura, Japan

Fine-Grained Map Coloring Web Service for JavaScript
Tetsuya Nakai, Sachio Saiki, Masahide Nakamura, Japan

Partner Agent Showing Continuous and Preceding Daily Activities for Users’ Behavior Modification
Tomoko Yonezawa, Naoto Yoshida, Keiichiro Nagao, Xin Wan, Japan

Investigations on Monitoring Sensor Usage and Decision-Making: A Case Study in an Elderly Care Facility
Isamu Kajitani, Keiko Homma, Yoshio Matsumoto, Japan

Basic Study of Wall-projected Humanitude Agent for Pre-care
Xin Wan, Tomoko Yonezawa, Japan

Regulated Body-Sharing Virtual Trips for Pleasure and Business
Reem Elkhouly, Shin Fukui, Emi Tamaki, Japan

Extracting and Structuring Latent Knowledge for Risk Recognition from Eyes and Utterances of Field Overseers
Noriyuki Kushiro, Yusuke Aoyama, Toshihiro Mega, Japan
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**HCI-Games S206**

**Impact of Game Play**
Chair(s): Xiaocen Liu, P.R. China

**Can Video Game Training Improve the Two-Dimensional Mental Rotation Ability of Young Children? A Randomized Controlled Trial**
Xiaocen Liu, Heqing Huang, Kai Yu, Donghui Dou, P.R. China

**The Role of Parenting Styles and Parents’ Involvement in Young Children’s Videogames Use**
Heqing Huang, You Zhou, Fangbing Qu, Xiaocen Liu, P.R. China

**The Relation between Video Game Experience and Children’s Attentional Networks**
Hui Li, Muyun Long, P.R. China; Kaveri Subrahmanyam, United States

**A Systematic Review of Game Learning Research in China**
Jingying Wang, Qianru Song, Shoubao Gao, Yuhong Tao, P.R. China

**Relationship between Young Children’s Problematic Behaviors, Videogaming Status, and Parenting Styles**
Fangbing Qu, Changwei Gu, Heqing Huang, Aozi Zhang, Meng Sun, Xiaocen Liu, P.R. China

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**MobiTAS S207**

**UI/UX for Vehicle Information and Assistance Systems**
Chair(s): Lutz Krauss, Germany

**Measuring Driver Distraction with the Box Task – A Summary of Two Experimental Studies**
Tina Morgenstern, Daniel Trommler, Yannick Forster, Frederik Naujoks, Sebastian Hergeth, Josef F. Kremts, Andreas Keinath, Germany

**Shut Up and Drive? User Requirements for Communication Services in Autonomous Driving**
Hannah Biermann, Ralf Philipsen, Teresa Brell, Martina Ziefle, Andreas Keinath, Germany

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**C&C S208**

**Intangible Cultural Heritage as Immersive Experience - I**
Chair(s): Elke Reinhuber, Benjamin Seide, Singapore

**Prakempta: The Colour Music of the Balinese Calendar**
Vibeke Sørensen, Singapore; J Stephen Lavington, United States

**Virtual Cinematic Heritage for the Lost Singaporean Film Pontianak (1957)**
Benjamin Seide, Ben Slater, Singapore

**Redefining Visual Storytelling for Adaptation of Classic Literature in Immersive Environments: Hölderlin’s Echo VR**
Hannes Rall, Singapore

**Research on Cultural Tourism Experience Design Based on Augmented Reality**
Meiyu Lv, Lei Wang, Ke Yan, P.R. China

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**AI-HCI S209**

**AI in the Design Process**
Chair(s): Chaehan So, Korea

**A Method for Quickly Establishing Personas**
Wen-jun Hou, Xiang-yuan Yan, Jia-xin Liu, P.R. China

**EasySketchDesign: Product Sketch Design Assisted with Interactive Sketch Retrieval**
Yukun Hu, Sulhual Yu, Jianjie Chu, Yichen Yang, Chen Chen, Fangmin Cheng, P.R. China

**Human-in-the-Loop Design Cycles – A Process Framework that Integrates Design Sprints, Agile Processes, and Machine Learning with Humans**
Chaehan So, Korea

**A Paradigm Shift in Design driven by AI**
Qiong Wu, Cun Jun Zhang, P.R. China

**Rethinking Personas for Fairness: Algorithmic Transparency and Accountability in Data-Driven Personas**
Joni Salminen, Qatar; Soon-gyo Jung, Korea; Shammur A. Chowdhury, Bernard J. Jansen, Qatar
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<td>Chair(s): Salah Uddin Ahmed, Norway; Mohammad Shidujaman, P.R. China</td>
<td>Chair(s): Hans-Jürgen Buxbaum, Germany</td>
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<td><strong>Spreading Awareness About Quality in Interaction and UX to Young Generations</strong></td>
<td><strong>Mapping between Mind Cybernetics and Aesthetic Structure in Real-Time EEG Art</strong></td>
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<td>Kyle Harrington, Michael P. Craven, Max L. Wilson, Aleksandra Landowska, United Kingdom</td>
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<td><strong>Computational Design for complexity-related issues. Strategies to foresee emergent behaviour and social conflict in the ‘organic’ Tirana</strong></td>
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<td><strong>Designing and testing HomeCare4All: a eHealth mobile app for elderly</strong></td>
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<td><strong>Evaluating a Mouse-based and a Tangible Interface Used for Operator Intervention on two Autonomous Robots</strong></td>
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**UAHCI S214**

**Digital Accessibility in Education**

Chair(s): Georgios Kouroupetroglou, Greece

- Digital Accessibility in the Education of the Deaf in Greece
  Vasileios Kourbetis, Spyridoula Karpi, Konstantinos Boukouras, Greece

- Competencies for Educators in delivering Digital Accessibility in Higher Education
  John Gilligan, Ireland

- **Voice User Interfaces for Service Robots: Design Principles and Methodology**
  Pepi Stavropoulou, Dimitris Spiliotopoulos, Georgios Kouroupetroglou, Greece

- MOOC Accessibility from the Educator Perspective
  Dimitris Spiliotopoulos, Vassilis Pouloupoulos, Dionisis Margaris, Eleni Makri, Costas Vasilakis, Greece

- Investigating the Effect of Adding Visual Content to Textual Search Interfaces on Accessibility of Dyslexic Users
  Mona Mustah, Ahamed Altaboli, Libya

**ICT in Health and in Active Ageing - II**

Chair(s): João Barroso, Portugal; Leontios Hadjileontiadis, United Arab Emirates

- Care4MyHeart-PSG: A Personalized Serious Game Platform to Empower Phase III Cardiac Rehabilitation of Cardiovascular Disease Patients in UAE
  Sofia B. Dias, Portugal; Sofia J. Hadjileontiaoud, Greece; Jose A. Diniz, Portugal; Ahsan Khadonker, Leontios Hadjileontiadis, United Arab Emirates

- Assisted Caretaking System for Geriatric Home Care
  Isabel Barroso, Salviano Soares, Vitor Rodrigues, Sérgio Silva, Maria João Monteiro, Diogo Duarte, Conceição Rainho, António Valente, Portugal

- User-centered Implementation of Rehabilitation Exercising on an Assistive Robotic Platform
  Xanthi S. Papageorgiou, George Tsampounaris, Alexandra Karavasili, Eleni Efthimiou, Stavroula-Evita Fotinea, Anna Vacalopoulou, Panagiotis Karioris, Fotini Koureta, Despina Alexopoulou, Dimitris Dimou, Greece

- Dementia: I Am Physically Fading. Can Virtual Reality Help? Physical Training for People with Dementia in Confined Mental Health Units
  Maria Matsangidou, Eirini Schiza, Marios Hadjaros, Kleanthis C. Neokleous, Marios Avraamides, Ersi Papayianni, Fotos Frangoudes, Constantinos Pattichis, Cyprus

- A Head Mouse alternative solution proposal for people with motor impairments: design and usability assessment study
  Hasan Zengin, Turkey; Arşenio Reis, João Barroso, Tânia Rocha, Portugal

**VAMR S216**

**VAMR in Industry - I**

Chair(s): Vasilis Kouroumalis, Greece

- Augmented Instructions: Analysis of Performance and Efficiency of Assembly Tasks
  Eleanor Smith, Gordon Semple, Dorothy Evans, Kenneth McRae, Paul Blackwell, United Kingdom

- Reporting Strategy for VR Design Reviews
  Martin Gebert, Maximilian Peter Dammann, Bernhard Saske, Wolfgang Steger, Ralph Stelzer, Germany

- Guerilla Evaluation of Truck HMI with VR
  Frederik Diederichs, Friedrich Niehaus, Lena Hees, Germany

- Safety in a Human Robot Interactive: Application to Haptic Perception
  Vamsi Krishna Guda, Damien Chablat, Christine Chevallereau, France

**User Experience in VAMR - III**

Chair(s): Ahlem Assila, France

- FingerTac – A Wearable Tactile Thimble for Mobile Haptic Augmented Reality Applications
  Thomas Hulin, Michael Rothammer, Isabel Tannert, Suraj Subramaniam Giri, Benedikt Pleitinger, Harsimran Singh, Bernhard Weber, Christian Ott, Germany

- Investigating the Influence of Optical Stimuli on Human Decision Making in Dynamic VR-Environments
  Stefanie Fröh, Manuel Heinzig, Robert Manthey, Christian Roschke, Rico Thomaken, Marc Ritter, Germany

- Emergent Behavior of Therapists in Virtual Reality Rehabilitation of Acquired Brain Injury
  Henrik Saederup, Flaviu Vreme, Hans Pauli Arnoldson, Alexandru Diaconu, Michael Boelstoft Holte, Denmark

- Perceived Speed, Frustration and Enjoyment of Interactive and Passive Loading Scenarios in Virtual Reality
  David Heidrich, Annika Wohlan, Isabel Tannert, Suraj Subramaniam Giri, Benedikt Pleitinger, Harsimran Singh, Bernhard Weber, Christian Ott, Germany

- Towards the Specification of an Integrated Measurement Model for Evaluating VR Cybersickness in Real Time
  Ahlem Assila, France; Taisa Guidini Goncalves, Brazil; Amira Dhouib, Portugal; Djamila Bouamama, Belgium

  Tobias Dreesbach, Alexander Mertens, Tobias Heilig, Matthias Pretzlaff, Verena Nitsch, Christopher Brandi, Germany
**PARALLEL SESSIONS**

**Wednesday, 22 July 13:30 - 15:30** (CEST - Copenhagen)

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**CCD S218**

**S218: Evaluation of Sense in Architecture and Interior Design**

Chair(s): Wei Lin, Taiwan

- Effectiveness of the Immersive Virtual Reality in Upper Extremity Rehabilitation
  Lan-Ling Huang, Mei-Hsiang Chen, Taiwan

- Concerning the Perspective of Sound Insulation on Approaches of Interior design
  Wei Lin, Hsuan Lin, Zih Yu Huang, Yun Hsuan Lee, Taiwan

- Transforming Chinese Cultural Features into Modern Product Design
  Yukun Hu, Suihuai Yu, Yafang Ju, Dengkai Chen, Weiwei Wang, Yanpu Yang, Chen Chen, P.R. China

- A preliminary study on the game design of Pokémon GO and its effect on parent-child interaction
  Hsuan Lin, Taiwan; Kuo-Liang Huang, P.R. China; Wei Lin, Taiwan

- Research on GP-GC Intergeneration Affective Interaction Product Design: Analysis from Chinese Social Perspective to Value Proposition
  Kuo-Liang Huang, P.R. China; Hsuan Lin, Taiwan

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**SCSM S219**

**Customer eXperience and Behavior - II**

Chair(s): Cristian Rusu, Chile

- Proposal of the Elderly Supporting System based on the Perspective of Local Community in Japan
  Ayaka Ito, Masaya Ando, Hitoshi Uchida, Munenori Takemoto, Yuichi Murai, Japan

- Understanding Open Collaboration of Wikipedia Good Articles
  Huichen Chou, Donghui Lin, Toru Ishida, Naomi Yamashita, Japan

- A Personalized and Context Aware Music Recommendation System

- AMISA: A Pilot Study of an Emotional Supporting Device Between Friends Over Long-Distance
  Yuanyuan Bian, P.R. China; Teng-Wen Chang, Taiwan

- Social Behaviour Understanding using Deep Neural Networks: Development of Social Intelligence Systems
  Ethan Lim Ding Feng, Zhi-Wei Neo, Aaron William De Silva, Kellie Sim, Hong-Ray Tan, Singapore; Thi-Thanh Nguyen, Viet Nam; Karen Wei Ling Koh, Wenru Wang, Hoang D. Nguyen, Singapore

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**AC S220**

**Adaptation Strategies and Adaptation Management**

Chair(s): Sven Fuchs, Germany

- Adapting Interaction to Address Critical User States of High Workload and Incorrect Attentional Focus – an Evaluation of Five Adaptation Strategies
  Sven Fuchs, Stephanie Hochgeschurz, Alina Schmitz-Hübsch, Lerke Thiele, Germany

- User Evaluation of Affective Dynamic Difficulty Adjustment based on Physiological Deep Learning
  Guillaume Chanel, Phil Lopes, Switzerland

- The Case for Cognitive-Affective Architectures as Affective User Models in Behavioral Health Technologies
  Eva Hudlicka, United States

- Challenges and Prospects of Emotional State Diagnosis in Command and Control Environments
  Alina Schmitz-Hübsch, Sven Fuchs, Germany

- Enhancing Reality: Adaptation Strategies for AR in the Field
  Konrad Bielecki, Daniel López Hernández, Marten Bloch, Marcel Baltzer, Robin Schmidt, Joscha Wasser, Frank Fleisch, Germany

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**S221**

**Augmented Cognition through Immersive User Experiences - II**

Chair(s): Ayoungh Suh, Christian Wagner, Hong Kong

- Non-Monotonic Bias-Based Reasoning Under Uncertainty
  Monte Hancock, United States

- The Expertise Level
  Ron Fulbright, United States

- Synthetic Expertise
  Ron Fulbright, Grover Walters, United States

- Perceived Restorativeness and Meditation Depth for Virtual Reality supported Mindfulness Interventions
  Mark R. Costa, Dessa Bergen-Cico, Rachel Razza, Leanne Hirshfield, Qiu Wang, United States

- Producing an Immersive Experience using Human-Robot Interaction Stimuli
  Thy Vo, Joseph B. Lyons, United States
**DHM S222**

**Healthcare Improvements**
Chair(s): Vincent G. Duffy, United States

**Use of Technologies for Supporting Dementia Care**
Noriaki Kuwahara, Kiyoshi Yasuda, Japan

**Towards Practical Use of Bedside Sensing/ Voice-Calling System for Preventing Falls**
Norihisa Miyake, Kazumi Kumagai, Seiki Tokunaga, Mihoko Otake-Matsuura, Japan

**A Personal Health-tracking System Focused on Social Communication for Motivation**
Pengyuan Li, P.R. China; Jiro Tanaka, Japan

**An Ergonomic Solution for Hand Rehabilitation Product Design for Stroke Patients**
Jing Luo, Yan Luximon, Hong Kong; Wen Zhan, P.R. China; Xiaoyang Chen, Hong Kong

**Wireless Aerobic Exercise Monitoring System based on Multimodal Sensors**
Xiang-yu Liu, Xing-wei Wang, Hai-jiang Duan, Guang-hao Li, Mielyu Zhou, P.R. China

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**DUXU S223**

**Urban UX and Design: The Language of (Smart) Cities**
Chair(s): Pavel Farkas, Czech Republic

**Appropriation, Design and User Experience in Public Spaces as a Part of the Language of the City**
Pavel Farkas, Czech Republic

**Smart City through Design: Preparation of a New Wayfinding System in Prague**
Petr Stepanek, Czech Republic

**Approaching urban experience through rhythmmanalysis**
Michal Smrčina, Czech Republic

**Interfacing the City - Media Theory Approach to Cognitive Mapping of the Smart City through Urban Interfaces**
Jakub Ferenc, Czech Republic

**Designing Human-Centered Interactions for Smart Environments based on Heterogeneous, Interrelated Systems: A User Research method for the "Age of Services" (URSERVe)**
Alexandra Matz, Clarissa Götz, Germany

**Involving Users in Sound Design**
Frederik Moegaard, Lasse Hulgaard, Mads Bødker, Denmark

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**S224**

**Understanding User Diversity in Emerging Digital Platforms**
Chair(s): Kerem Rızvanoğlu, Turkey

**Transforming Diagrams’ Semantics to Text for Visually Impaired**
Charlie Cross, Deniz Çetinçayya, Huseyin Dogan, United Kingdom

**Humanistic Co-Design for Specific Learning Difficulties Using Scenario-based Personas: Tangible Arabic Alphabet Blocks for Dyslexia**
Mawaddah AlSabban, Sundus Alorij, Ghadeer Alshamrani, Saudi Arabia; Ohoud Alharbi, Canada

**Evaluating One-Handed Usability of Phablets: A Comparative Study Into Turkey’s Leading Delivery Applications**
Emre Kizilkaya, Kerem Rızvanoğlu, Turkey

**Exploring Food Literacy through the Use of Mobile Apps in the era of Human-Food Interaction: Kliktag Case**
Kübra Sultan Yüzüncüyıl, Kerem Rızvanoğlu, Özgüröl Öztürk, Turkey

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**S225**

**Facilitating Individual Creativity, Understanding Team Design Process, and Developing Advanced Tools and Methods - III**
Chair(s): Wei Liu, P.R. China

**Designing a Multimodal Emotional Interface in the context of Negotiation**
Kfirian Pelzi, Klaus Diepold, Germany; Jan Auernhammer, United States

**A Product/Process Model Approach to Formalize Collaborative User Experience Design**
Daniel Kerpen, Jan Conrad, Dieter Wallach, Germany

**Understanding Engagement in the Workplace: Studying Operators in Chinese Traffic Control Rooms**
Linyi Jin, Val Mitchell, Andrew May, United Kingdom

**AI-driven Tangible Interactive Products for Introducing Intellectual Property (IP) Concepts for Youth: The IP4Youth Product Designs**
Nasser AlRuwaish, Shatha Aladhuvan, Ruba Alfadhel, Anas Hashim, Areej Al-Wabil, Saudi Arabia

**palmScape: Calm and Pleasant Vibrotactile Signals**
Sang-Won Shim, Korea; Hong Z Tan, United States
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<td>Discussions on UX Design Methods and Practices - III</td>
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<td>Online Interactive Chart Choosers for Novice Visual Designers: Assistance and Restriction Ching-I Chen, Meng-Cong Zheng, Taiwan The Impact of Expectation and Disconfirmation on User Experience and Behavior Intention Xiaorui Wang, Ronggang Zhou, Renqian Zhang, P.R. China User Experience: How to Drive Innovation on the Fuzzy Front End Jingran He, Ting Han, Dian Zhu, Boyang Fan, Chufan Jin, Zishan Song, P.R. China The Designer’s Creativity Demand&amp;Influence Factor Model Based on Grounded Theory Ming-hong Chai, Wei Sun, Xin Lei, P.R. China A Comparative Research on Designer and Customer Emotional Preference Models of New Product Development Tianxiong Wang, Liu Yang, Xian Gao, Yuxuan Jin, P.R. China</td>
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<td>Teaching by Demonstrating – How Smart Assistive Systems Can Learn from Users Sebastian Büttner, Andreas Peda, Mario Heinz, Carsten Röcker, Germany Making Object Detection Available to Everyone - A Hardware Prototype for Semi-automatic Synthetic Data Generation Andreas Besginow, Sebastian Büttner, Carsten Röcker, Germany Simulation Model for Mapping the Causes and Effects of Human Error in Product Development Sven Tackenberg, Sönke Duckwitz, Germany Exploring Users’ Eye Movements When Using Projection-based Assembly Assistive Systems Mario Heinz, Sebastian Büttner, Carsten Röcker, Germany</td>
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<td>HCI Issues in Digital Fashion Communication - II</td>
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<td>Chair(s): Francisco J. García-Peña, David Fonseca, Spain</td>
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**ITAP S230**

**Being Connected at Home – Making Use of Digital Devices in Later Life**
Chair(s): Eugène Loos, Netherlands

**Smartwatch Use among Older Adults: Findings from Two Large Surveys**
Alexander Selfert, Switzerland

"You Don’t Need Instagram, it’s for Young People": Intergenerational Relationships and ICTs Learning Among Older Adults
Simone Carlo, Francesco Bonifacio, Italy

**Consuming Fake News: A Matter of Age? The Perception of Political Fake News Stories in Facebook Ads**
Eugène Loos, Jordy Nijenhuis, Netherlands

**Methods Matter: Assessment of the Characteristics of a Sample to Analyze Digital Practices and Social Connectedness in Later Life**
Mireia Fernández-Ardévol, Andrea Rosales, Francisca Morey, Spain

**Digital Mobile Technology Enhancing Social Connectedness among Older Adults in Sweden**
Sanna Kuoppamäki, Britt Östlund, Sweden

**Using Academic Work Places to Involve Older People in the Design of Digital Applications - Presentation of a Methodological Framework to Advance Co-Design in Later Life**
Britt Östlund, Björn Fischer, Sweden; Barbara Marshall, Nicole Dalmer, Canada; Mireia Fernández-Ardévol, Andrea Garcia-Santesmases, Daniel Lopez, Spain; Eugène Loos, Netherlands; Fangyuan Chang, Xin Chen, Sweden; Louis Neven, Alexander Peine, Netherlands; Andrea Rosales, Spain; Sanna Kuoppamäki, Sweden

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**ITAP S231**

**Human Factors and Design - I**
Chair(s): Wang-Chin Tsai, Taiwan

**A Prototype of Patient Decision Aid for Treating Obstructive Sleep Apnea**
Hsin-Chang Lo, Mei-Chen Yang, Fu-Nien Lin, Taiwan

**A Study of the Rubber Mat Product Design for Electric Scooter**
An-Jen Yang, Jui-Hung Cheng, Yu-Shi Huang, Taiwan

**Understanding Continuous Wearable Technology Use Behavior for Fitness and Self-Health Management Among Middle-Aged and Elderly People**
Wen-Tsung Ku, Hui-Min Lai, Pi-Jung Hsieh, Taiwan

**A study of Green Printing Technology Application for Product Value-added Design**
Yu-Shi Huang, Jui-Hung Cheng, An-Jen Yang, Taiwan

**Application of Fuzzy Decision Model Selection of Product in Human Factors Design**
Hsin-Hung Lin, Jui-Hung Cheng, Taiwan

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**ITAP S232**

**Multimodal Interaction for the Elderly**
Chair(s): To be announced

**Exploring the Contextual Relationship of Narrating Life Stories by Elderly People**
Kuang-Yi Fan, Pei-Fen Wu, Taiwan

**Multimodal Coexistence Environment Design to Assist User Testing and Iterative Design of HiGame Emotional Interaction Design for Elderly**
Ji Rong Rachel Lu, Teng-Wen Chang, Yi-Sin Wu, Chun-Yen Chen, Taiwan

**Acceptance Level of Older Chinese People towards Video Shooting Games**
Rita W.L. Yu, Wai Hung Yuen, Hong Kong; Lu Peng, P.R. China; Alan H.S. Chan, Hong Kong

**Exploring the Feasibility of the Elderly in the Space Guidance of Tactile Feedback Technology**
Shuo-Fang Liu, Taiwan; Shi-Yu Wang, P.R. China; Ching-Fen Chang, Taiwan

**The Effect of Sensory Feedback on Time Perception of Interface Indicator from Age Difference**
Shuo-Fang Liu, Yu-Wei Tseng, Ching-Fen Chang, Taiwan

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**Mobi TAS S233**

**New Digital Mobility - Changes in Passenger Travel Behavior and Travel Preferences**
Chair(s): Ulrike Stopka, Germany

**Strategies for smart service prototypes - Implications for the requirements elicitation in the early development stages**
Tobias Wienken, Heidi Krömker, Germany

**Design Guidelines for the Simulation of the Usage Context "Station" in VR Environment**
Regina Koreng, Germany

**Acceptance and Diffusion of Services based on Secure Elements in Smartphones - Study Design and First Results of the Pretests**
Andreas Kreisel, Gertraud Schäfer, Ulrike Stopka, Germany

**Multimodal Mobility Packages — Concepts and Methodological Design Approaches**
Ulrike Stopka, Germany

**Mobility-as-a-Service: Tentative on Users, Use and Effects**
I.C. MariAnne Karlsson, Sweden
### MobiTAS S234

**HCI Issues and Assistive Systems for Users with Special Needs in Mobility**
Chair(s): Christophe Kolski, Sophie Lepreux, France

- **Ontology for Mobility of People with Intellectual Disability: Building a basis of Definitions for the Development of Navigation aid Systems**
  - Laurie Letalle, Aymen Lakehal, Hursula Mengue-Topic, Johann Saint-Mars, Christophe Kolski, Sophie Lepreux, Françoise Anceaux, France

- **A Tactile Interface to Steer Power Wheelchairs for People Suffering from Neuromuscular Diseases**
  - Youssef Guedira, Delphine Dervin, Pierre-Éric Brohm, René Farcy, Yacine Bellik, France

- **Assistive Systems for Special Needs in Mobility in the Smart City**
  - Chuantao Yin, P.R. China; Bertrand David, René Chalon, France; Hao Sheng, P.R. China

- **Training Pedestrian Safety Skills in Youth with Intellectual Disabilities Using Fully Immersive Virtual Reality - A Feasibility Study**
  - Robin Cherix, Francesco Carrino, Geneviève Pléart, Omar Abou Khaled, Elena Mugellini, Dominique Wunderle, Switzerland

### AIS S235

**Learner State Diagnostics for Adaptive Instruction**
Chair(s): Jessica Schwarz, Germany

- **EEG Covariance-based Estimation of Cooperative States in Teammates**
  - Raphaëlle N. Roy, Kevin J. Verdière, Frédéric Dehais, France

- **From “Knowing What” to “Knowing When”: Exploring a Concept of Situation Awareness Synchrony for Evaluating SA Dynamics in Teams**
  - Baptiste Prébot, France; Jessica Schwarz, Sven Fuchs, Germany; Bernard Claverie, France

- **On the Importance of Adaptive Operator Training in Human-Swarm Interaction**
  - Jonas D. Hasbach, Thomas E.F. Witte, Maren Bennenwitz, Germany

- **Pilot State Monitoring for Cursus Recommendation**
  - Mélèe Kopf, Daniel Lafond, Jean-Francois Gagnon, Canada

- **The Mental Machine: Classifying Mental Workload State from Unobtrusive Heart Rate-measures using Machine Learning**
  - Roderic H.L. Hillege, Julia Lo, Christian P. Janssen, Nico Romeijn, Netherlands

- **Experimental evaluation of heart-based workload measures as related to their suitability for real-time applications**
  - Dennis Mund, Axel Schulte, Germany

### MOBILE S236

**Mobile Devices Usability**
Chair(s): June Wei, United States

- **The Impact of Blockchain on Collaborative Product Innovation of Manufacturing Supply Chain**
  - Caihong Liu, P.R. China; Hannah Ji, June Wei, United States

- **A Direct Transaction Model for Energy Blockchain Mobile Information System Based on Hybrid Quotation Strategy**
  - Wei Hu, P.R. China; Li Huanhao, Chile

- **Wearable Services Adoption Study from a Perspective of Usability**
  - Zhongwei Gu, P.R. China; June Wei, United States

- **OExplore an Evolution of Physical Education Based on Virtual Reality Lab for Traditional Ethnic Minorities’ Sports**
  - Lifan Yang, Jingjing Xing, P.R. China

- **Characteristics of Online Transaction Dispute Mediation Cases in Mobile Electronic Commerce**
  - Savvas Varytimiadis, Konstantinos Kotis, Dimitris Spiliotopoulos, Costas Vassilakis, Dionisis Margaris, Greece

### C&C S237

**Intangible Cultural Heritage as Immersive Experience - II**
Chair(s): Elke Reinhuber, Singapore

- **Mixed Reality and Volumetric Video in Cultural Heritage: Expert Opinions on Augmented and Virtual Reality**
  - Néill O’Dwyer, Gareth W. Young, Nicholas Johnson, Emin Zerman, Aljosha Smolic, Ireland

- **Archiving the Memory of the Holocaust**
  - Ernst Feiler, Frank Govaere, Philipp Grieß, Simon Purk, Ralf Schäfer, Oliver Schreer, Germany

- **A Robot in the Library**
  - Evgenios Vlachos, Anne Faber Hansen, Jakob Povl Holck, Denmark

- **Semantics-driven Conversational Interfaces for Museum Chatbots**
  - Dimitris Spiliotopoulos, Konstantinos Kotis, Costas Vassilakis, Dionisis Margaris, Greece

- **‘Talking’ Triples to Museum Chatbots**
  - Savvas Varytimiadis, Konstantinos Kotis, Dimitris Spiliotopoulos, Costas Vassilakis, Dionisis Margaris, Greece
## AI-HCI S238

### AI for Well-being

Chair(s): Alice Baird, United Kingdom

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<td>AI Mobility Solutions for an Active Ageing Society - Introducing Aesthetic Affordances in the Design of Smart Wheelchairs</td>
<td>Setsu Ito, Italy; Shinobu Ito, Japan; Irina Suteu, Italy</td>
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**Smart User Interfaces for Accessibility**  
Chair(s): Kening Zhu, Hong Kong

**Designing for experiences in blended reality environments for people with dementia**  
Shital Desai, Deborah Fels, Arlene Astell, Canada

**Toward Inclusive Learning: Designing and Evaluating Tangible Programming Blocks for Visually Impaired Students**  
Zhili Rong, Ngo Fung Chan, Hong Kong; Taizhou Chen, P.R. China; Kening Zhu, Hong Kong

**FingerTalkie: Designing A Low-cost Finger-worn Device for Interactive Audio Labeling of Tactile Diagrams**  
Arshad Nasser, Hong Kong; Taizhou Chen, P.R. China; Kening Zhu, Hong Kong; P. V. M. Rao, India

**VR: Time Machine**  
Doros Polydorou, Cyprus; Oded Ben-Tal, United Kingdom; Atser Damsma, Nadine Schlichting, Netherlands

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### HCI S240
**User Experience Assessment Methods and Case Studies - I**  
Chair(s): To be announced

**Evaluating the Usability and the Accessibility of Saudi E-government Websites**  
Nourah Alloboud, Raghad AlOtaibi, Amani Alqatani, Saudi Arabia

**Emotional responses to health data visualization**  
Chloe Lourdais, Emilie Poirson, France; Liang Ma, P.R. China

**The Social Acceptability of Peripheral Interaction with 3D Gestures in a Simulated Setting**  
Sara Nielsen, Lucca Julie Nellemann, Lars Bo Larsen, Kashmifi Stc, Denmark

**Exploring Pointer Assisted Reading (PAR): Using Mouse Movements to Analyze Web Users’ Reading Behaviors and Patterns**  
Ilan Kirsh, Israel; Mike Joy, United Kingdom

**Introducing Mobile Device-Based Interactions to Users: An Investigation of Onboarding Tutorials**  
Mandy Korzetz, Romina Kühn, Lukas Büschel, Franz-Wilhelm Schumann, Uwe Altmann, Thomas Schlegel, Germany

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### HIMI S241
**Human Performance in Complex Systems**  
Chair(s): Kim-Phuong Vu, Gabriella M. Hancock, United States

**Environmental Control Units for Inpatient Care at Veterans Affairs Spinal Cord Injury Centers: Heuristic Evaluation & Design Recommendations**  
Gabriella M. Hancock, Sam Anvari, Matthew T. Nare, Nicole B. Mok, Aram Ayyazyan, Kelsey M. McCoy, Xiaolu Bai, Gregory P. Mather, Amanda S. McBride, Natalia Morales, United States

**UX/UI Research on ECU Systems for Inpatient Care at VA Hospitals: An Overview of an On-going Research Program**  
Sam Anvari, Xiaolu Bai, Kelsey M. McCoy, Aram Ayyazyan, Nicole B. Mok, Matthew T. Nare, Gregory P. Mather, Natalia Morales, Amanda S. McBride, Gabriella M. Hancock, United States

**Discriminative Model for Identifying Motion Primitives Based on Virtual Reality-Based IADL**  
Yasuhiro Iwashita, Takehiko Yamaguchi, Japan; Tania Giovannetti, United States; Maiko Sakamoto, Hayato Ohwada, Japan

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### EPCE S242
**Human Factors and Ergonomics in Safety-critical Systems - II**  
Chair(s): Alexandra Fernandes, Norway

**Exploring the Effects of Large Screen Overview Displays in a Nuclear Control Room Setting**  
Alexandra Fernandes, Alf Ove Braseth, Robert McDonald, Maren Elthien, Norway

**Promoting Operational Readiness through Procedures in Nuclear Domain**  
Jari Laarni, Jatta Tomminen, Marja Liinäsuo, Satu Pakarinen, Kristian Lukander, Finland

**Modeling Distributed Situational Awareness to Improve Handling Emergency Calls in Operation Centres**  
Marcel Saager, Marie-Christin Harre, Germany

**Investigating the Effect of Conflicting Goals and Transparency on Trust and Collaboration in Multi-Team Systems**  
Verena Vogelpohl, Carmen Bruder, Jana Schadow, Dirk Schulze Kissig, Germany

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Alexandra Fernandes, Rosella Bisio, Claire Blackett, Norway
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The Information Repertoire of People with Disabilities
Annegret Haage, Germany

Accessible Learning Management Systems in Higher Education
Leeve Willkens, Christian Bühler, Ingo Bosse, Germany

I Can’t Do It, They Say! – Perceived Stigmatization Experiences of People with Intellectual Disabilities when Using and Accessing the Internet
Vanessa N. Heitplatz, Christian Bühler, Matthias R. Hastall, Germany

Persona Design in Participatory Agile Software Development
Susanne Dirks, Germany

Contribution of Clinical Data to the Design of Assistive Systems
Frédéric Vella, Nadine Vigouroux, Rozenn Baudet, Caroline Mercardier, Charline Calmels, Karine Gigaud, Victoria Fourgous, Méloïde Blanchard, France

Chinese Pain Descriptors Used by Medical Personnel: A Case Study in Beijing
Pei-Luen Patrick Rau, Zhi Guo, Runting Zhong, Soulki Kim, P.R. China

A framework of real-time stress monitoring and intervention system
Peixian Lu, Wei Zhang, Liang Ma, Qichao Zhao, P.R. China

Can Smart Voice Assistant Induce Social Facilitation Effect? A Preliminary Study
Na Liu, Quanlin Pu, P.R. China

Development of Health Care System Based on Smart Clothes
Pin-Chieh Huang, Chung-Chih Lin, Hisang-Jen Hsieh, Wei-Chia Chen, Ho-Huan Chiang, Taiwan

Experimental Analysis of Cultural Factors on Trust in Global Supply Chain Management
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The Influence of Chinese-English Bilingualism on Rationality in Decision Making Behaviors
Mostafa Moazami, Nan Qie, Pei-Luen Patrick Rau, P.R. China

Evaluating trust, trustworthiness and bullwhip effect: A three-echelon supply chain interactive experiment
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CIAM: A new assessment model to measure culture’s influence on websites
Surbhi Pratap, Jyoti Kumar, India

Cognitive and computational aspects of intercultural communication in human-computer interaction
Marcel Pikhart, Czech Republic

How the Linguistic Context Influences the Decision-Making process of bilingual individuals with a comparison between Eastern and Western languages
Giorgio Manenti, Italy; Jean-Raphaël Eid, France; Abdul Qadeer Khoso, Pakistan; Marius Julian Vogel, Switzerland; Md Redwan Ahmed Reayadh, Bangladesh; Victor Lopez Perez, Mexico

Universal Access in Human-Computer Interaction

Towards Universal Accessibility on the Web: Do Grammar Checking Tools Improve Text Readability?
 JITesh Mohan Kaushik, Evelyn Eika, Frode Eika Sandnes, Norway

Impact of Sentence length on the Readability of Web for Screen Reader Users
Bam Bahadur Kadayat, Nepal; Evelyn Eika, Norway

Cultural Inclusion and Access to Technology: Bottom-up Perspectives on Copyright Law and Policy in Norway
G. Anthony Giannoumis, Norway; Wondwossen Mulualem Beyene, Ethiopia

Open Government Data through the Lens of Universal Design
Mexlid Ferati, Fisnik Dalipi, Zenun Kastrati, Sweden

Evaluating Hands-on and Hands-free Input Methods for a Simple Game
Mehedi Hassan, Canada; John Magee, United States; I. Scott MacKenzie, Canada

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Q8-Gest: Qwerty Bimanual Gestural Input for Eyes-free Smartphone Text Input
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Chair(s): Yuan-Chi Tseng, Taiwan |
Chair(s): Zhiyong Fu, P.R. China |
|             | S249 | Health and Fitness on Social Media  
Chair(s): Aylin Ilhan, Kaja Fietkiewicz, Isabelle Dorsch, Germany |
|             | S250 | Data Based Social Signal Processing - III  
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- Zika Outbreak of 2016: Insights from Twitter  
  Wasim Ahmed, Peter A. Bath, Laura Sbaffi, United Kingdom; Gianluca Demartini, Australia |
- Virtual Fitness Community: Online Behavior on a Croatian Fitness Forum  
  Kristina Feldvari, Anita Dremel, Snježana Stanarević Katavić, Croatia |
- Users of Fitbit Facebook Groups: A Gender- and Generation-Determined Investigation of their Motivation and Need  
  Aylin Ilhan, Germany |
- Image Strength and Identity Diffusion as Factors Influencing the Perception of Hospitals by their Facebook Communities  
  Michael Beier, Sebastian Früh, Switzerland |
- Towards Curtailing Infodemic in the era of COVID-19: A Contextualized Solution for Ethiopia  
  Elefelious Getachew Belay, Melkamu Beyene, Tibebe Beshah Tesema, Teshome Alemu, Amanuel Negashe, Aminu Mohammed, Mengistu Yilma, Berhan Tassew, Solomon Mekonnen, Ethiopia |

**CCD S247**

- mHealth strategies to promote uptake and adherence to PrEP: A systematic review  
  Morgan LaBelle, Canada; Carol Strong, Yuan-Chi Tseng, Taiwan |
- Exploring Universal and Cultural Preferences for Different Concepts of Autonomous Vehicles’ External Communication in China, USA and Germany  
  Anne-Marie Julie Barthe Wesseling, Germany; Ruth Muge, Elmer Van Grondelle, Netherlands; Ina Othersen, Germany |
- Teaching to Find Design Opportunities for Behavior Change Through Causal Layered Analysis  
  Peter Scupelli, United States |
- Play it my way: Participatory mobile game design with children in rural Nepal  
  Dev Lamichhane, Janet C. Read, United Kingdom |

**CCD S248**

- Investigating Culture as a Precedent Factor for Dual Social Network Site Use and Social Capital Development  
  Chien-Wen (Tina) Yuan, Taiwan |
- Cultural Engagement and Interactive Communication: A Study on the Implementation of New Media on Museum’s Digital Interpretations  
  Chih-Yung Chiu, Deng-Teng Shih, Taiwan |
- Cultural Discourse in User Interface Design: Investigating Characteristics of Communicators in Microsoft Word  
  Chunyan Wang, P.R. China; Xiaojun Yuan, United States |
- How Design with Intent Cards Facilitate Behavioral Design Ideation for Humanities, Design, and Engineering Students  
  Yuan-Chi Tseng, Taiwan |

**CCD S250**

- Fostering Cross-cultural Research by Cross-cultural Student Teams: A Case Study Related to Kawaii (Cute) Robot Design  
  David Berque, Hiroko Chiba, United States; Michiko Ohkura, Peeraya Siripan, Midori Sugaya, Japan |
- Neuroergonomics Behind Culture: A Dynamic Causal Modeling (DCM) Study on Emotion  
  Zach Pugh, Jialiu Huang, Kristen Lindquist, Chang S. Nam, United States |
- Exploring Universal and Cultural Preferences for Different Concepts of Autonomous Vehicles’ External Communication in China, USA and Germany  
  Anne-Marie Julie Barthe Wesseling, Germany; Ruth Muge, Elmer Van Grondelle, Netherlands; Ina Othersen, Germany |
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- Play it my way: Participatory mobile game design with children in rural Nepal  
  Dev Lamichhane, Janet C. Read, United Kingdom |

**THURSDAY 14:00 - 16:00**
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<td>Evaluating the Effect of Crutch-using on Trunk Muscle Loads: Jing Chang, P.R. China; Wenrui Wang, Damien Chablat, Fouad Bennis, France</td>
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<td>Safety Performance-based Risk Assessment for Aviation Fuel Supply of Civil Aviation: Mingliang Chen, Yuan Zhang, Yanqi Chen, P.R. China</td>
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<td>Interactive experience art in exhibition: Xueying Niu, Yuelin Liang, P.R. China</td>
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<td>Research upon the Relativity between Digital Media and Tourism: Wei Feng, Peng Wang, P.R. China</td>
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<td>Human Resource Management in the age of Artificial Intelligence: Xinyu MU, United States</td>
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<td>Recommendation Systems and Machine Learning: Mapping the User Experience: Luiz Agner, Barbara Necyk, Adriano Rendi, Brazil</td>
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<td>An Observation on the Behavior of Smartphone Addicts at Taipei Mass Rapid Transportation Station: Miao Huang, P.R. China; Chien-Hsiung Chen, Taiwan</td>
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<td>Mobile usability: review, classifications and future directions: Zhao Huang, P.R. China</td>
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<td>HCIinBusiness S256</td>
<td>Mixed Methods for Intelligent Data Analysis</td>
<td>Chair(s): I-Chin Wu, Taiwan</td>
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<td>LCT S258</td>
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**UX Aspects in Product Design**

- **Title:** The Kansei Images of Blister Packaging Through Tactile Perception
- **Authors:** Shang-Ru Yu, Hsi-Jen Chen, Taiwan
- **Abstract:** An Integrated Framework of Product Kansei Decision-Making based on Hesitant Linguistic Fuzzy Term Sets
- **Authors:** Yan-pu Yang, Jun-wen Shi, Gang-feng Wang, P.R. China
- **Study on Size Coding Identification of Manual Rotary Knob**
  - **Authors:** Huimin Hu, Junmin Du, Hui Lu, Haoshu Gu, P.R. China
- **Research on servicesescape innovation methods based on design thinking**
  - **Authors:** Ruiguang Tan, Jiayi Liu, P.R. China
- **Ergonomics Considerations of Usability Test of UAV Handheld Control Unit**
  - **Authors:** Xu Wu, Guoqiang Sun, Shuang Liu, Lin Ding, Chongchong Miao, Kai An, P.R. China

**Mixed Methods for Intelligent Data Analysis**

- **Title:** Exploring Students’ Search Behavior and the Effect of Epistemological Beliefs on Contradictory Issues
  - **Authors:** Yuan-Ho Huang, Taiwan
- **Investigating Patients’ Visits to Emergency Departments: A Behavior-Based ICD-9-CM Codes Decision Tree Induction Approach**
  - **Authors:** Yen-Yi Peng, I-Chin Wu, Yu-Ping Ho, Taiwan
- **Identification of Key Factors Affecting Logistics Service Quality of Cross-border E-commerce**
  - **Authors:** Peng Jiang, Hang Jiang, P.R. China; Yi-Chung Hu, Taiwan; Chongen Liang, Shiyan Wang, P.R. China

**HCI in Business and Organizations - II**

- **Title:** Effects of Avatar Cuteness on Users’ Perceptions of System Errors in Anthropomorphic Interfaces
  - **Authors:** Yue Cheng, Lingyun Qiu, Jun Pang, P.R. China
- **Virtual Reality Online Shopping (VROS) Platform**
  - **Authors:** Yu-Chun Huang, Shu-Yun Liu, Taiwan
- **Success Factors in Micro-Celebrity Endorsement: The Role of Informational and Narrative Content in Product Recommendation**
  - **Authors:** Wei Yang, Choon Ling See, Hong Kong
  - **A Review on Quality of Service and SERVQUAL Model**
  - **Authors:** Zhengyu Shi, Huifang Shang, P.R. China

**LCT S258**

- **Title:** Telepresence Robots and Their Impact on Human-Human Interaction
  - **Authors:** Lisa Keller, Kevin Pfeffel, Karsten Huffstadt, Nicholas H. Müller, Germany
- **Brain Activation in Virtual Reality for Attention Guidance**
  - **Authors:** Philipp Ulsamer, Kevin Pfeffel, Nicholas H. Müller, Germany
- **Exploiting the Human Factor: Social Engineering Attacks on Cryptocurrency Users**
  - **Authors:** Kristin Weber, Andreas E. Schütz, Tobias Fertig, Nicholas H. Müller, Germany
- **Proactive Smart City Interactions**
  - **Authors:** Madlen Müller-Wuttke, Andreas E. Schütz, Felix Franz, Nicholas H. Müller, Germany
- **Utilizing Context Effects of Banner Ads for Conversion Rate Optimization**
  - **Authors:** Peter Silbermann, Tobias Fertig, Andreas E. Schütz, Nicholas H. Müller, Germany
## HCI International 2020

### Tuesday, 21 July 14:00 - 16:00 (CEST - Copenhagen)

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<td>Human Factors Approaches to Cyber Security within Workplaces</td>
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<td>HCI-Games</td>
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<td>Chair(s): Khaldoon Dhou, United States; Barbara Caci, Italy</td>
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<td>S256</td>
<td>Human Aspects of IT for the Aged Population</td>
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<td>HCI in Games</td>
<td>S263</td>
<td>Mobile Augmented Reality App for Children with Autism Spectrum Disorder (ASD) to Learn Vocabulary (MARVoc): from the Requirement Gathering to its Initial Evaluation</td>
<td>Kamran Khowaja, Dena Al-Thani, Asma Osman Hassan, Qatar; Asadullah Shah, Siti Salwah Salim, Malaysia</td>
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<td>Does technology work? Older adults’ attitudes and difficulties in using computers</td>
<td>Yi-Yin Lin, Lily Chen, Taiwan</td>
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<td>HCI in Games</td>
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<td>Understanding Insider Threat Attacks using Natural Language Processing: Automatically Mapping Organic Narrative Reports to Existing Insider Threat Frameworks</td>
<td>Lynne Coventry, Dawn Branley-Bell, Elizabeth Silence, United Kingdom; Sabina Magalini, Pasquale Mani, Italy; Aimilia Magkanaraki, Kalliopi Anastasopoulou, Greece</td>
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<td>HCI in Games</td>
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<td>The Interplay Between Artificial Intelligence and Users’ Personalities: A New Scenario for Human-Computer Interaction in Gaming</td>
<td>Barbara Caci, Italy; Khaldoon Dhou, United States</td>
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**Parallel Sessions**
### MOBILE S265

**Adoption of Mobile Communications**  
Chair(s): June Wei, United States

**Enhancing E/M-Government Synergy in Kenya: Citizens’ Perspectives on the Driving Factors for M-Government Diffusion**  
Sharon Mirella Wakhu, Kenya; Xu Fuyuan, P.R. China; John O. Kakonge, Kenya

**How Does Mobile Devices Usage Contribute to Individual’s Creativity in Cross-Cultural Settings?**  
Shangui Hu, Hefu Liu, Guoyin Wang, P.R. China

**The Study on How Influencer Marketing Can Motivate Consumer through Interaction-Based Mobile Communication**  
Kai-Shuan Shen, Taiwan

**An Empirical Research on Factors Influencing Virtual Community Members Shift toward E-Commerce Buyers**  
Guangming Yang, Zhongwei Gu, P.R. China; June Wei, United States

**Problems and Suggestions in the Initial Construction of Running Campuses in Different Places**  
Xiang Xie, Qianru Zhang, Haihong Su, P.R. China

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### AIS S264

**S264: Essentials of Learner Modeling for Adaptive Instructional Systems (AISs)**  
Chair(s): Ani Grubisic, Croatia

**Bayesian Student Modelling in the AC&NL Tutor**  
Ines Šarić-Grbić, Ani Grubisic, Branko Žižko, Slavomir Stankov, Angelina Gaspar, Suzana Tomaš, Croatia; Daniel Vasić, Bosnia and Herzegovina

**Learner Modeling in the Context of Caring Assessments**  
Diego Zapata-Rivera, Blair Lehman, Jesse R. Sparks, United States

**Does Time Matter in Learning? A Computer Simulation of Carroll’s Model of Learning**  
Alfred Essa, Shirin Mojarad, United States

**Supporting different Roles and Responsibilities in Developing and Using Context-based Adaptive Personalized Collaboration**  
Mandy Goram, Dirk Veiel, Germany

**Reducing the Gap Between the Conceptual Models of Students and Experts Using Graph-based Adaptive Instructional Systems**  
Philippe J. Gabbanelli, Andrew A. Tawfiq, United States

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### MobiTAS S263

**Human-Systems Integration for Driving Automation Systems - I**  
Chair(s): Peter Mörtl, Austria

**Age-related Differences in the Interaction with Advanced Driver Assistance Systems - A Field Study**  
Norah Neuhuber, Gernot Lechner, Tahir Emre Kalayci, Alexander Stocker, Bettina Kubicek, Austria

**A fluid-HMI approach for Haptic Steering Shared Control for the HADRIAN Project**  
Myriam E. Vaca-Recalde, Mauricio Marcano, Joseba Sarabia, Leonardo González, Joshua Perez, Sergio Diaz, Spain

**Fluid Interface Concept for Automated Driving**  
Paolo Pretto, Peter Mörtl, Norah Neuhuber, Austria

**Evaluating HMI-Development Approaches from an Automotive Perspective**  
Jan Bavendiek, Yannick Ostad, Lutz Eckstein, Germany

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### AIS S266

**Features of Mobile Tracking Apps: A Review of Literature and Analysis of Current Apps Compared Against Travel Agency Requirements**  
Wing Ying Tin, Chee Ling Thong, Su Mon Chit, Lee Yen Chaw, Chiw Yi Lee, Malaysia

**Human-Computer Driving Collaborative Control System for Curve Driving**  
Zhenhai Gao, Yiteng Sun, Hongyu Hu, Xingtai Mei, Lei He, Fei Gao, Tianyaon Zhang, P.R. China

**Research on Permanent Institutions of Mobile Business Income Tax**  
Peiyuan Zhou, Xuelei Zhang, P.R. China

**Research on the Issues and Countermeasures of VAT Legislation for China Mobile Business Users**  
Yun Ruan, Wanyu Li, P.R. China

**Research on the Tax Base of Income Tax of Smart Mobile Commerce**  
Qi Wei, Peiyuan Zhou, P.R. China

**A Study on the Influence of E-commerce Live Streaming on Consumer’s Purchase Intentions in Mobile Internet**  
Shi Yin, P.R. China
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<td><strong>Preservation and Promotion of Opera Cultural Heritage: The Experience of La Scala Theatre</strong>&lt;br&gt;Federico Avanzini, Adriano Baratè, Goffredo Haus, Luca A. Ludovico, Stavros Ntalampiras, Italy</td>
<td><strong>Transparency and Trust in Human-AI-Interaction: The Role of Model-Agnostic Explanations in Computer Vision-Based Decision Support</strong>&lt;br&gt;Christian Meske, Enrico Bunde, Germany</td>
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<td><strong>Mood Boards as a Tool for Studying Emotions as Building Blocks of the Collective Unconscious</strong>&lt;br&gt;EHuang-Ming Chang, Netherlands; Leonid Ivonin, United Kingdom; Marta Diaz, Andreu Catala, Spain; Matthias Rauterberg, Netherlands</td>
<td><strong>Towards Increased Transparency with Value Sensitive Design</strong>&lt;br&gt;Jacob Dexe, Ulrik Franke, Anneli Avatare Nöu, Alexander Rad, Sweden</td>
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<td><strong>Acoustic Experiences for Cultural Heritage Sites: A Pilot Experiment on Spontaneous Visitors’ Interest</strong>&lt;br&gt;Vincenzo Norman Vitale, Marco Olivieri, Antonio Origlia, Niccolò Pretto, Antonio Rodà, Francesco Cutugno, Italy</td>
<td><strong>Color for Characters - Effects of Visual Explanations of AI on Trust and Observability</strong>&lt;br&gt;Color for Characters - Effects of Visual Explanations of AI on Trust and Observability, Germany</td>
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<td><strong>Experiencing the Conditions of Trust: A Practice-Based Exploration of Trust Formation through an Artificial Society Environment</strong>&lt;br&gt;Michael Heidt, Andreas Bischof, Germany</td>
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**HCI International 2020**

**PARALLEL SESSIONS**

**THURSDAY 16:30 - 18:30 (CEST - Copenhagen)**

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<td>Studies on Cognitive Workload and Decision Making</td>
<td>José Manuel Castillo, France</td>
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<td>S271</td>
<td>Technology for Inclusion and Participation (TIP) - II</td>
<td>Ingo Bosse, Christoph Kaleka, Susanne Dirks, Germany</td>
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<td>Recent Developments in Technologies and Techniques for Universal Accessibility - II</td>
<td>Frode Eika Sandnes, Terje Gjøesæter, Norway</td>
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**HUMAN-COMPUTER INTERACTION**

**Ecological Momentary Assessment Tools: Lessons Learned from an HCI Perspective**
Pietro Crovian, Fabio Catania, Micol Spitalie, Franca Garzotto, Italy

**Accuracy Assessment of ARKit 2 Based Gaze Estimation**
Robert Greinacher, Jan-Niklas Voigt-Antons, Germany

**Is it Possible to Predict Human Perception of Video Quality? The Assessment of Sencogi Quality Metric**
Maria Laura Mele, Silvia Colabrese, Luca Calabria, Christa Raineri, Italy

**Adoption of the HTA Technique in the Open Source Software Development Process**
Rosa Llerena, Ecuador; Nancy Rodríguez Gavilanes, Lucrecia Llerena, Spain; John W. Castro, Chile; Silvia T. Acuña, Spain

**UX in IxD - User Experience in Interaction Design**
Miroslav Sili, Johannes Kropf, Sten Hanke, Austria

**Towards a Multimodal Measure for Physiological Behaviours to Estimate Cognitive Load**
Muneeb Imtiaz Ahmad, David A. Robb, Ingo Keller, Katrin Lohan, United Kingdom

**An Exploratory Study on the Perception of Optical Illusions in Real World and Virtual Environments**
Sophie Giesa, Manuel Heinzig, Robert Manthey, Christian Roschke, Rico Thomanek, Marc Ritter, Germany

**Good Boy Here or Bad Boy Far Away? Effects of Digital Nudging on Booking Decisions in Car Sharing**
Tim Schrills, Mourad Zoubir, Jacob Stahl, Katharina Droniak, Thomas Franke, Germany

**Mental Workload and Technostress at Work. Which Perspectives and Theoretical Frameworks Can Help Us Understand Both Phenomena Together?**
José Manuel Castillo, Edith Galy, Pierre Thérouanne, France

**Effects of Virtual Emotional and Task Induced Mental Workload on False Recognition Memory: Electrophysiological Investigation**
Proshanto Kr Saha, Anukampa Sharma, India

**Ambiguous Goals during Human-Computer Interaction Induce Higher Mental Workload**
Thea Raduntz, Marion Freyer, Beate Meffert, Germany

**Engineering Psychology and Cognitive Ergonomics**

**Digital Skills for People with Disabilities in a Learning and Demonstration Experience Laboratory - The project „Emscher-Lippe hoch 4“**
Ann Christine Schulz, Caroline Hirtz, Germany

**Digitally-Supported Inclusive Vocational Education - Conceptual Considerations for the Hotel and Restaurant Industry**
Nele Sonnenschein, Anna-Maria Kamin, Germany

**Web Accessibility in Portuguese Museums: Potential Constraints on Interaction for People with Disabilities**
Pedro Teixeira, Maria João Carneiro, Celeste Eusébio, Leonor Teixeira, Portugal

**Creation Process for a Technology Design Model Promoting Active Participation of End Users with Neurodevelopmental Disorders: Achievements and Pitfalls**
Dany Lussier-Desrochers, Marie-Ève Dupont, Yves Lachapelle, Canada; Line Massé, Cameroon; Annie Martineau, Laurence Pépin-Beauchesne, Canada

**The STORM Project: Using Video Game to Promote Completion of Morning Routine for Children With Attention Deficit Hyperactivity Disorder and Autism Spectrum Disorder**
Laurence Pépin-Beauchesne, Dany Lussier-Desrochers, Annie-Claude Villeneuve, Marie-Ève Dupont, Canada; Line Massé, Cameroon; Annie Martineau, Canada

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**Construction of an Inexpensive Eye Tracker for Social Inclusion and Education**
Otthar A.N. Krohn, Vako Varankian, Pedro G. Lind, Gustavo B. Moreno e Mello, Norway

**Homebased Telework as a Tool for Inclusion? A Literature Review of Telework, Disabilities and Work-Life Balance**
Anne Igeljørn, Laurence Habib, Norway

**Smartphone Navigation Support for Blind and Visually Impaired People - A Comprehensive Analysis of Potentials and Opportunities**
Bineeth Kurilakose, Raju Shrestha, Frode Eika Sandnes, Norway

**User Interfaces in Dark Mode During Daytime – Improved Productivity or Just Cool-Looking?**
Lasse Apalnes Pedersen, Steinar Skuli Einarsson, Fredrik Arne Rikheim, Frode Eika Sandnes, Norway

**A Comparative Study of Three Sudoku Input Methods for Touch Displays**
Aslak Bureih Sommervold, Benjamin Nils Øvergaard, Eskil Nysether, Mohammad Yusuf Nur, Frode Eika Sandnes, Norway

**A Comparative Study of Accessibility and Usability of Norwegian University Websites for Screen Reader Users Based on User Experience and Automated Assessment**
Prabin Parajuli, Nepal; Evelyn Eika, Norway
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#### VAMR for Collaboration
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- Calibration of Diverse Tracking Systems to Enable Local Collaborative Mixed Reality Applications
  - Adrián H. Hoppe, Leon Kaucher, Florian Van de Camp, Rainer Stiefelhagen, Germany
- Virtual Reality (VR) in the Computer Supported Cooperative Work (CSCW) domain: A Mapping and a Pre-Study on Functionality and Immersion
  - Gitte Pedersen, Konstantinos Koumiditis, Denmark
- Interactive AR Models in Participation Processes
  - Jonas Hansert, Mathias Trefzger, Thomas Schlegel, Germany
- Underwater Search and Discovery: From Serious Games to Virtual Reality
  - Fotis Liarokapis, Cyprus; Iveta Vidová, Czech Republic; Selma Rizvić, Bosnia and Herzegovina; Stella Demesticha, Dimitrios Skarlatos, Cyprus
- Design and Implementation of a Virtual Workstation for a Remote AFISO
  - Thomas Hofmann, Jörn Jakobi, Marcus Biella, Christian Blessmann, Fabian Reuschling, Tom Kamender, Germany

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- Navigating a Heavy Industry Environment Using Augmented Reality – A Comparison of Two Indoor Navigation Designs
  - Alexander Amts, Dustin Kößler, Nele Borgert, Nico Zengeler, Marc Jansen, Uwe Handmann, Sabrina C. Eimler, Germany
- Mixed Mock-Up – Development of an Interactive Augmented Reality System for Assembly Planning
  - Florian Dyck, Jörg Stöcklein, Daniel Eckert, Roman Dumitrescu, Germany
- Measurement Based AR for Geometric Validation within Automotive Engineering and Construction Processes
  - Muhammad Ali Shahid, Benjamin-Paul Jesche, Manuel Obirich, Holger Graf, Andreas Franek, Arjan Kuliper, Ulrich Bochholt, Michael Schmitt, Germany
- A Comparison of Augmented and Virtual Reality Features in Industrial Trainings
  - WLea Daling, Anas Abdelrazeq, Ingrid Isenhardt, Germany
- A Context-Aware Assistance Framework for Implicit Interaction with an Augmented Human
  - Eva Lampen, Janes Lehwald, Thies Pfeiffer, Germany

#### Digital Advertising Literacy: Genericity, Gender, Generation
Chair(s): Karine Berthelot-Guiet, France
- “Fail, Clickbait, Cringe, Cancel, Woke”: Vernacular Criticisms of Digital Advertising in Social Media Platforms
  - Gustavo Gomez-Meja, Chile
- Exploring Advertising Literacy Digital Paths: Comparison Between Gender Approaches Among Chilean Students
  - Claudia Montero-Liberona, Gianluigi Pimentel-Varas, Gregorio Fernández-Valdés, Chile
- The Digital “Advertising Call”: An Archeology of Advertising Literacy
  - Karine Berthelot-Guiet, France
- Gender Digital Violence - Study, Design and Communication of an Awareness-raising Campaign from University to University
  - Mauro Ferraresi, Italy

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- Automatic Versus Manual Forwarding in Web Surveys - A Cognitive Load Perspective on Satisficing Responding
  - Arto Selkälä, Finland; Mario Callegaro, United Kingdom; Mick P. Couper, United States
- Online Gambling Activity in Finland 2006–2016
  - Aki Koivula, Pekka Räsänen, Ilkka Koiranen, Teo Keipi, Finland
- The Confidence in Social Media Platforms and Private Messaging
  - Jukka Vuorinen, Aki Koivula, Ilkka Koiranen, Finland
- Illicit Drug Purchases via Social Media among American Young People
  - Atto Oksanen, Finland; Bryan Lee Miller, United States; Iina Savolainen, Anu Sirola, Finland; Jakob Demant, Denmark; Markus Kaakinen, Finland; Izabela Zych, Spain
- Social Media Use, Political Polarization, and Social Capital: Is Social Media Tearing the U.S. Apart?
  - James Hawdon, Shyam Ranganathan, Scotland Leman, Shane Bookhultz, Tanushree Mitra, United States
- Compliment Rules or Compliments Rule? A Population-Level Study of Appearance Commenting Norms on Social Media
  - Erica Åberg, Aki Koivula, Iida Kukkonen, Outi Sarpila, Tero Pajunen, Finland
SCSM S277

Video Sharing and Live Streaming Services
Chair(s): Katrin Scheibe, Franziska Zimmer, Germany

Augmented Cognition

AC S278

Teaching, Training and Performing in Hybrid Contexts - Interdisciplinary Research Approaches
Chair(s): Stefan Sütterlin, Ricardo G. Lugo, Benjamin J. Knox, Norway

Self Regulation
Chair(s): Melissa Walwanis, Amy Bolton, Jarrod Moss, United States

Human-Autonomy Teaming
Chair(s): Dale Richards, United Kingdom

Guided Mindfulness: Using Expert Schemas to Evaluate Complex Skill Acquisition
Mina Milosevic, Katherine Rau, Lida P. Ponce, Nicholas A. Moon, Nisha Quraishi, Alexander Webber, Richard L. Griffith, United States

Tracking and Improving Strategy Adaptivity in a Complex Task
Jarrod Moss, Gary Bradshaw, Aaron Wong, Jaymes Durriseau, Philip Newlin, Kevin Barnes, United States

Increasing Engagement in a Cyber-Awareness Training Game
Robert E. Wray, Lauren Massey, Jose Medina, Amy Bolton, United States

Global Mindset - A Complex Cognitive Model Used for Global Leadership Decision-making when Working Across Geographical Boundaries
Agnes Flett, United Kingdom

The Platonic-Freudian Model of Mind: Defining “Self” and “Other” as Psychoinformatic Primitives
Sauraj Sood, United States

Happiness and Affective Human-Computer Interaction
Lesley Perg, Sauraj Sood, Monte Hancock, United States

Chair(s): Galen Bass, United Kingdom

THURSDAY 16:30 - 18:30

Thursday, 23 July 16:30 - 18:30 (CEST - Copenhagen)
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**Human Factors In Smart HCI - II**  
Chair(s): Nicholas H. Müller, Germany

- Virtual Reality as a Stress Reduction Measure - Chilling Out on the Beach in my Living Room  
  Kevin Pfeffel, Megi Elezi, Philipp Ulsamer, Nicholas H. Müller, Germany

- Who Knows What in my Team? – An Interactive Visualization-based Instrument for Developing Transactive Memory Systems in Teams  
  Josef H. Gammel, Dorothea Pantsoerder, Timon Schulze, Katharina G. Kugler, Felix C. Brodbeck, Germany

- Towards an Information Security Awareness Maturity Model  
  Tobias Fertig, Andreas E. Schütz, Kristin Weber, Nicholas H. Müller, Germany

- Investigating Mobile Device-Based Interaction Techniques for Collocated Merging  
  Romina Kühn, Mandy Korzetz, Felix Kallenbach, Karl Kegel, Uwe Allmann, Thomas Schlegel, Germany

- A Conversational Agent as Facilitator: Guiding Groups Through Collaboration Processes  
  Navid Tavanapour, Daphne Theodorakopoulou, Eva A. C. Bittner, Germany

### LCT S286
**Interactive Learning Ecosystems - V**  
Chair(s): Francisco J. García-Peñalvo, David Fonseca, Spain

- A real-time cross-sectioning system for visualization of architectural construction details  
  Luis A. Hernandez-Ibáñez, Viviana Barneche-Naya, Spain

- An Authoring Platform for CSCL Script Definition  
  Andreas Papasalouros, George Chatzimichalis, Greece

- Impact of Constant Work on the Students’ Academic Performance  
  Patricia Compañ-Rosique, Rafael Molina-Carmona, Rosana Satorre-Cuerda, Spain

- AI-driven Assessment of Students: Current Uses and Research Trends  
  José Carlos Sánchez-Prieto, Adriana Gamazo, Juan Cruz-Benito, Roberto Therón, Francisco J. García-Peñalvo, Spain

- Designing a Faculty Chatbot through User-Centered Design Approach  
  Dijana Plantak Vukovac, Ana Horvat, Zlatko Stapic, Croatia

### LCT S287
**Novel Approaches to Learning - III**  
Chair(s): Zainb Dawod, United Kingdom

- Semantically Annotated Learning Media for Reduced Cognitive Load  
  Zainb Dawod, David Bell, United Kingdom

- Play to learn! Nurturing Fundamental Digital Skills of Romanian Preschoolers by developing Edutainment Applications  
  Adriana-Mihaela Guran, Grigoreta-Sofia Cojocar, Anamaria Moldovan, Romania

- Does Immersive VR Increase Learning Gain when Compared to a Non-immersive VR Learning Experience?  
  Khadija Mahmoud, Isaac Harris, Husam Yassin, Thomas J. Hurkxkens, Omar K. Matar, Nitesh Bhatia, Irene Kalkanis, United Kingdom

- Fabric Robotics - Lessons Learned Introducing Soft Robotics in a Computational Thinking Course for Children  
  Bjørk Kristian Maigaard Kjær Pedersen, Emanuela Marchetti, Andrea Valente, Jacob Nielsen, Denmark

- Design and Development of a Web Extension to Help Facilitate the Learning of a Foreign Language  
  Connor Corbin, Deniz Cetinkaya, Huseyin Dogan, United Kingdom

### HCI-CPT S288
**Studies on Cybersecurity, Privacy and Trust**  
Chair(s): Patricia Morreale, United States

- Understanding Users’ Relationship with Voice Assistants and How it Affects Privacy Concerns and Information Disclosure Behavior  
  Charulata Ghosh, Matthew S. Eastin, United States

- Smart Home Security and Privacy Mitigations: Consumer Perceptions, Practices, and Challenges  
  Julie M. Haney, Susanne M. Furman, United States; Yasemin Acar, Germany

- Privacy Apps for Smartphones: An Assessment of Users’ Preferences and Limitations  
  Tanusree Sharma, Masooda Bashir, United States

- Multi-Method Approach Measuring Trust, Distrust, and Suspicion in Information Technology  
  Sarah A. Jessup, Gene M. Alarcon, August Capiola, Tyler J. Ryan, United States

- Analyzing Cybersecurity Understanding Using a Brain Computer Interface  
  Kingberli Capellan, Manuel Condado, Isabel Morais, Patricia Morreale, United States
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**Challenging Research Topics in AAA Video Games**
Chair(s): Kevin Keeker, United States

- **Finding the Fun: Prototyping for Game Development**
  Jacob Jeannot-Schroeder, United States
- **Communication Gaps between Video Game Researchers**
  John Dominic Diez, Edward Melcer, United States
- **Games: It's not about fun**
  Randy Pagulayan, United States
- **Training Students for Industry**
  Liz Schmidlin, United States

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**Making Digital Games Enjoyable: Causes, Processes, and Benefits of Enjoyment**
Chair(s): Owen Schaffer, United States

- **Guidance is Good or Avoid Too Much Hand-Holding? Proposing a Controlled Experiment on the Impact of Clear Proximal Goals on Digital Game Enjoyment**
  Owen Schaffer, United States
- **Gender and Genre Differences in Multiplayer Gaming Motivations**
  Donghee Yvette Wahn, Rabindra Ratan, Leticia Cherchiglia, United States
- **Building Human-Autonomy Teaming Aids for Real-Time Strategy Games**
  Christianne Izumigawa, Crisrael Lucero, Lena Nans, Kurt Frederiksen, Oliver Hui, Iovanni Enriquez, Seana Rothman, Rebecca Iden, United States
- **Systems Approach to Designing an Enjoyable Process for Game Designers**
  Nandhini Giri, Erik Stolterman, United States

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**Recent Advancements in Gaming and HCI - II**
Chair(s): Khaldoon Dhou, United States; Barbara Caci, Italy

- **A Novel Investigation of Attack Strategies via the Involvement of Virtual Humans: A User Study of Josh Waitzkin, a Virtual Chess Grandmaster**
  Khaldoon Dhou, United States
- **Brain-Controlled Drone Racing Game: A Qualitative Analysis**
  Dante Tezza, Derek Caprio, Sarah Garcia, Blanche Pinto, Denis Laesker, Marvin Andujar, United States
- **A Tool to Support Players Affective States Assessment Based on Facial Expressions Analysis**
  Marcos C. Fleury, Tiago Barros Pontes E Silva, Mauricio Miranda Sarment, Carla Denise Castanho, Brazil
- **An Analysis of Engagement Levels While Playing Brain-Controlled Games**
  Dante Tezza, Derek Caprio, Blanche Pinto, Isabella Mantilla, Marvin Andujar, United States

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**Human-Systems Integration for Driving Automation Systems - II**
Chair(s): Peter Mörtl, Austria

- **Toward Driver State Models that Explain Interindivudual Variability of Distraction for Adaptive Automation**
  Margit Höfler, Peter Mörtl, Austria
- **Hand-Skin Temperature Response to Driving Fatigue: an Exploratory Study**
  Leandro L. Di Stasi, Evelyn Gianfranchi, Carolina Diaz-Piedra, Spain
- **Perception and Processing in Automated Driving – A Dual Process Application**
  Vanessa Sauer, Alexander Mertens, Madeleine Reiche, Christoph Mai, Jens Hetland, Verena Nitsch, Germany

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- **Global implications of human tendencies towards automated driving and human driver availability in autonomous vehicles**
  Ankit R. Patel, Flora Ferreira, Sergio Monteiro, Estela Bicho, Portugal
- **Affective Use Cases for Empathic Vehicles in Highly Automated Driving: Results of an Expert Workshop**
  Michael Oehl, Klas Ihme, Anna-Antonia Pape, Mathias Vukelić, Michael Braun, Germany
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<td>Mareike Stamer, Germany; Joseph Michaels, United States; Johannes Tümler, Germany</td>
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<td>Improving Emergency Vehicles’ Response Times with the Use of Augmented Reality and Artificial Intelligence</td>
<td>Kweku Bram-Larbi, Vassilis Charissis, Soheeb Khan, David Harrison, United Kingdom; Dimitris Drikakis, Cyprus</td>
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<td>Lijia Wang, Keith Shubeck, Xiangen Hu, United States</td>
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<td>Competency Development through Experiential Training: Mapping Scenarios with Assessments</td>
<td>Benjamin Goldberg, Michael Hoffman, Chris Meyer, Michael Kalaf, United States</td>
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<td>Sensor-based Adaptive Instructional Systems in Live Simulation Training</td>
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<td>An Ambient &amp; Pervasive Personalized Learning Ecosystem: “Smart Learning” in the Age of the Internet of Things</td>
<td>Anastasia Betts, KP Thai, Sunil Gundera, Paula Hidalgo, Meagan Rothschold, Diana Hughes, United States</td>
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<td>Nature at Your Service - Nature Inspired Representations Combined with Eye-gaze Features to Infer User Attention and Provide Contextualized Support</td>
<td>Carla Barreiros, Portugal; Nelson Silva, Viktoria Pammern-Schindler, Eduardo Veas, Austria</td>
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<td><strong>Digital content effects and Children as a consumer</strong></td>
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<td>Uttam Kumar Roy, Bangladesh; Wei-Ning Tang, P.R. China</td>
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**Media Interaction: Engagement, Emotions and Digital Entertainment**  
Chair(s): Valdecir Becker, Brazil

**Player Needs First: Understanding Player Needs before Designing a K-pop Themed Mobile Game**  
Juan Oreste Braga De Oliveira, Antonio Felipe Cumaru Inhamuns, Brazil

**Read Ahoy! A playful digital-physical Viking experience to engage children in finding and reading books**  
Andrea Resmini, Bertil Lindenfalk, Sweden

**Applying Designing Lines to Develop Audiovisual Systems**  
Valdecir Becker, Daniel Gambaro, Rafael M. Toscano, Helder Bruno A.M. De Souza, Thainá Dos S. Gomes, Maria C.D. Silva, Ed Porto Bezerra, Brazil

**Ethnographic Practice and the Problem of Context in Interaction Design Education**  
Michael Lahey, United States

**Tools with Histories: Exploring NFC-tagging to support hybrid documentation practices and knowledge discovery in makerspaces**  
Daragh Byrne, Marti Louw, United States

**Pathway to a Human-Values Based Approach to Tackle Misinformation Online**  
Lara S.G. Piccolo, United Kingdom; Alisson Puska, Roberto Pereira, Brazil; Tracie Farrell, United Kingdom

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**Models, Patterns and AI-Methods for Creating Smart and Flexible Interactive Systems**  
Chair(s): Christian Märtin, Germany

**FaceForward – An AI-based Interactive System for Exploring the Personal Potential**  
Elisabeth Veronica Mess, Dennis Rockstein, Christian Märtin, Germany

**Modelling the Collaboration of a Patient and an Assisting Humanoid Robot during Training Tasks**  
Peter Forbrig, Alexandru-Nicolae Bundea, Germany

**Improving Dialogue Design and Control for Smartwatches by Reinforcement Learning Based Behavioral Acceptance Patterns**  
Rainer Lutze, Klemens Waldhör, Germany

**Modeling and Runtime Generation of Situation-aware Adaptations**  
Christian Herdin, Christian Märtin, Germany

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**Socio-cultural and Linguistic Aspects in Human-Computer Interaction**  
Chair(s): Christina Alexandris, Greece

**Generating Graphic Representations of Spoken Interactions Revisited: The Tension Factor and Information Not Uttered in Journalistic Data**  
Christina Alexandris, Dimitrios Mourouzidis, Vasilios Floros, Greece

**Insights into the work of Editors of Digital Scholarly Editions for Correspondences**  
Tobias Holstein, Uta Störl, Germany

**Training Professionals to Bring Digital Transformation into Museums: the Mu.SA Blended Course**  
Massimiliano Dibitonto, Katarzyna Leszcynska, Elisa Cruciani, Carlo Maria Medaglia, Italy

**Database Semantics for Talking Autonomous Robots**  
Roland Hausser, Germany

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**The Power of Inclusive Design - how this methodology helps building technology that works for all**  
Chair(s): Ulla Geisel, Germany

**Using Inclusive Research to Promote Inclusive Design: Possibilities and Limitations in a Corporate Environment**  
Greg Weinstein, United States

**Inclusive Design - Go Beyond Accessibility**  
Roland Buß, Germany

**From UCD to HCD and Beyond - Conciliating the Human Aims between Philosophy and Design Education**  
Romualdo Gondomar, Enric Mor, Spain

**DICT and Seniors: How can Research Experience Help us Map Digital Competencies?**  
Cecilia Henriques, Denise Pilar, Brazil
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**Chair(s):** Emmanuelle Savarit, Peter Gregory Dunn, United Kingdom

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  Sabrina Duda, Carolyn Warburton, Nissa Black, United Kingdom

- **A Successful Transformation of Work? An Exploratory Analysis on Requirements and Evaluation Criteria**
  Julian Hildebrandt, Johanna Kluge, Martina Ziefle, Germany

- **BeaCON - A Research Framework Towards an Optimal Navigation**
  Arun Balakrishna, Tom Gross, Germany

- **Documentation tasks with tablet or smartphone in the workplace: A study with respect to OSH**
  Patricia Tegtmeier, Christiane Adomeit, Sascha Wischniewski, Germany

- **The Problems with Usability Testing**
  Peter Gregory Dunn, Alice Hayes, United Kingdom

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#### User Experience Assessment Methods and Case Studies - III
**Chair(s):** Brian Pickering, United Kingdom

- **An Experimental Study of Typography using EEG Signal Parameters**
  Ana Rita Teixeira, Anabela Gomes, Portugal

- **A new approach to measure user experience with voice-controlled intelligent assistants: A pilot study**
  Félix Le Paillier, Bo Huang, Pierre-Majorique Léger, Sylvain Sénécal, Canada

- **Using Reinforcement Learning Agents to Analyze Player Experience**
  Tian Zhu, United States; Powen Yao, Taiwan; Michael Zyda, United States

- **Ask Me No Questions: Increasing Empirical Evidence for a Qualitative Approach to Technology Acceptance**
  Brian Pickering, Rachael Bartholomew, United Kingdom; Mariet Nouri Janian, Italy; Borja Lopéz Moreno, Spain; Michael Surridge, United Kingdom

- **The Influences of Media Naturalness and Mental Model Alignment on Reducing Patient Uncertainty in Virtual Consultation**
  Yuxi Vania Shi, Sherrie Y.X. Komiak, Paul Komiak, Canada

- **An empirical investigation of young children’s digitally augmented play**
  Eva Brooks, Anthony Brooks, Denmark

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**Chair(s):** To be announced

- **Software Crowdsourcing Design: An Experiment on the Relationship between Task Design and Crowdsourcing Performance**
  Turki Aleyani, Saudi Arabia; Paul T. Grogan, Yia Tausczik, Ye Yang, United States

- **User-Centered Design of a Process-Recommender System for Fiber Reinforced Polymer Production**
  Thomas Schemmer, Philipp Braun, Anne Kathrin Schaar, Martina Ziefle, Florian Brillowski, Germany

- **A Generalized User Interface Concept to enable Retrospective System Analysis in Monitoring Systems**
  Viviane Herdel, Bertram Wortelen, Mathias Lanezki, Andreas Lüdtke, Germany

- **How to Design a Research Data Management Platform? Technical, Organizational and Individual Perspectives and Their Relations**
  Lennart Hofeditz, Björn Ross, Konstantin Willms, Marius Rother, Stephanie Rethwald, Béla Brenger, Ania López, Raimund Vogl, Dominik Rudolph, Germany

- **Implementation of Descriptive Similarity for Decision Making in Smart Cities**
  Maryna Averkyna, Estonia

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#### Human Energy & Resource Regulation: Conceptualization, Measurement, and Application
**Chair(s):** Thomas Franke, Mourad Zoubir, Germany

- **Fostering Flow Experience in HCI to Enhance and Allocate Human Energy**
  Corrina Peller, Annette Kluge, Nikol Rumml, Dorothea Kolossa, Germany

- **Managing Human Energy with Music? An Explorative Study of Users’ Energy-Related Listening Behaviours**
  Mourad Zoubir, Thomas Franke, Germany

- **Application of a Pictorial Scale of Human Energy in Ecological Momentary Assessment Research**
  Fabienne Lambusch, Oliver Weigelt, Michael Fellmann, Katja Siestrup, Germany

- **Augmented Energy for Locomotion: How do Users Perceive Energy Dynamics in Prototypical Mobility Scenarios?**
  Markus Gödker, Thomas Franke, Germany

- **Human Energy in Organizations: Theoretical Foundations and IT-based Assessment**
  Michael Fellmann, Fabienne Lambusch, Oliver Weigelt, Germany
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**Affective Computing for New Emotional Human-Computer Interfaces**  
Chair(s): Maura Mengoni, Italy

**Video Games to Foster Empathy: A Critical Analysis of the Potential of Detroit: Become Human and The Walking Dead**  
Federica Pallavicini, Alessandro Pepe, Chiara Carmela Caragnano, Fabrizia Mantovani, Italy

**Affective Communication Enhancement System for Locked-In Syndrome Patients**  
Fanny Larradet, Giacinto Barresi, Leonardo S. Mattos, Italy

**Affective Computing and Loneliness: How this Approach could Improve a Support System**  
Laura Burzagli, Simone Naldini, Italy

**A Preliminary Investigation Towards the Application of Facial Expression Analysis to Enable an Emotion-Aware Car Interface**  
Silvia Ceccacci, Maura Mengoni, Generosi Andrea, Luca Giraldi, Giuseppe Carbonara, Andrea Castellano, Roberto Montanari, Italy

### SCSM S310

**Frontiers of Social Media**  
Chair(s): Christian W. Scheiner, Germany

**I Do It Because I Feel That... Moral Disengagement and Emotions in Cyberbullying and Cybervictimisation**  
Oronzo Parlangeli, Enrica Marchigiani, Stefano Guidi, Margherita Bracci, Alessandro Andreadis, Riccardo Zambon, Italy

**Roles on Corporate and Public Innovation Communities: Understanding Persons to Reach New Frontiers**  
Maximillian Rapp, Niclas Kröger, Samira Scheerer, Germany

**The Role of Moral Receptors and Moral Disengagement in the Conduct of Unethical Behaviors on Social Media**  
Christian W. Scheiner, Germany

**Effective Online Advertising Strategy**  
Marc Oliver Opresnik, Germany

**Materialism and Facebook Usage: Could Materialistic and Non-Materialistic Values be Linked to Using Facebook Differently?**  
Roshan Rai, Jade Blockside, Mei-I Cheng, United Kingdom

### AC S311

**Harnessing the Power of Neuroergonomics for Augmented Cognition: Real-time monitoring & human-system performance enhancement**  
Chair(s): Kurtulus Izzetoglu, States

**Using fMRI to Predict Training Effectiveness in Visual Scene Analysis**  
Joseph D. Borders, Bethany Dennis, Birken Noesen, Assaf Harel, United States

**A Neuroimaging Approach to Evaluate Choices and Compare Performance of Tower Air Traffic Controllers during Missed Approaches**  
Ivin J. Ayeni, Kiranraj Pushparaj, Singapore; Kurtulus Izzetoglu, United States; Sameer Alam, Vu N. Duong, Singapore

**The Role of Gaze as a Deictic Cue in Human Robot Interaction**  
Efcan Yilmaz, Mehmetcan Fal, Cengiz Acarturk, Turkey

**Multimodal Analysis using Neuroimaging and Eye Movements to Assess Cognitive Workload**  
Ricardo Palma Fraga, Venezuela; Pratasha Reddy, Ziho Kang, Kurtulus Izzetoglu, United States

### DHM S312

**Human-Automation Interaction**  
Chair(s): Vincent G. Duffy, United States

**Advancing a ‘Human Factors & Ethics Canvas’ for New Driver Assistance Technologies Targeted at Older Adults**  
Joan Cahill, Katie Crowley, Sam Cromie, Ciaran Doyle, Eamonn Kenny, Alison Kay, Michael Gormley, Sonja Hermann, Ann Hever, Robert Ross, Ireland

**Development and Evaluation of a Research Framework for Measuring the Reliance on Automation in Situations of Risk and Moral Dilemma**  
Gian Luca Liehner, Philipp Brauner, Anne Kathrin Schaar, Martina Ziefle, Germany

**How Do We Sit when Our Car Drives for Us?**  
Martin Fleischer, Si Chen, Germany

**The Difficulties in Usability Testing of 3-Dimensional Software Applying Eye-Tracking Methodology – Presented via Two Case Studies of Evaluation of Digital Human Modelling Software**  
Mária Babicsné Horváth, Károly Hercegfi, Hungary

**Statistical Posture Prediction of Vehicle Occupants in Digital Human Modelling Tools**  
Erik Brolin, Dan Högbog, Pernilla Nurbo, Sweden

**Proactive Analysis of Complex Systems through DHM: Paradigmatic Application of an Innovative Ergonomic Cumulative Index to Large Retail Stores**  
Carlo Emilio Standoli, Nicola Francesco Lopomo, Stefano Elio Lenzi, Giuseppe Andreoni, Italy
**Modern Applications - III**  
Chair(s): David A. Plecher, Germany

**TrackSugAR**  
David A. Plecher, Christian Eichhorn, Conrad Steinmetz, Gudrun Klinker, Germany

**CASM: Cricket Automation and Stroke Recognition Model using OpenPose**  
Tevin Moodley, Dustin Van der Haar, South Africa

**Development and Evaluation of a Platform-independent Surgical Workstation for an Open Networked Operating Theatre Using the IEEE 11073 SDC Communication Standard**  
Okan Yilmaz, Dario Wieschebrock, Jan Heibeyn, Klaus Rademacher, Armin Jäní, Germany

**A Technology-Driven Approach for Child-Friendly Diabetes Management**  
Martin Lurz, Maren Billmann, Markus Böhm, Helmut Krcmar, Germany

**A Reliable and Inexpensive Integration of Virtual Reality and Digital Human Modelling to Estimate Cervical Spine Function**  
Nicola Francesca Lopomo, Paolo Mosna, Stefano Elio Lenzò, Carlo Emilio Standoli, Paolo Perego, Stefano Negriini, Giuseppe Andreoni, Italy

**Can an Environmental Feature Influence Interview Anxiety? A Virtual Reality Study**  
Elisangela Vilar, Paulo Noriega, Tania Borges, Francisco Rebelo, Sara Ramos, Portugal

**eSports: How do Video Game Aspects Define Competitive Gaming Streams and Spectatorship**  
Eulerson Rodrigues, Ernesto Filgueiras, Portugal

**Emotional Design and Gamification in Educational Processes: Predictor Model to Increase Video Game Efficiency**  
Romulo Pinto, Ernesto Filgueiras, Portugal; Karina Moutinho, Brazil

**Gamedesign and physiotherapy: Contribution of gamification and UX techniques to physical teenagers recovery**  
Ernesto Filgueiras, Gustavo Desouza, Portugal

**Automatic Emotional Balancing in Game Design: Use of Emotional Response to Increase Player Immersion**  
Willyan Dworak, Ernesto Filgueiras, João Valente, Portugal

**Measures for Emotional Design - I**  
Chair(s): Francisco Rebelo, Ernesto Filgueiras, Portugal

**Creativity and Innovation in DUXU**  
Chair(s): Virginia Tiradentes Souto, Brazil

**How to Design Potential Solutions for a Cross-Country Platform that Leverages Students’ Diversity: A User-Centered Design Approach – and its Challenges**  
Giulia D’Ettore, Thomas Bjarner, Amalia De Götzzen, Denmark

**Available Technologies: Web Design for Technology Transfer from Public Education and Research Institutions**  
Daniel Nascimento Medeiros, Virginia Tiradentes Souto, Brazil

**Analysis of clustering techniques in MMOG with restricted data: the case of Final Fantasy XIV**  
Lucas Vanderlei Fernandes, Mauricio Miranda Sarment, Carla Denise Castanho, Ricardo Pezzuol Jacobi, Tiago Barros Pontes E Silva, Brazil

**How to Design Potential Solutions for a Cross-Country Platform that Leverages Students’ Diversity: A User-Centered Design Approach – and its Challenges**  
Giulia D’Ettore, Thomas Bjarner, Amalia De Götzzen, Denmark

**Designing an Innovative Collaborative Learning Application: The Case of Method 300**  
Virginia Tiradentes Souto, Ricardo Ramos Fragelli, Wilson Henrique Veneziano, Brazil

**UX concerns in developing functional orthodontic appliances**  
Stefano Filippi, Luca Grigolato, Gianpaolo Savio, Italy

**Design and Usability of an E-Health Mobile Application**  
Maria Rita Nogueira, Paulo Menezes, Sérgio Carvalho, Bruno Patrão, Inês A. Trindade, Raquel Guimaraes, Joana Duarte, Teresa Lapa, José Pinto-Gouveia, Paula Freitas Cairilo, Portugal
**Friday, 24 July  17:00 - 19:00 (CEST - Copenhagen)**

**DUXU  S317**

**User-Centered Design in Interactive Systems**  
Chair(s): Claire Ancient, United Kingdom

**Augmented Reality Interface Design to Support Visualisation of ‘Risk Landscapes’**  
Claire Ancient, Richard Teweu, United Kingdom

**Multisensory HCI Design with Smell and Taste for Environmental Health Communication**  
Paula Neves, Antonio Camara, Portugal

**Navigating through Haptics and Sound: A Non-visual Navigation System to Enhance Urban Bicycling**  
Anette Isabella Giesa, Sweden

**User experience requirements and interface design for the TouristHub trip planning platform**  
Modestos Stavrakis, Damianos Gavalas, Panayiotis Koutsabasis, Spyros Vosinakis, Greece

**Increasing Awareness of Avalanche DANGER: Redesigning a Bulletin**  
Bojan Blažica, Franc Novak, Sabela Pkopla, Peter Novak, Vanja Blažica, Slovenia

**Holistic Assessment of Situated Cooking Interactions: Preliminary Results of an Observational Study**  
Stephanie Van Hove, Anissa Ali, Peter Conradie, Lieven De Marez, Belgium

**Adaptability and Attuning in Smart Cities: Exploring the HCI Grand Challenge of Learning and Creativity**  
H. Patricia McKenna, Canada

**Smart Learning in the Community: Supporting Citizen Digital Skills and Literacies**  
Pen Lister, Malta

**Tableware: Social Coordination through Computationally Augmented Everyday Objects Using Auditory Feedback**  
Yanjun Lyu, Brandon Mechtley, Lauren Hayes, Xin Wei Sha, United States

**Participatory Governance in Smart Cities: Future Scenarios and Opportunities**  
Nicole Shadowen, Thomas Lodato, Daria Loi, United States

**The Role of Learning City “Smart Teams” In Promoting, Supporting, and Extending the Community School Model**  
Sarah Chauncey, Gregory I. Simpson, United States

**HCI in Business, Government and Organizations**  
**DAPI  S318**

**Urban Life in Smart Cities, Learning Cities, and Future Cities**  
Chair(s): H. Patricia McKenna, Canada

**Advancing Design Innovation and Maturity with Sustainable UX Capacity-Building and Adoption: Insights from SIGCHI IR**  
Kaveh Bazargan, Ms. Mina Tafazoli, Iran

**Storytelling with Data in the Context of Industry 4.0: A Power BI-based case study on the shop floor**  
Juliana Salvadorinho, Leonor Teixeira, Beatriz Sousa Santos, Portugal

**Designing Community-based Open Innovation Platforms based on Actual User Behavior**  
Claas Digmayer, Eva-Maria Jakobs, Germany

**Digital Business Transformation - I**  
Chair(s): Kaveh Bazargan, Iran

**Transformation Action Cycle - Suggestions for Employee Centered Transformation to Digital Work in SMEs**  
Johanna Kluge, Martina Ziefle, Achin Buschmeyer, Cornelia Hahn, Germany

**Understanding How Virtual Agile Teams Use Slack in Humanistic Co-Design Projects**  
Areej Al-Wabil, Shiroq Al-Megren, Basmah AlKadhi, Saudi Arabia

**Towards Conversational E-Government - An Experts’ Perspective on Requirements and Opportunities of Voice-based Citizen Services**  
Matthias Baldauf, Hans-Dieter Zimmermann, Switzerland

**It’s About the Documents - Re-Engineering Business Processes in Public Administrations**  
Christopher Lentsch, Thomas Herrmann, Germany

**Human Computer Interaction Aspects of Enterprise Social Networks: an Empirical Validation of Adoption Model in a Developing Country**  
Ghada Refaat El Said, Egypt

**HCI for Enterprises and Public Administration**  
Chair(s): To be announced

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**PARALLEL SESSIONS**

**HCIBGO  S319**

**Transformation Action Cycle - Suggestions for Employee Centered Transformation to Digital Work in SMEs**  
Johanna Kluge, Martina Ziefle, Achin Buschmeyer, Cornelia Hahn, Germany

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Ghada Refaat El Said, Egypt
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<td><strong>Learning Experience Design: Embodiment, Gesture, and Interactivity</strong>&lt;br&gt;Chair(s): Andri Ioannou, Yiannis Georgiou, Cyprus; Mina Johnson, United States</td>
<td><strong>Technologies Within and Beyond the Classroom</strong>&lt;br&gt;Chair(s): Ajrina Hysaj, United Arab Emirates</td>
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<td><strong>Intergenerational Use of New Media</strong>&lt;br&gt;Chair(s): Eugène Loos, Netherlands; Inês Amaral, Portugal</td>
<td><strong>Understanding Technological and Environmental Needs of Older Adults</strong>&lt;br&gt;Chair(s): Alex Chaparro, United States</td>
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<td><strong>Designing 'Embodied' Science Learning Experiences for Young Children</strong>&lt;br&gt;Rhiannon Thomas Jha, Sara Price, Alison Motion, United Kingdom</td>
<td><strong>Reflective Journaling: A Theoretical Model and Digital Prototype for developing Resilience and Creativity</strong>&lt;br&gt;Ana Rivera, United Kingdom; Alwin De Rooy, Netherlands; Sarah Jones, United Kingdom</td>
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<td><strong>Intergenerational social media use: expectations of adults and elder users</strong>&lt;br&gt;Nicoletta Vittadini, Italy</td>
<td><strong>Assessing Alternative Text Presentation and Tablet Device Usage for Low Vision Leisure Reading</strong>&lt;br&gt;Erin Gannon, Laura Walker, Alex Chaparro, Barbara Chaparro, United States</td>
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<td><strong>Teachers’ Adoption of Embodied Learning Digital Games with an Inclusive Education Approach: Lessons Learnt from the INTELed Project in Spain?</strong>&lt;br&gt;Alejandra Martínez-Monés, Sara Villagrá-Sobrino, Eva-Maria Fernández Faundez, María Jiménez Ruíz, Spain</td>
<td><strong>Generating Dashboards using Fine-Grained Components: A Case Study for a PhD Programme</strong>&lt;br&gt;Andrea Vázquez-Ingelmo, Francisco J. García-Peñalvo, Roberto Thérin, Spain</td>
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<td><strong>Intergenerational Perspectives on Audiences Studies: From Youth to Senior Representations</strong>&lt;br&gt;Maria José Brites, Inês Amaral, Sofia José Santos, Portugal</td>
<td><strong>The Effects of Increasing Degree of Unreliable Automation on Older Adults’ Performance</strong>&lt;br&gt;Claire Textor, Richard Pak, United States</td>
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<td><strong>A Co-Design Approach for the Development and Classroom Integration of Embodied Learning Apps</strong>&lt;br&gt;Yiannis Georgiou, Andri Ioannou, Cyprus</td>
<td><strong>Use of an Emotional Chatbot for the Analysis of a Discussion Forum for the Improvement of an E-Learning Platform</strong>&lt;br&gt;Karim Elia Fraoua, Jean-Marc Leblanc, Amos David, France</td>
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<td><strong>Mapping Intergenerational Masculinities on Instagram</strong>&lt;br&gt;Inês Amaral, Sofia José Santos, Maria José Brites, Portugal</td>
<td><strong>Embodied Interaction Design to Promote Creative Social Engagement for Older Adults</strong>&lt;br&gt;Lina Lee, Johanna Okerlund, Mary Lou Maher, Thomas Farina, United States</td>
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<td><strong>Evaluation of the Virtual Mobility Learning Hub</strong>&lt;br&gt;Diana Andone, Silviu Vert, Vlad Mihaescu, Daniela Stoica, Andrei Tarnauciu, Romania</td>
<td><strong>Development of a Flipped Classroom Approach to Teaching Lung Pathology: the Evaluation of a Formative on-Line Quiz Primer to Encourage Active Learning</strong>&lt;br&gt;Mark Dixon, Katherine Syred, United Kingdom</td>
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<td><strong>Intergenerational Communication in Traditional and Virtual Bulgarian Families</strong>&lt;br&gt;Lilia Raycheva, Mariyan Tomov, Neli Velinova, Bulgaria</td>
<td><strong>Designing digital technologies and safeguards for improving activities and well-being for aging in place</strong>&lt;br&gt;Helene Fournier, Inira Kondratova, Heather Molyneaux, Canada</td>
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<td><strong>Using Virtual Reality Simulations to Encourage Reflective Learning in Construction Workers</strong>&lt;br&gt;Eileen Fiala, Markus Jelonek, Thomas Herrmann, Germany</td>
<td><strong>Exploring Affordances of Distance Learning Platform (DLP) In COVID-19 Remote Learning Environment</strong>&lt;br&gt;Ajrina Hysaj, Doaa Hamam, United Arab Emirates</td>
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<td><strong>“Older and Younger People”: Towards a Cross-generation Online Peer Support about Cancer. The Example of Glioblastoma on French Digital Platforms</strong>&lt;br&gt;Juliette Charbonneaux, Karine Berthelot-Guinet, France</td>
<td><strong>Attitudinal and Behavioral Differences between Older and Younger Adults using Mobile Devices</strong>&lt;br&gt;Elizabeth Nichols, Erica Olmsted-Hawala, Andrew Raim, Lin Wang, United States</td>
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<td><strong>Exploring Affordances of Distance Learning Platform (DLP) In COVID-19 Remote Learning Environment</strong>&lt;br&gt;Ajrina Hysaj, Doaa Hamam, United Arab Emirates</td>
<td><strong>Learning and Creativity through a Curatorial Practice using Virtual Reality</strong>&lt;br&gt;Sérgio Eliseu, Maria Manuela Lopes, João Pedro Ribeiro, Fábio Oliveira, Portugal</td>
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<td><strong>Attitudinal and Behavioral Differences between Older and Younger Adults using Mobile Devices</strong>&lt;br&gt;Elizabeth Nichols, Erica Olmsted-Hawala, Andrew Raim, Lin Wang, United States</td>
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### Parallel Sessions

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<td><strong>Elder’s User Experiences - II</strong>&lt;br&gt;Chair(s): Hande Ayanoglu, Portugal</td>
<td><strong>Playful Experiences: Design and Impact</strong>&lt;br&gt;Chair(s): Daniel Riha, Czech Republic</td>
<td><strong>Walking, Cycling, Driving – Urban Mobility &amp; Street Design for All Road Users</strong>&lt;br&gt;Chair(s): Angelika C. Bullinger, Christina Kaß, Andre Dettmann, Germany</td>
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<td><strong>Footour: Designing and Developing a Location-based Game for Senior Tourism in the miOne Community</strong>&lt;br&gt;Ana Isabel Veloso, Diogo Carvalho, João Sampaio, Sofia Ribeiro, Liliana Vale Costa, Portugal</td>
<td><strong>“The Terms and Conditions Came Back to Bite”: Plain Language and Online Financial Content for Older Adults</strong>&lt;br&gt;Alessandra Rossetti, Patrick Cadwell, Sharon O’Brien, Ireland</td>
<td>An Age-friendly System Design for Smart Home: Findings from Heuristic Evaluation&lt;br&gt;Adriana Maria Pires Marques da Silva, Bruno Silva, Hande Ayanoglu, Portugal</td>
<td><strong>Employees’ Vulnerability – the Challenge When Introducing New Technologies in Local Authorities</strong>&lt;br&gt;Ann-Marie Nienaber, United Kingdom; Sebastian Spundflasch, Germany; Andre Soares, Andree Woodcock, United Kingdom</td>
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<td><strong>Digital Inclusion or Digital Divide for Older Immigrants? A Scoping Review</strong>&lt;br&gt;Xin Chen, Britt Östlund, Susanne Frennert, Sweden</td>
<td><strong>UCD in AAL: Status Quo and Perceived Fit</strong>&lt;br&gt;Silas Barth, Rebecca Wechelt, Stephan Schlügl, Felix Piazzo, Austria</td>
<td><strong>Hermeneutic Relations in VR: Immersion, Embodiment, Presence and HCI in VR Gaming</strong>&lt;br&gt;Leighton Evans, United Kingdom; Michal Rzeszowski, Poland</td>
<td><strong>A Methodological Approach to Determine the Benefits of External HMI during Interactions between Cyclists and Automated Vehicles: A Bicycle Simulator Study</strong>&lt;br&gt;Christina Kaß, Stefanie Schoch, Frederik Naujoks, Sebastian Hergeth, Andreas Keinath, Alexandra Neukum, Germany</td>
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<td><strong>“The Terms and Conditions Came Back to Bite”: Plain Language and Online Financial Content for Older Adults</strong>&lt;br&gt;Alessandra Rossetti, Patrick Cadwell, Sharon O’Brien, Ireland</td>
<td><strong>Computer-Based Foreign Language Learning Programs for the Elderly – A Review Study</strong>&lt;br&gt;Blanka Klimova, Czech Republic</td>
<td><strong>Wizard of Oz and the Design of a Multi-player Mixed Reality Game</strong>&lt;br&gt;Niklas Torstensson, Tarja Susi, Ulf Wilhelmsson, Mikael Lebram, Sweden</td>
<td><strong>User requirement? Travel Mode Choice Routines across different Trip Types</strong>&lt;br&gt;Dorothea Langer, Angelika C. Bullinger, Germany</td>
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<td><strong>The Design of Electronic Tagging and Tracking Solutions to Improve the Safety and Person-Centered Care for People with Dementia</strong>&lt;br&gt;Anders Kalsgaard Møller, Denmark</td>
<td><strong>InCuDe: Heuristics for Enhancing Spectator Experience in Streamed Games</strong>&lt;br&gt;Matthew Horton, Janet C. Read, Christopher Willitts, United Kingdom</td>
<td><strong>A Warning: Potential Damages Induced by Playing XR Games</strong>&lt;br&gt;Jakub Binter, Daniel Riha, Czech Republic; Hermann Prossinger, Austria</td>
<td><strong>An Evaluation Environment for User Studies in the Public Transport Domain</strong>&lt;br&gt;Christine Keller, Waldemar Titov, Mathias Trefzger, Jakub Kuspiel, Naemi Gerst, Thomas Schlegel, Germany</td>
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<td><strong>Toolbox for Analysis and Evaluation of Low-Emission Urban Mobility</strong>&lt;br&gt;Felix Böhm, Christine Keller, Waldemar Titov, Mathias Trefzger, Jakub Kuspiel, Swenja Savilla, Thomas Schlegel, Germany</td>
<td><strong>Gender Differences When School Children Develop Digital Game-based Designs: A Case Study</strong>&lt;br&gt;Jeanette Sjöberg, Sweden; Eva Brooks, Denmark</td>
<td><strong>Employee's Vulnerability – the Challenge When Introducing New Technologies in Local Authorities</strong>&lt;br&gt;Ann-Marie Nienaber, United Kingdom; Sebastian Spundflasch, Germany; Andre Soares, Andree Woodcock, United Kingdom</td>
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<td><strong>User requirement? Travel Mode Choice Routines across different Trip Types</strong>&lt;br&gt;Dorothea Langer, Angelika C. Bullinger, Germany</td>
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AIS S330

DISCUSSION PANEL: Predicting Future Adaptive Instructional Capabilities
Chair(s): Robert A. Sottilare, United States

A Glimpse of the Future of Adaptive Instructional Capabilities
Robert A. Sottilare, United States

Adaptive Instructional Systems (AISs) for the Whole Child
KP Thai, United States

AISs for Accelerating Expert Medical Decision-Making in Disaster Contexts
Jeanine DeFalco, United States

Extended Classrooms and Hybrid Tutors: Making AIS the Teacher’s Best Friend
Andrew J. Hampton, United States

How COVID-19 Stimulated Increases in Online Learning will Accelerate Innovations in Adaptive Instructional Capabilities
Jim Goodell, United States

Bridging the Gap between AIS Conceptual Models and Architectural Components
Keith Brawner, United States

Levels of Adaptation in Instructional Systems - Present and Future
Robby Robson, United States

Humans on the Loop: Creating AIS Teaming
Benjamin Goldberg, United States
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<td><strong>Novel Theoretical and Design Approaches in HCI</strong>&lt;br&gt;Chair(s): Daniel Fitton, United Kingdom</td>
<td><strong>Human Robot Interaction - III</strong>&lt;br&gt;Chair(s): Piercosma Bisconti Lucidi, Italy</td>
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<td>Automatic Deformation Detection and Analysis Visualization of 3D Steel Structures in As-Built Point Clouds&lt;br&gt;Rogerio Pinheiro De Souza, Cesar A. Sierra-Franco, Paulo Ivson Netto Santos, Marina Polonia Rios, Daniel Luiz De Mattos Nascimento, Alberto Barbosa Raposo, Brazil</td>
<td><strong>“Boundaries do not sit still.” From Interaction to Agential Intra-action in HCI</strong>&lt;br&gt;Claude Draude, Germany&lt;br&gt;&lt;br&gt;<strong>Yayy! You have a new notification: Co-designing Multi-device Locative Media Experiences with Young People</strong>&lt;br&gt;Daniel Fitton, Keith Cheverst, Janet C. Read, United Kingdom</td>
<td><strong>Eye Movement Classification Algorithms: Effect of Settings on Related Metrics</strong>&lt;br&gt;Amin G. Alhashim, United States&lt;br&gt;&lt;br&gt;<strong>“With Close Friends It Wouldn’t Be Weird”: Social Distance and Animoji Use</strong>&lt;br&gt;Susan Herring, Ashley Dainas, Holly Lopez Long, Ying Tang, United States</td>
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<td><strong>Visual Computer Interaction</strong>&lt;br&gt;Revisiting Visualization Task Taxonomies: Specifying Functions for the Data Transformations Stage&lt;br&gt;Ariane Moraes Bueno Rodrigues, Gabriel Diniz Junqueira Barbosa, Raúl De Araújo Lima, Dieinison Jack Freire Braga, Hélio Cortes Vieira Lopes, Simone Diniz Junqueira Barbosa, Brazil</td>
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<td><strong>A User Interface for Personalized Web Service Selection in Business Processes</strong>&lt;br&gt;Dionisis Margaris, Dimitris Spiliotopoulos, Costas Vassilakis, Gregory Karagiorgos, Greece&lt;br&gt;&lt;br&gt;<strong>Multi-Human Management of Robotic Swarms</strong>&lt;br&gt;John R. Grosh, Michael A. Goodrich, United States</td>
<td><strong>Design Interface and Modeling Technique</strong>&lt;br&gt;Julia C. Lee, Lawrence J. Henschen, United States&lt;br&gt;&lt;br&gt;<strong>Brainstorming for Sensemaking in a Multimodal, Multiuser Cognitive Environment</strong>&lt;br&gt;Shannon Briggs, Matthew Peveler, Jaime Drozdal, Lilit Balagoyyan, Jonas Braasch, Hui Su, United States</td>
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<td><strong>Human-Computer Interaction</strong>&lt;br&gt;Deriving Interaction and Awareness Services From Computer-Mediated Communication Specifications&lt;br&gt;Maximiliano Canche, Sergio F. Ochoa, Daniel Perovich, Chile</td>
<td><strong>Wizardry in Distributed Participatory Design: from Design to Implementation</strong>&lt;br&gt;Malin Wik, Achkona Khunalo, Sweden</td>
<td><strong>Sexual Robots: the Social-Relational Approach and the Concept of Subjective Reference</strong>&lt;br&gt;Piercosma Bisconti Lucidi, Susanna Pierrmattei, Italy&lt;br&gt;&lt;br&gt;<strong>Enhancing Drone Pilots’ Engagement Through a Brain-Computer Interface</strong>&lt;br&gt;Tracy Pham, Dante Tezza, Marvin Andujar, United States</td>
<td><strong>Multi-Human Management of Robotic Swarms</strong>&lt;br&gt;John R. Grosh, Michael A. Goodrich, United States</td>
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<td><strong>A User Interface for Personalized Web Service Selection in Business Processes</strong>&lt;br&gt;Dionisis Margaris, Dimitris Spiliotopoulos, Costas Vassilakis, Gregory Karagiorgos, Greece&lt;br&gt;&lt;br&gt;<strong>Multi-Human Management of Robotic Swarms</strong>&lt;br&gt;John R. Grosh, Michael A. Goodrich, United States</td>
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<td><strong>Brainstorming for Sensemaking in a Multimodal, Multiuser Cognitive Environment</strong>&lt;br&gt;Shannon Briggs, Matthew Peveler, Jaime Drozdal, Lilit Balagoyyan, Jonas Braasch, Hui Su, United States</td>
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**Friday, 24 July 19:30 - 21:30 (CEST - Copenhagen)**
### HCI S335
**Chatbots and AI**
Chair(s): Lynne Coventry, Spain

**Deception of the “Elephant in the Room”: Invisible Auditing Multi-Party Conversations to Support Caregivers in Cognitive Behavioral Group Therapies**
Eleonora Aida Beccaluva, Antonio Chiappetta, Julian Cuellar Mangut, Luca Molteni, Marco Mores, Daniele Occhiuto, Franca Garzotto, Italy

**An antenatal care awareness prototype chatbot application using a user-centric design approach**
Mohammed Bahja, Julia Bahja, Nour Abuhwaila, United Kingdom

**User Trust and Understanding of Explainable AI: Exploring Algorithm Visualisations and User Biases**
Dawn Branley-Bell, Rebecca Whitworth, Lynne Coventry, United Kingdom

**A User-centric Framework for Educational Chatbots Design and Development**
Mohammed Bahja, Rawad Hammad, Gibran Butt, United Kingdom

### HMI S336
**Human-Computer Interaction and Expanded Musical Practice**
Chair(s): Eduardo A.L. Meneses, Marcelo M. Wanderley, Canada

**An Intermediate Mapping Layer for Interactive Sequencing**
Mathias Kirkegaard, Mathias Breddhold, Marcelo M. Wanderley, Canada

**Expanding and Embedding a High-level Gesture Vocabulary for Digital and Augmented Musical Instruments**
Eduardo A.L. Meneses, Takuto Fukuda, Marcelo M. Wanderley, Canada

**Open Source DMIs: Towards a Replication Certification for Online Shared Projects of Digital Musical Instruments**
Filipe Calegario, João Tragtenberg, Brazil; Johny Wang, Ivan Franco, Eduardo A.L. Meneses, Marcelo M. Wanderley, Canada

### UAHCI S337
**Inclusive Technologies: Development Experiences in Latin America**
Chair(s): J. Andrés Sandoval-Bringas, Mexico

**Proposal for an Interactive Software System Design for Learning Mexican Sign Language with Leap Motion**
Teresita Alvarez-Robles, Francisco Alvarez, Mónica Carreño-Leon, Mexico

**METUIGA “Methodology for the Design of Systems based on Tangible User Interfaces and Gamification Techniques” - Case Study: Teaching Geometry in Children with Visual Problems**
Luis Roberto Ramos Aguiar, Francisco Alvarez, Mexico

### S338
**User Interface and the Management of Information**

**Novel Approaches to Universal Access**
Chair(s): Ilia Adami, Greece

**Design of a Tangible Programming Tool for Students with Visual Impairments and Low Vision**
Emmanuel Utreras, Enrico Pontelli, United States

**Heuristic Evaluation for the Assessment of Inclusive Tools in the Autism Treatment**
Gustavo Constain, Cesar Collazos, Habib Fardoun, Colombia; Daniyal Alghazzawi, Saudi Arabia

**A Context Driven Indoor Localization Framework for Assisted Living in Smart Homes**
Nirmalya Thakur, Chia Y. Han, United States

**Augmented reality as a tool to support the inclusion of colorblind people**
Julio Cesar Ponce Gallegos, Martin Montes Rivera, Francisco Javier Ornelas Zapata, Alejandro Padilla Diaz, Mexico

**Perceived Midpoint of the Forearm**
Ziyan Lu, Quan Liu, Roger Cheolevik, Hong Z. Tan, United States

**Robotic Cane for the Visually Impaired**
José Varela-Aldás, John Guaman, Belen Paredes, Fernando A. Chicaiza, Ecuador
**UAHCI S339**

**Novel Interaction Techniques for Universal Access**
Chair(s): Troy McDaniel, United States

**EyeHear: Smart Glasses for the Hearing Impaired**
Ishaan Sinha, Owen Caverly, United States

**Understanding Pattern Recognition through Sound with Considerations for Developing Accessible Technologies**
Nicole Darmawaskita, Troy McDaniel, United States

**The HapBack: Evaluation of Absolute and Relative Distance Encoding to Enhance Spatial Awareness in a Wearable Tactile Device**
Bryan Duarte, Troy McDaniel, Ramin Tadayon, Abhik Chowdhury, Allison Low, Sethuraman Panchanathan, United States

**Sign Language Interpreter Detection Method for Live TV Broadcast Content**
João Guilherme Reiser de Melo, Leandro Paes, Davi Frossard, Rodrigo Ribeiro De Oliveira, Brazil

**Method for Synchronized Driving of Sign Language Avatar Using a Digital TV signal**
Rodrigo Ribeiro De Oliveira, João Guilherme Reiser de Melo, Leandro Paes, Davi Frossard, Brazil

**Rotate-and-Press: A Non-Visual Alternative to Point-and-Click?**
Hae-Na Lee, Vikas Ashok, I.V. Ramakrishnan, United States

**VAMR S340**

**DISCUSSION PANEL: Real-Time Character Control - The State of the Art Facilitator**
Chair(s): Tamara Griffith, United States

**Research Results from Various Communication Modalities Provides Insights into Real-Time Character Control**
Tamara Griffith, United States

**Closing the Gap between Real-time Motion Capture and Post-Production Animation**
Tabitha Dwyer, United States

**A wizard-of-Oz tool for teaching negotiation skills**
Jonathan Gratch, United States

**Psychophysiological Effects of VAMR**
Chair(s): Crystal Maraj, United States

**Performance, Simulator Sickness, and Immersion of a Ball-Sorting Task in Virtual and Augmented Realities**
Crystal Maraj, Jonathan Hurter, Sean Murphy, United States

**Did You Say Buttonless? Exploring Alternative Modes of Sensory Engagement for Augmented Reality Storytelling Experiences**
Richard Olaniyi, Travis Harvey, Heather Hendrixson, Jennifer Pallonis, United States

**Improving the Visual Perception and Spatial Awareness of Downhill Winter Athletes with Augmented Reality**
Darren O’Neil, Mahmud Erdemli, Ali Arya, Stephen Field, Canada

**Arms and Hands Segmentation for Egocentric Perspective based on PSPNet and Deeplab**
Heverton Sarah, Esteban Clua, Cristina Nader Vasconselos, Brazil

**Negative Effects Associated with HMDs in Augmented and Virtual Reality**
Charles R. Descheneaux, Lauren Reimeran-Jones, Jason Moss, David Krum, Irwin Hudson, United States

**New Virtualities - IV**
Chair(s): Angelos Barmpoutis, United States

**Assessing the Role of Virtual Reality with Passive Haptics in Music Conductor Education: A Pilot Study**
Angelos Barmpoutis, Randi Faris, Luis Garcia, Luis Gruber, United States; Jingyao Li, P.R. China; Fray Peralta, United States; Menghan Zhang, P.R. China

**Learning in Virtual Reality: Investigating the Effects of Immersive Tendencies and Sense of Presence**
Aline Loureiro Krassmann, Brazil; Miguel Melo, Bruno Peixoto, Darque Pinto, Maximinio Bessa, Portugal; Magda Bercht, Brazil

**How augmented reality influences student workload in engineering education**
Wenbin Guo, Jung Hyup Kim, United States

**Augmented Reality for City Planning**
Adam Sinclair Williams, Catherine Angelini, Mathew Kress, Edgar Ramos Vieira, Newton D’Souza, Naphthall D. Rishe, Joseph Medina, Ebru Özer, Francisco Ortega, United States

**Haptic Helmet for Emergency Responses in Virtual and Live Environments**
Florian Alber, Sean Hackett, Yang Cai, United States
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<tr>
<td><strong>Ethics and Moderation in Social Media</strong>&lt;br&gt;Chair(s): Koustuv Saha, United States</td>
<td><strong>Reflections on Developments in Recent Decade</strong>&lt;br&gt;Chair(s): Vincent G. Duffy, United States</td>
<td><strong>Modern Applications - IV</strong>&lt;br&gt;Chair(s): Ming-Lun (Jack) Lu, United States</td>
<td><strong>Design, User Experience &amp; Usability (DUXU), Industry 4.0 and Cyber Security</strong>&lt;br&gt;Chair(s): Hashim Chunpir, Stefan Voß, Germany</td>
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<td><strong>Understanding Moderation in Online Mental Health Communities</strong>&lt;br&gt;Koustuv Saha, Sindhu Kiranmai Ernala, Sarmistha Dutta, Eva Sharma, Munmun De Choudhury, United States</td>
<td><strong>A Novel Tool for Online Community Moderator Evaluation</strong>&lt;br&gt;Alicia Takaoka, United States</td>
<td><strong>Development of a Wearable IMU System for Automatically Assessing Lifting Risk Factors</strong>&lt;br&gt;Ming-Lun (Jack) Lu, Menekse Barim, Shuo Feng, Grant Hughes, Marie Hayden, Dwight Werren, United States</td>
<td><strong>Mystery Shopping in Public Transport: The Case of Bus Station Design</strong>&lt;br&gt;Stefan Voß, Germany; Gonzalo Mejía, Colombia; Alexander Voß, Germany</td>
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<td><strong>A Novel Tool for Online Community Moderator Evaluation</strong>&lt;br&gt;Alicia Takaoka, United States</td>
<td><strong>Cyber Risks in Social Media</strong>&lt;br&gt;Linda R. Wilbanks, United States</td>
<td><strong>Personal Air Pollution Monitoring Technologies: User Practices and Preferences</strong>&lt;br&gt;Nina Sakhnini, Ja Eun Yu, Rachael M. Jones, Debaleena Chattopadhyay, United States</td>
<td><strong>Evolution of Public Transport in Rural Areas - New Technologies and Digitization</strong>&lt;br&gt;Joachim Rolf Daduna, Germany</td>
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<td><strong>Cyber Risks in Social Media</strong>&lt;br&gt;Linda R. Wilbanks, United States</td>
<td><strong>Misinformation in the Chinese Weibo</strong>&lt;br&gt;Lu Xiao, United States; Sijing Chen, P.R. China</td>
<td><strong>Evaluation of Occupant Comfort and Health in Indoor Home-based Work and Study Environment</strong>&lt;br&gt;Xingzhou Guo, Yunfeng Chen, United States</td>
<td><strong>Managing Information in the Case of Opinion Spamming</strong>&lt;br&gt;Liping Ge, Stefan Voß, Germany</td>
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<td><strong>Ethical, Legal &amp; Security Implications of Digital Legacies on Social Media</strong>&lt;br&gt;Paige Zaleppa, Alfreda Dudley, United States</td>
<td><strong>Classification of Human Posture with RGBD Camera: Is Deep Learning Necessary?</strong>&lt;br&gt;Hongbo Zhang, Denis Gracanin, Mohamed Eltoweissy, United States</td>
<td><strong>Outside the Box: Contextualizing User Experience Challenges in Emergency Medical Technician (EMT) and Paramedic Workflows</strong>&lt;br&gt;Katelynn Kapalo, Joseph Bonnell, Joseph LaViola, United States</td>
<td><strong>On Designing of a Slot Sharing E-Platform of the Liner Shipping Services</strong>&lt;br&gt;Xiaoning Shi, Germany; Lin Ma, P.R. China; Stefan Voß, Germany</td>
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<td><strong>IMotions ‘ Automatic Facial Recognition &amp; Text-Based Content Analysis of Basic Emotions &amp; Empathy in the Application of the Interactive Neurocommunicative Technique LNCBT (Line&amp;Numbered Concordant Basic Text)</strong>&lt;br&gt;Jorge Mora-Fernandez, United States; Azirudin Khan, India; Fernando Estévez, Felipe Webster, María Isabel Fárez, Felipe Torres, Ecuador</td>
<td><strong>Jarvis: A Multimodal Visualization Tool for Bioinformatic Data</strong>&lt;br&gt;Mark Hutchens, Nikhil Krishnaswamy, Brent Cochran, James Pustejovsky, United States</td>
<td><strong>A Design Framework to Automate Task Simulation and Ergonomic Analysis in Digital Human Modeling</strong>&lt;br&gt;Mihir Sunil Gawand, H. Onan Demirel, United States</td>
<td><strong>Applications of Real-Time Data to Reduce Air Emissions in Maritime Ports</strong>&lt;br&gt;Philip Cammin, Malek Sarhani, Leonard Heilig, Stefan Voß, Germany</td>
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| **Safety Analytics for AI Systems**<br>Yang Cai, United States | **Systematic Literature Review on the Effect of Human Error in Environmental Pollution**<br>Gavin A. Duffy, Vincent G. Duffy, United States | **Sensory Design in Games: Beyond Visual-Based Experiences**<br>Priscilla Maria Cardoso Garone, Sergio Nesteriuk, Gisela Belluzzo de Campos, Brazil | **Summary**<br>**Parallel Sessions**<br><br>The Parallel Sessions Schedule for HCI International 2020 features a wide range of thematic areas. These sessions are designed to explore and present cutting-edge research and developments in various fields within human-computer interaction. Each session is led by experienced chairpersons from across the globe, ensuring a dynamic and engaging experience for all attendees. The topics encompass a broad spectrum, from ethics and moderation in social media to design frameworks for simulation and ergonomics in digital human modeling. Participants can look forward to a rich exchange of ideas, innovative methodologies, and practical applications that are pivotal in advancing the field of human-computer interaction.
### Friday, 24 July 19:30 - 21:30 (CEST - Copenhagen)

#### DUXU S347

**The Role of Disruptive Technologies in Designing Experiential Systems**  
Chair(s): Venere Ferraro, Ilaria Mariani, Italy

#### S348

**Measures for Emotional Design - II**  
Chair(s): Francisco Rebelo, Ernesto Filgueiras, Portugal

#### S349

**DXU for Health and Well-Being - II**  
Chair(s): Tania Roy, United States

### DAPI S350

**Quality of Life in Ambient Environments**  
Chair(s): John A. Waterworth, Sweden

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### Intermodal Improvement: Nudging Users to Use Keyboard Shortcuts

Niels Erik Raursø, Mikkel Kappel Pedersen, Denmark; Kristinn Bragi Gudmundsson, Iceland; Daniel Mazář, Simon Andreasen, Elizabete Avotiņa, Alex Venteogdott, Evangelia Triantafylliou, Denmark

### Other Worlds. When worldbuilding and roleplay feed speculation

Ilaria Mariani, Italy

### Just a Natural Talk?

The Rise of Intelligent Personal Assistants and the (Hidden) Legacy of Ubiquitous Computing

Gabriele Barzilai, Lucia Rampino, Italy

### User Experience of Alexa, Siri and Google Assistant when Controlling Music – Comparison of Four Questionnaires

Birgit Brüggemeier, Michael Breiter, Miriam Kurz, Johanna Schiwy, Germany

### Reflecting on New Approaches for the Design for Behavioural Change Research and Practice: Shaping the Technologies through Immersive Design Fiction Prototyping

Mila Stepanovic, Venere Ferraro, Italy

### Improving the Usability of Voice User Interfaces: A New Set of Ergonomic Criteria

Caroline Nowacki, Anna Gordeeva, Anne Hélène Lizé, France

### Multimodality, Naturalness and Transparency in Affective Computing for HCI

Sónia Rafael, Portugal

### UX Criteria Risk in Digital Product Investment: Literature Review

Larissa Rios, Ernesto Filgueiras, Farley Millano Fernandes, Portugal; Fabio Campos, Brazil

### Scales for Knowledge Elicitation: An Experimental Comparison Study

Rui Belfort, Brazil; Farley Millano Fernandes, Portugal; Fabio Campos, Brazil

### Measuring Users’ Psychophysiological Experience in Non-linear Omnichannel Environment

Anriane Roy, Sylvain Sénecal, Pierre-Majorique Léger, Bertrand Demolin, Émilie Bigras, Julie Gagné, Canada

### Stress Heatmaps: a Fuzzy-based Approach that Uses Physiological Signals

Alexandros Liapis, Christos Katsanos, Nikos Karousos, Dimitris Sotiropoulos, Michalis Xenos, Theofanis Orphanoudakis, Greece

### The Effect of Experience on Learnability and Usability of a Neuroimaging Platform

Thomas Ruel, Pierre-Majorique Léger, Gregory Lodygensky, David Luck, Yang Ding, Sylvain Sénecal, Bertrand Demolin, Canada

### Prototyping a Mental Health Smartphone Application

Julian Hunter, Tania Roy, United States

### PLANTY GO: A Smart Planter System to Relieve Stress and Anxiety of Urban Youngsters

Weilun Huang, Zhenyu Cheryl Qian, Jung Joo Sohn, Yunran Ju, United States

### Preliminary Design of an ‘Autonomous Medical Response Agent’ Interface Prototype for Long Duration Spaceflight

AMelodie Yashar, Jessica Marquez, Jayant Menon, Isabel Torron, United States

### Transforming Patient Hospital Experience through Smart Technologies

Haneen Ali, Aidin Cole, Gabriella Panos, United States

### Inverting the Panopticon to Safeguard Privacy in Ambient Environments: an Exploratory Study

Ingvar Tjostheim, Norway; John A. Waterworth, Sweden

### Motivating Physical Exercise in the Elderly with Mixed Reality Experiences

Mark Chignell, Henrique Matulis, Brian Nejati, Canada

### Artificial Intelligence and Concerns about the Future: A case study in Norway

Kyriaki Kalimeri, Italy; Ingvar Tjostheim, Norway

### Designing for Implicit and Positive Interactions - Artificial Intelligence and the Internet of Things in Support of Car drivers

Mikael Wilberg, Sweden

### Returning to Nature: VR Mediated States of Enhanced Wellness

Henry J. Moller, Canada; John A. Waterworth, Sweden; Mark Chignell, Canada

### Ambient Interaction Design in a Primitive Society

Kei Hoshi, New Zealand; John A. Waterworth, Sweden

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**Distributed, Ambient and Pervasive Interactions**

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**PARALLEL SESSIONS**

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DAPI S351
Evidence-Based Investigation on User Experience in Cyber-Physical Systems: Quantitative and Qualitative Learning and Envisioning
Chair(s): Margherita Pillan, Italy
Aspects of Ambient UX Design within Design-to-Robotic-Production and -Operation Processes
Milica Pavlovic, Italy; Henriette Bier, Netherlands; Margherita Pillan, Italy
Designing Unconscious and Enactive Interaction for Interactive Movie Experience
Laura Varisco, Giulio Interlandi, Italy
Towards an UX Assessment Method for AI-Enabled Domestic Devices
Davide Spallazzo, Martina Scianambò, Mauro Cecconello, Italy
Ambient UX Research: User Experience Investigation Through Multimodal Quadrangulation
Marco Mandolfo, Milica Pavlovic, Margherita Pillan, Lucio Lamberti, Italy

HCI in Business, Government and Organizations S352
Digital Business Transformation - II
Chair(s): To be announced
Exposing Undergraduate Students to the Challenges of Integrating Technology in Healthcare Delivery
Laura Ikuma, Isa Nahmens, Craig M. Harvey, Dan Godbee, Tonya Jagneaux, United States
Teamwork in Virtual World - Improvement of "Virtual Team" on Team Dynamic
Bin Mai, Brittany Garcia, Lei Xie, Andrew McCubbins, Jinsil Seo, United States
The Impact of Work from Home (WFH) on Workload and Productivity in Terms of Different Tasks and Occupations
Hongyue Wu, Yunfeng Chen, United States
Investigating Linguistic Indicators of Generative Content in Enterprise Social Media
Elisavet Averkiadi, United States; Wietse van Osch, Canada; Yuyang Liang, United States

LCT S353
Interaction and Affect in Learning
Chair(s): To be announced
Visualizing Students’ Eye Movement Data to Understand their Math Problem-Solving Processes
Shuang Wei, Yan Ping Xin, Yingjie (Victor) Chen, United States
Voice Interaction for Training: Opportunities, Challenges, and Recommendations from HCI Perspective
Irina Kondratova, Bruno Emond, Canada
Supporting Student-Teacher Interaction Through a Chatbot
Sonia Mendoza, Manuel Hernández-León, Luis Martín Sánchez-Adame, José Rodríguez, Dominique Decouchant, Amilcar Meneses-Viveros, Mexico
Agency Affects Learning Outcomes with a Serious Game
Julien Mercier, Ivan Luciano Avaca, Kathleen Whissell-Turner, Ariane Paradis, Canada; Tassos A. Mikropoulos, Greece
Do Individual Differences Modulate the Effect of Agency on Learning Outcomes with a Serious Game?
Julien Mercier, Kathleen Whissell-Turner, Ariane Paradis, Ivan Luciano Avaca, Martin Riopel, Melanie Bedard, Canada

ITAP S354
Gender, Ageism and Digital Media
Chair(s): Inês Amaral, Portugal
Technologies and Images of Older Women
Maria Silveria Agulló-Tomás, Vanesa Zorrilla-Muñoz, Spain
Older People as Digital Newcomers: From Evidence to Intervention Proposal
Milica Vukelic, Svetlana Cizmic, Dunja Jankovic, Branislava Vidanovic, Ivana Petrovic, Serbia
Older Women Living in Unfavorable Contexts and Tablets in Uruguay: A Design for Access and Use of Inclusive Information
Martha Sabelli, Uruguay
Ageism and Media Generations in the Croatian Post-socialist Context
Antonija Ćuvalo, Croatia
Masculinities and Ageing: Deconstructing Online Representations among Portuguese Speaking Users
Sofia José Santos, Inês Amaral, Maria José Brites, Portugal
**Sunday, 19 July** 17:00 - 19:00 (CEST - Copenhagen)

**ITAP S355**

**Digital Gaming Among Older Populations**  
Chair(s): Eugène Loos, Netherlands

- **Older Adults’ Motivation for Physical Activity Using Gamified Technology: An Eight-Week Experimental Study**  
  Dennis L. Kappen, Pejman Mirzababaei, Lennart E. Nacke, Canada

- **The Relationship between the Seniors’ Appraisal of Cognitive-Training Games and Game-Related Stress is Complex: a Mixed-Methods Study**  
  Najmeh Khalili-Mahani, Canada; Bob De Schutter, United States; Kim Sawchuk, Canada

- **Create Video Games to Promote Well-being of Elderly People – a Practice-Driven Guideline**  
  Marco Soldati, Carmen Zahn, Doruk Bildibay, Tabea Iseli, David Leisner, Mario Niederhauser, Markus Recher, Switzerland

- **Designing an Online Escape Game for Older Adults: The Implications of Playability Testing Sessions with a Variety of Dutch Players**  
  Amir Doroudian, Canada; Eugène Loos, Anne Ter Vrugt, Netherlands; David Kaufman, Canada

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**Digital Media Across Generations**  
Chair(s): Francesca Comunello, Valentina Volpi, Italy

- **Online Cultural Participation in Italy. The Role of Digital Media across Generations**  
  Paola Panarese, Vittoria Azzarita, Italy

- **Young and Elderly Fashion Influencers**  
  Manuela Farinosi, Leopoldina Fortunati, Italy

- **Communicating a Scattered Cultural Urban Event: A Survey on User Needs across Generations**  
  Valentina Volpi, Antonio Oprromolla, Carlo Maria Medaglia, Italy

- **Defining User Requirements of a eHealth Mobile App for Elderly: the HomeCare4All Project Case Study**  
  Roberta Grimaldi, Fausto Colombo, Italy

**HCI-Games S357**

**Serious Games for Well-Being**  
Chair(s): To be announced

- **A Self-Adaptive Serious Game for Eye-Hand Coordination Training**  
  Leonardo Cardia da Cruz, Cesar A. Sierra-Franco, Greis Francy M. Silva-Calpa, Alberto Barbosa Raposo, Brazil

- **Learn to Cook for Yourself: Employing Gamification in a Recipe App Design to Promote a Healthy Living Experience to Young Generation**  
  Pengyu Patrick Ren, Zhenyu Cheryl Qian, Jung Joo Sohn, United States

  Yirou Li, John Munoz, Samira Mehrabi, Laura Middleton, Shi Cao, Jennifer Boger, Canada

**AIS S358**

**Ethics, Design and Research Considerations for Adaptive Instructional Systems**  
Chair(s): Andrew J. Hampton, United States

- **Dewey’s Ethics of Moral Principles and Deliberation: Extending IEEE’s Ethics Initiative for Adaptive Instructional Systems**  
  Jeannine DeFalco, Andrew J. Hampton, United States

- **Training Simulations as Literacy and Numeracy Tools**  
  James Ness, Engineering Psychology Class of 2020 USMA Graduates, United States

- **Knowledge-to-Information Translation Training (KITT): An Adaptive Approach to Explainable Artificial Intelligence**  
  Robert Thomson, United States; Jordan Richard Schoenherr, Canada

- **E-sport practices and experiences: the case 522 university students**  
  Thierry Karsenti, Simon Parent, Canada

- **Usability Study of Online Game Addiction Help Site**  
  Jianle He, Qing Zhang, United States
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HCI in Cultural and Creative Industries - II

Chair(s): To be announced

Increasing the Museum Visitor’s Engagement through Compelling Storytelling based on Interactive Explorations
Ana Rodrigues, Pedro Campos, Diogo Cabral, Portugal

Model for the Optimization of the Rendering Process, the Reduction of Workflow and Carbon Footprint
Felipe González-Restrepo, Jorge Andrés Rodríguez-Acevedo, Sara B. Ibarra-Vargas, Colombia

A Methodological Reflection: Deconstructing Cultural Elements for Enhancing Cross-cultural Appreciation of Chinese Intangible Cultural Heritage
Shichao Zhao, United Kingdom

Computer Science Intersects Humanities: Visualization Projects for Liberal Arts Undergraduate Students through an Interdisciplinary Approach Using Software Development Skills and Japanese Cultural Knowledge
Hiroko Chiba, David Berque, United States

Exploring Augmented Reality as a Craft Material
Lauren Edlin, Yuanyuan Liu, Nick Bryan-Kinns, Joshua Reiss, United Kingdom
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| **Effect of Dialogs’ Arrangement on Accuracy and Workload for Confirming Input Data**  
Keiko Yamamoto, Hiroki Kawaguchi, Yoshihiro Tsujino, Japan |
| **Training Young Cybersecurity Talents – The Case of Estonia**  
Kaido Kikkas, Birgy Lorenz, Estonia |
| **An Experiment Study of Service Discovery using the Extreme Learning Machine based Approach**  
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| **The Evolution of “GOJEK’ as an Indonesian Urban Mobile Ride Hailing Model Study Case: Public and Government Regulatory Responses on Urban Mobile Ride Hailing**  
Ajree D Malawani, Salahudin Salahudin, Zuly Qodir, Mohammad Jafar Loilatu, Achmad Nurmandi, Indonesia |
| **Construction of Airlines Safety Subculture based on Human Factor Analysis**  
Yuan Zhang, Yanqiu Chen, Mingliang Chen, P.R. China |
| **A Study on Framework Development and Augmented Reality Technological Factors Consumers’ Evaluation for Cultural and Creative Products**  
Yu-Ju Lin, Taiwan |
| **Machine Translation from Japanese to Robot Language for Human-Friendly Communication**  
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| **Communication Support Utilizing AAC for Verbally Challenged Children in Developing Countries during COVID-19 Pandemic**  
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| **Processing of Sensory Information is Affected by BCI Feedback being Perceived**  
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• Evaluating Character Embodiment and Trust towards AI based on a Sleep Companion
Andreas Schmid, Maximilian Fuchs, Dominik Anhorn, Mareike Gabele, Steffi Husslein, Germany

• Challenges of Simulating Uncertainty of Information
Adrienne Raglin, Somiya Metu, Dawn Lott, United States

• Making Others’ Efforts Tangible – How Other Learners Affect Climate Fostering Long-Term Self-Paced Learning in Virtual Environment
Shogo Imada, Naoko Hayashida, Hideaki Kuzuoka, Kenji Suzuki, Mika Oki, Japan

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Yun Gil Lee, Korea

• Developing a Deployment Technology for Virtual Users with an Autonomous Psychological Behavioral Simulation in Atypical Architectural Space
Ji Min Park, Hyangsun Lee, Sujin Kim, Yun Gil Lee, Korea

• Machine Learning and Human-Computer Interaction Technologies in Media and Cognition Course
Yi Yang, Jiasong Sun, P.R. China

• Communicating issues in automated driving to surrounding traffic
Julian Schindler, Domenic Herbig, Merle Lau, Michael Oehl, Germany

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• ‘Bring Your Own Device’ in VR: Intuitive Second-screen Experiences in VR Isolation
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  Pontus Wärnestål, Jeanette Sjöberg, Sweden

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  Rutuja More, India

• A Resort or A Remote Village? - Using Jobs to be Done Theory to Understand Elderly’s Thinking Toward Senior Residences in Taiwan
  Miao-Hsien Chuang, Ming-Shien Wen, You Shan Lin, Taiwan

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  Miao-Hsien Chuang, Chin-Lung Chen, Jui-Ping Ma, Taiwan

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  Sergey Kruzhilov, Russia

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  Tyler Kass, John Coffey, Steven Kass, United States

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  Jen-I Chiu, Mengping Tsuei, Taiwan

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• Strong Stimulation with Virtual Reality Treatment for Acrophobia and Its Evaluation
  Chang Su, P.R. China; Makio Ishihara, Japan

• Software Log Anomaly Detection through One Class Clustering of Transformer Encoder Representation
  Rin Hirakawa, Keitaro Tominaga, Yoshihisa Nakatoh, Japan

• Simulation of Pseudo Inner Reading Voices and Evaluation of Effect on Human Processing
  Yu Yamaoka, Ando Hideyuki, Japan

• The Soundomat
  Astrid Kjeldal Graungaard, Laura Kathrine Schmidt, August Emil Enghoff, Marc Descours Hansen, Johanne Fogsgaard, Denmark

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  Jonathan D.L. Casano, Jenilyn L. Agapito, Abigail Moreno, Ma. Mercedes T. Rodrigo, Philippines

• Effects of Virtual Reality Mudslide Games with Different Usability Designs on Fifth-Grade Children’s Learning Motivation and Presence Experience
  Mengping Tsuei, Jen-I Chiu, Taiwan

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Christian Lengenfelder, Gerrit Holzbach, Michael Voit, Jürgen Beyerer, Germany

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  Lucía Gómez-Zaragozá, Javier Marín-Morales, Elena Parra, Jaime Guixeres, Mariano Alcañiz, Spain

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  Qi Chen, Chile

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  Maria João Antunes, Portugal; Ramón Salaverría, Spain

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  Rieko Inaba, Naoko Fujimaki, Japan

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  Edgar Marcelo Espinoza Méndez, Ecuador

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• Enabling Authors to Produce Computable Phenotype Measurements: Usability Studies on the Measurement Recorder
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Mostaan Lotfalian Saremi, Razieh Saremi, Denisse Martinez-Mejorado, United States

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• Modeling Learners’ Programming Skills and Question Levels through Machine Learning
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• Exposure compensation from a single image
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• Mental Effort and Usability of Assistance Systems in Manual Assembly – A Comparison of Pick-to-Light and AR Contours through VR Simulation
Annemarie Minow, Stefan Stüring, Irina Boeckelmann, Germany

• Investigation of Psychological Evaluation and Estimation Method using Skin Temperature of Lower Half of Face
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• Preliminary Study on the Influence of Visual Cues, Transitional Environments and Tactile Augmentation on the Perception of Scale in VR
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  Sarah Viktoria Christiane Von Hören, Germany

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  Dario Niermann, Alexander Trende, Andreas Lüdtke, Germany

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• **Micro-innovative design of Internet products from the perspective of user stickiness —— Illustrated by the case of 360 applets**  
  Ke Sun, Hong Chen, P.R. China

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  Tore Gulden, Norway; Frederick Steier, United States

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  Mandy Korzet, Romina Kühn, Uwe Aßmann, Thomas Schlegel, Germany

• **Towards Interaction Design for Mobile Devices in Collocated Mixed-Focus Collaboration**  
  Romina Kühn, Mandy Korzet, Dominik Grzelak, Uwe Aßmann, Thomas Schlegel, Germany

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  Takashi Kuwahara, Itsuki Takahashi, Shintaro Harikae, Japan
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  Claudia Hösel, Christian Roschke, Rico Thomanek, Tony Rolletschke, Benny Platte, Marc Ritter, Germany

• “Light On”: a Voice Controlled Vehicle-light System Based on Translating Drives’ Voice into Computer Commands to Reduce Operation Workload of Drivers
  Yuan Yin, United Kingdom

• A Robot Agent that Learns Group Interaction through a Team-Based Virtual Reality Game using Affective Reward Reinforcement Learning
  Chawakorn Chaichanawirote, Thailand; Masataka Tokumaru, Japan; Siam Charoenseang, Thailand

• Use of Force Simulator for Law Enforcement Handgun Qualification
  Julie A. Kent, United States

• Novel Cluster Analytics for Analyzing COVID-19 Patient Medical Data
  Dezhi Wu, Joseph Johnson, United States

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  Anna Kushnir, Nicholas H. Müller, Germany

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  Panikos Heracleous, Kohichi Takai, Yanan Wang, Keiji Yasuda, Akio Yoneyama, Yasser Mohammad, Japan

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  Yusuke Ishida, Hisaya Tanaka, *Japan*

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