

# HCI 2019

## International

### 21st International Conference on Human - Computer Interaction

#### Thematic areas

**HCI:** Human-Computer Interaction

**HIMI:** Human Interface and the Management  
of Information

#### Affiliated conferences

**EPCE:** 16th International Conference on

**Engineering Psychology and Cognitive  
Ergonomics**

**UAHCI:** 13th International Conference on

**Universal Access in Human-Computer Interaction**

**VAMR:** 11th International Conference on

**Virtual, Augmented and Mixed Reality**

**CCD:** 11th International Conference on

**Cross-Cultural Design**

**SCSM:** 11th International Conference on

**Social Computing and Social Media**

**AC:** 13th International Conference on

**Augmented Cognition**

**DHM:** 10th International Conference on

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

**DUXU:** 8th International Conference on

**Design, User Experience and Usability**

**DAPI:** 7th International Conference on

**Distributed, Ambient and Pervasive Interactions**

**HCIBGO:** 6th International Conference on

**HCI in Business, Government and Organizations**

**LCT:** 6th International Conference on

**Learning and Collaboration Technologies**

**ITAP:** 5th International Conference on

**Human Aspects of IT for the Aged Population**

**HCI-CPT:** 1st International Conference on

**HCI for Cybersecurity, Privacy and Trust**

**HCI-Games:** 1st International Conference on

**HCI in Games**

**MobiTAS:** 1st International Conference on

**HCI in Mobility, Transport and Automotive  
Systems**

**AIS:** 1st International Conference on

**Adaptive Instructional Systems**

<http://2019.hci.international/>



## Final program

**26-31 July 2019**

**Walt Disney World Swan  
& Dolphin Resort  
Orlando, Florida, USA**



Program On-line



[2019.hci.international/program](http://2019.hci.international/program)

Under the auspices of 18 distinguished  
international boards, of 440 Members  
from 42 countries

**VENUE MAP AT BACK PAGE**



**Conference Founder,  
General Chair Emeritus and  
Scientific Advisor**

Gavriel Salvendy  
Purdue University, USA  
Tsinghua University, P.R. China  
and University of Central Florida, USA

**General Chair**

Constantine Stephanidis  
University of Crete and ICS-FORTH, Greece  
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**Student Volunteer Administration**

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**Communications Chair,  
Exhibition Chair,  
HCI International News Editor**

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San Jose State University, USA  
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# Conference at a Glance

## Conference Registration – Secretariat

Conference Registration will take place at the Conference Secretariat, located at **Convention Foyer 1 (Lobby Level)**, during the following hours:

<b>Thursday, 25 July</b>	<b>16:00 - 18:00</b>
<b>Friday, 26 July</b>	<b>08:00 - 17:30</b>
<b>Saturday, 27 July</b>	<b>08:00 - 17:30</b>
<b>Sunday, 28 July</b>	<b>08:00 - 17:30</b>
<b>Monday, 29 July</b>	<b>07:30 - 18:00</b>
<b>Tuesday, 30 July</b>	<b>07:30 - 18:00</b>
<b>Wednesday, 31 July</b>	<b>07:30 - 18:00</b>

## Conference Evaluation

Your opinion and comments are very important for the improvement and future planning of the conference. We kindly ask you to spend a few minutes to fill-in the on-line anonymous survey through the link:

<https://www.surveymonkey.com/r/HCI2019>



or scan the  
QR-Code  
on the left

The survey will be available until 20 September 2019

## PROGRAM

<b>Friday</b> 26 July	08:30-17:30	Tutorials Day 1	- page 13
<b>Saturday</b> 27 July	08:30-17:30	Tutorials Day 2	- page 13
	08:30-17:30	Tutorials Day 3	- page 13
<b>Sunday</b> 28 July	18:00	Opening Plenary Session - Room: <b>Northern AB Ballroom</b> Keynote Speech - page 5 <b>"Understanding AI, Understanding Interaction: the Future of HCI"</b> , by: <b>Richard H. R. Harper</b> Co-director, Institute for Social Futures Professor, School of Computing and Communications, Lancaster University, UK	
	19:45	Conference Reception	- page 9
<b>Monday</b> 29 July	08:00-18:00	Parallel sessions with paper presentations - Day 1	- page 20
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	10:30-11:30	Special Session on "Success and impact of journal article publishing"	- page 31
	16:00-18:00	Special Session on "Seven HCI Grand Challenges"	- page 43
	16:00-18:00	Student Design Competition presentations	- page 12
<b>Tuesday</b> 30 July	08:00-18:00	Parallel sessions with paper presentations - Day 2	- page 44
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	16:00-18:00	Mentoring Session for PhD students offered by Professor Gavriel Salvendy	- page 67
<b>Wednesday</b> 31 July	08:00-18:00	Parallel sessions with paper presentations - Day 3	- page 68
	09:00-16:30	Poster presentations, Day 3 Demonstrations and Exhibition - Day 3	- page 86 - page 10
	10:30-12:30	Seminar on "Cybersecurity Awareness of College Students and Faculty" by Abbas Moallem	- page 77

# HCI International 2019 - Welcome Note



**Gavriel Salvendy**

Conference Founder,  
General Chair Emeritus  
and Scientific Advisor

Dear Colleague,

It is with great honor and pleasure that I welcome you to HCI International 2019, the 21st International Conference on Human-Computer Interaction, held in Orlando, Florida, USA, 26 - 31 July, incorporating 18 Affiliated Conferences / Thematic Areas:

- HCI: Human-Computer Interaction Thematic Area
- HIMI: Human Interface and the Management of Information Thematic Area
- EPCE: 16th International Conference on Engineering Psychology and Cognitive Ergonomics
- UAHCI: 13th International Conference on Universal Access in Human-Computer Interaction
- VAMR: 11th International Conference on Virtual, Augmented and Mixed Reality
- CCD: 11th International Conference on Cross-Cultural Design
- SCSM: 11th International Conference on Social Computing and Social Media
- AC: 13th International Conference on Augmented Cognition
- DHM: 10th International Conference on Digital Human Modeling & Applications in Health, Safety, Ergonomics & Risk Management
- DUXU: 8th International Conference on Design, User Experience and Usability
- DAPI: 7th International Conference on Distributed, Ambient and Pervasive Interactions
- HCIBGO: 6th International Conference on HCI in Business, Government and Organizations
- LCT: 6th International Conference on Learning and Collaboration Technologies
- ITAP: 5th International Conference on Human Aspects of IT for the Aged Population
- HCI-CPT: 1st International Conference on HCI for Cybersecurity, Privacy and Trust
- HCI-Games: 1st International Conference on HCI in Games
- MobiTAS: 1st International Conference on HCI in Mobility, Transport and Automotive Systems
- AIS: 1st International Conference on Adaptive Instructional Systems

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 International 2019 (HCII 2019) promises to be an unforgettable cluster of high quality international scientific events, and an ideal occasion to come to contact with the rapidly evolving ICT market in the world. HCII 2019 and the Thematic Areas / Affiliated Conferences 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 virtually any aspect of human life and activities in a global and social perspective.

The 35-volume 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. All Conference participants will receive the Proceedings in PDF format. They are also available for sale from Springer in soft cover print format.

This year the HCII Conference has introduced the new option of "Late Breaking Work". This applies both for papers and posters and the corresponding volume(s) of the proceedings will be published just after the conference. Full papers will be included in the 'HCII 2019 Late Breaking Work Papers Proceedings' Volume to be published under the Springer LNCS series, while poster extended abstracts will be included as short papers in the 'HCII 2019 Late Breaking Work Poster Extended Abstracts' Volume to be published under the Springer CCIS series.

An impressive number of more than 1900 individuals from 74 countries are participating in this truly international in scope event, where the work of the world's foremost leaders in the field is presented.

We are privileged that Prof. Richard H. R. Harper, Co-director of the Institute for Social Futures, Professor at the School of Computing and Communications of Lancaster University, United Kingdom, has joined us as the keynote speaker at the opening plenary session. His speech is entitled "Understanding AI, Understanding Interaction: the Future of HCI".

Prof. Gavriel Salvendy (Major Professor to 67 PhD students) will hold a Mentoring Session for PhD students on Tuesday 30 July 2019, 4:00pm to 6:00pm, with the following important topics: *Development of a high impact PhD Dissertation and its effective dissemination; Transition from a PhD student to industry professional; Transition from a PhD student to successful Faculty.*

For a second time running, a Student Design Competition is also taking place. All accepted submissions will be presented during the conference. Three awards will be conferred along with three prizes during the Opening Plenary Session.

As established in previous years, nineteen awards will be conferred during the Opening Plenary Session. The awards, in the form of a plaque and 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 socially enjoyable stay in Orlando.

Constantine Stephanidis



**Constantine Stephanidis**

General Chair HCII 2019

## HCI International 2020

The 22nd International Conference on Human-Computer Interaction, HCI International 2020 (HCII 2020), will be held jointly with its affiliated conferences in Copenhagen, Denmark, at BELLA CENTER COPENHAGEN, 19-24 July 2020.

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

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<http://2020.hci.international>



# Opening Plenary Session

Sunday, 28 July 2019 | 18:00

Room: **NORTHERN AB BALLROOM**

## ***UNDERSTANDING AI, UNDERSTANDING INTERACTION: THE FUTURE OF HCI***

***Richard H. R. Harper***

Co-director, Institute for Social Futures  
Professor, School of Computing  
and Communications  
Lancaster University, United Kingdom

<https://www.rhrharper.com/>

### **Abstract**

The emergence of the 'new AI' has led some to suggest that the tasks of HCI have been either solved with the use of, for example, AI-enabled natural speech interaction between person and machine, or, if not, has created a new but narrow domain for HCI research - in the area of 'explainable AI'. But I think both these views radically misunderstand the nature of AI and the role that HCI needs to have in making AI-related applications better and more usable. In this talk I will show, with examples from both consumer-oriented AI applications and AI in more arcane scientific domains, how the role of HCI is more important than ever and turns around canonical problems of rendering the functioning of computer systems and processes in relevant and accountable ways. I will suggest that the AI community has failed to recognize or comprehend these and the HCI community itself has not been robust enough in articulating their importance. In short, my talk is a clarion call for a confident, assertive HCI in the age AI.



**RICHARD H. R. HARPER**

Biographical Sketch

**Richard H.R. Harper** has written 14 books, including the IEEE award winning "The Myth of the Paperless Office" (2003), "Texture: human expression in the age of communications overload" (2010) and Skyping the Family (2019). He is concerned with all aspects of HCI – from GUI design to systems architecture. He is Co-Director for the Institute of Social Futures (ISF) at the University of Lancaster and Professor of Computer Science at the same institution. Amongst other endeavors at the ISF, he is Principal Investigator on a Leverhulme Trust doctoral training centre on Material Social Futures.

# International Program Boards

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Alberto Raposo, BRAZIL  
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## 8th International Conference on Design, User Experience, and Usability

Program Chairs:

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Jan Brejcha, CZECH REPUBLIC  
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## Human Interface and the Management of Information

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## 7th International Conference on Distributed, Ambient and Pervasive Interactions

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## 13th International Conference on Universal Access in Human-Computer Interaction

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## 1st International Conference on HCI for Cybersecurity, Privacy and Trust

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## 13th International Conference on Augmented Cognition

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## 16th International Conference on Engineering Psychology and Cognitive Ergonomics

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Peng Liu, P.R. CHINA  
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### 6th International Conference on HCI in Business, Government and Organizations

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### 5th International Conference on Human Aspects of IT for the Aged Population

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Ning An, P.R. CHINA  
Marc-Eric BOBILLIER  
CHAUMON, FRANCE  
Jessie Chin, USA  
Francesca Comunello, ITALY  
Hua Dong, UK  
Hirokazu Kato, JAPAN  
Shehroz Khan, CANADA  
Masatomo Kobayashi, JAPAN  
Chaiwoo Lee, USA  
Jiunn-Woei Lian, TAIWAN  
Eugene Loos, NETHERLANDS  
Yan Luximon, HONG KONG  
Andraž Petrovčič, SLOVENIA  
Marie Sjölander, SWEDEN  
Hwee-Pink Tan, SINGAPORE  
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Wang-Chin Tsai, TAIWAN  
Ana Isabel Veloso, PORTUGAL  
Terhi-Anna Wilska, FINLAND  
Fan Zhang, CANADA  
Yuxiang Zhao, P.R. CHINA  
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### 1st International Conference on Adaptive Instructional Systems

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Brandt Dargue, USA  
John Dexter Fletcher, USA  
Stephen Goldberg, USA  
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Jong Kim, USA  
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Benjamin Nye, USA  
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Thomas Schnell, USA  
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### 11th International Conference on Cross-Cultural Design

Program Chair:

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Chien-Chi Chang, TAIWAN  
Na Chen, P.R. CHINA  
Zhe Chen, P.R. CHINA  
Zhiyong Fu, P.R. CHINA  
Paul Fu, USA  
Toshikazu Kato, JAPAN  
Rungtai Lin, TAIWAN  
Dyi-Yih Michael Lin, TAIWAN  
Na Liu, P.R. CHINA  
Cheng-Hung Lo, P.R. CHINA  
Yongqi Lou, P.R. CHINA  
Liang Ma, P.R. CHINA  
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Katsuhiko Ogawa, JAPAN  
Taezoon Park, KOREA  
Chunyi Shen, TAIWAN  
Huatong Sun, USA  
Hao Tan, P.R. CHINA  
Pei-Lee Teh, MALAYSIA  
Lin Wang, KOREA  
Hsiu-Ping Yueh, TAIWAN

### 6th International Conference on Learning and Collaboration Technologies

Program Chairs:

Panayiotis Zaphiris, CYPRUS  
Andri Ioannou, CYPRUS  
Ruthi Aladjem, ISRAEL  
Carmelo Ardito, ITALY  
Mike Brayshaw, UK  
Scott Brown, USA  
Fisnik Dalipi, NORWAY  
Paloma Díaz, SPAIN  
Camille Dickson-Deane, AUSTRALIA  
Anastasios A. Economides, GREECE  
Maka Eradze, ESTONIA  
Mikhail Fominykh, NORWAY  
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Ana Loureiro, PORTUGAL  
Antigoni Parmaxi, CYPRUS  
Marcos Román González, SPAIN  
Yevgeniya S. Sulema, UKRAINE

### 11th International Conference on Social Computing and Social Media

Program Chair:

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Anita Woll, NORWAY  
Kuan Yew Wong, MALAYSIA  
S Xiong, KOREA  
James Yang, USA  
Rachel Zuanon, BRAZIL

### 11th International Conference on Virtual, Augmented and Mixed Reality

Program Chairs:

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Gino Fragomeni, USA  
Tamara Griffith, USA  
Fotis Liarokapis, CZECH REPUBLIC  
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# Proceedings



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## HCI International 2019 Proceedings Volumes List

Volume	LNCS/LNAI/CCIS	Title - Conference Name	Editor(s)	ISBN
1	LNCS 11566	Human-Computer Interaction: Perspectives on Design (Part I)	Masaaki Kurosu	978-3-030-22646-6
2	LNCS 11567	Human-Computer Interaction: Recognition and Interaction Technologies (Part II)	Masaaki Kurosu	978-3-030-22642-8
3	LNCS 11568	Human-Computer Interaction: Design Practice in Contemporary Societies (Part III)	Masaaki Kurosu	978-3-030-22635-0
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9	LNCS 11574	Virtual, Augmented and Mixed Reality: Multimodal Interaction (Part I)	Jessie Y.C. Chen; Gino Fragomeni	978-3-030-21606-1
10	LNCS 11575	Virtual, Augmented and Mixed Reality: Applications and Case Studies (Part II)	Jessie Y.C. Chen; Gino Fragomeni	978-3-030-21564-4
11	LNCS 11576	Cross-Cultural Design: Methods, tools and user experience (Part I)	P.L. Patrick Rau	978-3-030-22576-6
12	LNCS 11577	Cross-Cultural Design: Culture and Society (Part II)	P.L. Patrick Rau	978-3-030-22579-7
13	LNCS 11578	Social Computing and Social Media: Design, Human Behavior and Analytics (Part I)	Gabriele Meiselwitz	978-3-030-21901-7
14	LNCS 11579	Social Computing and Social Media: Communication and Social Communities (Part II)	Gabriele Meiselwitz	978-3-030-21904-8
15	LNAI 11580	Augmented Cognition	Dylan D. Schmorow; Cali M. Fidopiastis	978-3-030-22418-9
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17	LNCS 11582	Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management: Healthcare Applications (Part II)	Vincent G. Duffy	978-3-030-22218-5
18	LNCS 11583	Design, User Experience, and Usability: Design Philosophy and Theory (Part I)	Aaron Marcus; Wentao Wang	978-3-030-23569-7
19	LNCS 11584	Design, User Experience, and Usability: User Experience in Advanced Technological Environments (Part II)	Aaron Marcus; Wentao Wang	978-3-030-23540-6
20	LNCS 11585	Design, User Experience, and Usability: Application Domains (Part III)	Aaron Marcus; Wentao Wang	978-3-030-23537-6
21	LNCS 11586	Design, User Experience, and Usability: Practice and Case Studies (Part IV)	Aaron Marcus; Wentao Wang	978-3-030-23534-5
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34	CCIS 1033	HCI International 2019 Posters - Part II	Constantine Stephanidis	978-3-030-23527-7
35	CCIS 1034	HCI International 2019 Posters - Part III	Constantine Stephanidis	978-3-030-23524-6

# General Information

## Conference Reception

The Conference Reception will take place at 19:45 (right after the Opening Plenary Session) at **Northern CDE Ballroom** on **Sunday, 28 July**.

All Conference participants and accompanying persons, who carry an HCI International 2019 badge, will be permitted entrance.

Additional Conference Reception Tickets will be available from the Conference Secretariat until Sunday, 28 July, 17:30 hrs.

**Important note:** You must be of legal drinking age to drink alcohol. Please be ready to provide your ID upon request.

## Display Boards and Tables

Display boards and tables are available at the Secretariat area for:

- participants who wish to share or distribute promotional material
- announcements of the Conference Organizers



## Awards

For each of the Thematic Areas / Affiliated Conferences of HCI International 2019 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 Opening Plenary Session. The Best Poster extended abstract will also receive an award.

## Smoking Policy

HCI International 2019 is a smoke-free Conference. The Walt Disney World Swan and

Dolphin is also a non-smoking resort with smoking allowed only in designated outdoor areas (<https://www.swandolphin.com/360/360tour.html>).

## Mobile Phone Courtesy

HCI International 2019 requests that all mobile phones, pagers and other equipment with audible alarms be set to silent mode in all sessions as a courtesy to the presenters and to the other attendees.

## Coffee and Lunch Breaks

Coffee Breaks			Lunch Breaks
10:30 – 11:00	15:30 – 16:00	<b>Friday, 26 July</b>	12:30 – 14:00
10:30 – 11:00	15:30 – 16:00	<b>Saturday, 27 July</b>	12:30 – 14:00
10:30 – 11:00	15:30 – 16:00	<b>Sunday, 28 July</b>	12:30 – 14:00
10:00 – 10:30	15:30 – 16:00	<b>Monday, 29 July</b>	12:30 – 13:30
10:00 – 10:30	15:30 – 16:00	<b>Tuesday, 30 July</b>	12:30 – 13:30
10:00 – 10:30	15:30 – 16:00	<b>Wednesday, 31 July</b>	12:30 – 13:30
Offered by HCII2019 Conference			Participants are kindly asked to make their <b>own arrangements</b> for lunch, during the above breaks

## Options for lunch

At the Walt Disney World Swan and Dolphin Resort you will be tempted with a diverse selection of 17 restaurants and lounges (<https://www.swandolphinrestaurants.com/>) offering unrivaled cuisine to please every palate.

Participants are kindly asked to make their **own arrangements** for lunch, during lunch breaks.

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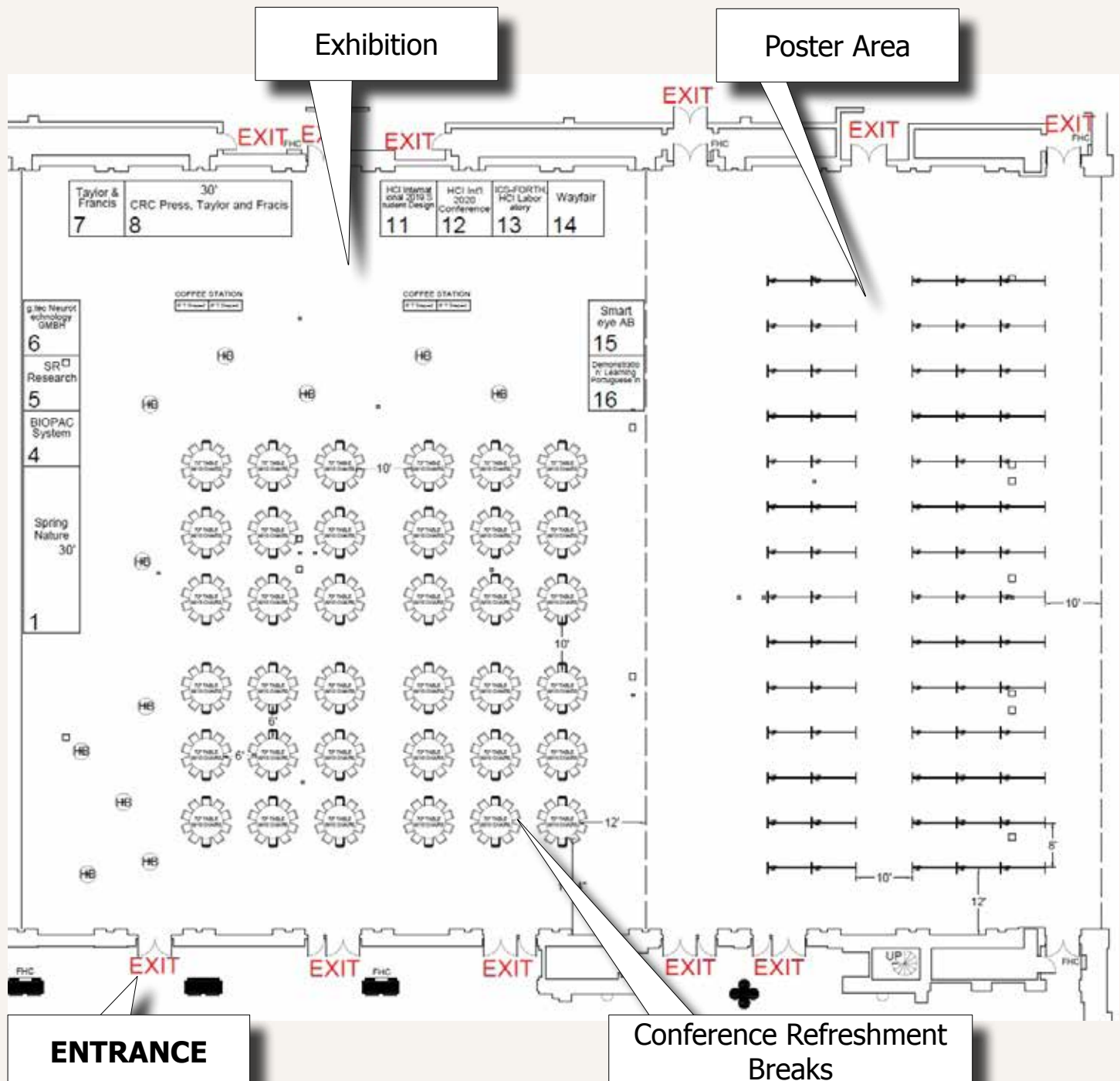
# Conference Exhibition

The Exhibition  
of HCI International 2019  
is hosted in the  
**NORTHERN BCDE BALLROOM**  
of Walt Disney World Dolphin resort

Timetable		
Opening Hours	Monday, 29 July	10:00 - 17:00
	Tuesday, 30 July	09:00 - 17:00
	Wednesday, 31 July	09:00 - 16:30

**Entrance to the Exhibition is free of charge for all Conference participants**

## NORTHERN BCDE BALLROOM



# List of Exhibitors

BIOPAC Systems, Inc.

Booth  
**4**



<https://www.biopac.com/>

SR Research Ltd

Booth  
**5**



<https://www.sr-research.com/>

g.tec neurotechnology gmbh

Booth  
**6**



<http://www.gtec.at/>

Smart Eye AB

Booth  
**15**



<http://smarte.se/>

Springer Nature

Booths  
**1-2-3**



<http://www.springer.com/gp/>

Taylor & Francis Group – Journals

Booth  
**7**



<http://taylorandfrancis.com/journals/>

CRC Press, Taylor And Francis Group

Booths  
**8-9-10**



<https://www.crcpress.com/>

Wayfair

Booth  
**14**



<http://www.wayfair.com>

ICS-FORTH / HCI Laboratory

Booth  
**13**



<http://www.ics.forth.gr/hci/>  
<http://ami.ics.forth.gr/>

Demonstration

Booth  
**16**

**Learning Portuguese in VR  
with ELLE the EndLess Learner  
by University of Central Florida**

<https://ekjphd.com/elle/>

HCI International 2019  
Student Design Competition presentations

Booth  
**11**



<http://2019.hci.international/program>

HCI International 2020 Conference

Booth  
**13**



<http://2020.hci.international>

# Student Design Competition

In the context of the HCII2019 Student Design Competition, eighteen (18) video submissions have been accepted for presentation, as a series of rolling video presentations, at the conference:

- **Monday, 29 July 2019, 16:00 - 18:00**, Room: Asia 5
- **Monday, 29 July - Wednesday, 31 July**, in the Exhibition/Posters/Coffee Break Area at Northern BCDE Ballroom

## **MRsive: An Augmented Reality Tool for Enhancing Wayfinding and Engagement With Art in Museums**

Jad Al Rabbaa, Alexis Morris, Sowmya Somanath, *Canada*

## **Mimi the Memory Dog: Increasing Empathy for the Elderly Using Design Probes for Story Preservation**

Yuhao Shi, *P.R. China*; Ashley Bates, Naomi Lacy, *United States*; Ashwin Athlye, *India*

## **InNervateVR**

Amber Ackley, Karla Chang Gonzalez, *United States*

## **YUE Virtual Park: Visualizing the National Voice**

Ting Liang, *P.R. China*

## **Computer Supported Community Cooperation: Using Theory-driven Design and Controlled Experiments to Innovate in Home Energy Monitoring and Sustainable Behaviors**

Marlen Promann, *United States*

## **TradeMarker - Artificial Intelligence-based Trademarks Similarity Search Engine**

Idan Mosseri, Matan Rusanovsky, Gal Oren, *Israel*

## **Lime: Helping People to Drink Responsibly**

Kesava Karthik Kota, Rugved Arte, Chaitrali Gandhi, Xi Li, *United States*

## **Equidot**

Kolli Vishal Reddy, Kesava Karthik Kota, *United States*

## **Tingling Cast: Broadcasting platform service for stuttering children**

HyunJin Jo, Yeonji Kim, JaeYoung Yun, *Korea*

## **MITO: Intelligent Toy Storage Assistant**

Yue Yang, Zhibin Zhou, Mingsen Yang, Zhou Fang, Jiawen Huang, Chaoyang Wang, Yihong Ji, *P.R. China*; Kenneth Sim, *Singapore*; Hao Jiang, Lingyun Sun, *P.R. China*

## **Smart holder for special groups**

Xiaojun Lai, Menghan Wang, *P.R. China*

## **Mixed Reality and Internet of Things as an Assistive Technology for Elderly People**

Ryan Anthony J. De Belen, Dennis Del Favero, Tomasz Bednarz, *Australia*

## **Twins Robot: Smart Vacuum Cleaner With New Interaction Mode**

Yuyang Zhang, Zhibin Zhou, Qing Gong, Yaoying Yang, Yue Wu, Hao Jiang, Lingyun Sun, *P.R. China*

## **Honeyjar: A savings assistant for children in the era of e-payment**

Qing Gong, Zhibin Zhou, Yuyang Zhang, Junhao Lin, Lu Wei, Menghan Zhang, Tieli Yu, Hao Jiang, Lingyun Sun, *P.R. China*

## **Dental Anaesthesia Simulation**

Jieying Lee, Jo Hanan Lau, Ching-Chiuan Yen, Kelvin Foong, Intekhab Islam, *Singapore*

## **ARena: Improving the construction process of line-follower robot arenas through Projection Mapping**

Júlia De Souza, Gustavo C.R. Lima, Pedro J.L. Silva, Joao M.X.N. Teixeira, Veronica Teichrieb, Diogo Henriques, *Brazil*

## **Design and Implementation of Social Services on Wheels (SSW) to increase Travel Safety for Female Employees in Emerging Cities**

Nuren Abedin, Kazi Mozaher Hossein, Jecinta Kamau, Rajib Chakraborty, Kenji Hisazumi, *Japan*; Ashir Ahmed, *Bangladesh*

## **BEN'FIT: Design and Implementation of a Cultured-Tailored Fitness App to Motivate Bodyweight Exercise**

Kiemute Oyibo, Babatunde Olabenjo, Abdul-Hammid Olagunju, Julita Vassileva, *Canada*

Friday, 26 July 2019		Room	Time	
T01	<b>Eye Tracking: Gaze Applications &amp; Analytics</b> Andrew Duchowski	Europe 1	08:30-12:30	Morning
T02	<b>Learn about Crowdsourcing by Evaluating Crowdsourcing Platforms</b> Javed Khan, Konstantinos Papangelis	Europe 2	08:30-12:30	
T03	<b>Deep Learning for Multimodal and Multisensorial Interaction</b> Nicholas Cummins, Björn W. Schuller	Europe 4	08:30-12:30	
T04	<b>Cross-Cultural HCI/User-Experience Design: What are the Differences and Similarities of User Preferences and Expectations, including China?</b> Aaron Marcus	Europe 5	08:30-12:30	
T05	<b>ON THE GO: Mobile User Experience Design and Research</b> Elizabeth Rosenzweig	Europe 1	13:30-17:30	Afternoon
T06	<b>Speech-based Interaction: Myths, Challenges and Opportunities</b> Gerald Penn, Cosmin Munteanu	Europe 2	13:30-17:30	
T07	<b>HCI/UX in Science-Fiction Movies and TV: The Past 100 Years of the Future</b> Aaron Marcus	Europe 5	13:30-17:30	
T08	<b>Using Enterprise Design Thinking to Drive Innovation into Real World Products and Services</b> Kevin I. Schultz, Camillo Sassano	Europe 4	13:30-17:30	

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Saturday, 27 July 2019		Room	Time	
T09	<b>10 Things you need to know to protect yourself and your company from cyber attacks</b> Abbas Moallem	Europe 5	08:30-12:30	Morning
T10	<b>Applications of Transmedia Storytelling</b> David Kaufman	Europe 4	08:30-12:30	
T11	<b>Non-invasive and invasive Brain-Neural and human computer interfaces: Background methodology and novel medical applications</b> Günter Edlinger, Fan Cao, Milena Korostenskaja	Europe 2	08:30-12:30	
T12	<b>Bimanual Interaction in Virtual and Augmented Reality</b> Amy Banic	Europe 1	08:30-12:30	
T13	<b>Gesture Elicitation</b> Jean Vanderdonckt, Radu-Daniel Vatavu	Withdrawn by the authors		Afternoon
T14	<b>Design Thinking Methods for Public Participation and Social Change</b> Panayiotis Zaphiris, Andreas Papallas	Europe 2	13:30-17:30	
T15	<b>Imagining a Future of Symbiotic Human Interaction with Technology</b> Eileen Smith, Cali Fidopiastis, Patricia Bockelman Morrow, Michael Carney	Europe 4	13:30-17:30	
T16	<b>3DUX: HCI User Experience Design for Immersive Systems and 3D Environments</b> Amy Banic	Europe 1	13:30-17:30	

Sunday, 28 July 2019		Room	Time	
T17	<b>Dashboard Design and Data Visualization</b> Abbas Moallem	Europe 5	08:30-12:30	Morning
T18	<b>Design of Digital Games for Older Adults</b> David Kaufman	Europe 4	08:30-12:30	
T19	<b>Using the System Usability Scale</b> James Lewis	Europe 1	08:30-12:30	
T20	<b>Become a Design Sprint Expert</b> Panayiotis Zaphiris, Andreas Papallas	Europe 2	08:30-12:30	
T21	<b>Beyond sketching features: UI design as natural, intuitive human conversations</b> Everett McKay	Europe 2	13:30-17:30	Afternoon
T22	<b>Assessing User Experience (UX) with Two Items: The UMUX-LITE</b> James Lewis	Europe 1	13:30-17:30	
T23	<b>Low fidelity prototyping for future user interfaces</b> Martin Maguire	Europe 4	13:30-17:30	
T24	<b>Putting Universal Access into practice</b> Simeon Keates	Europe 5	13:30-17:30	

Registered tutorial participants are entitled to access the refreshment break during their tutorial (10:30 - 11:00 or 15:30-16:00). Participants are kindly asked to make their own arrangements for lunch, during lunch breaks (12:30-13:30).

Tutorial participation requires additional registration per tutorial

Coffee Breaks:  
10:30 - 11:00  
and  
15:30 - 16:00

Room: Asia 3

# Parallel Sessions Overview

Monday, 29 July 2019

Morning

	08:00 – 10:00 (page 20-25)		10:30 – 12:30 (page 26-31)	
Thematic Area	session code	Session Title	session code	Session Title
HCI	S001	Research and Development of Medical Navigation and Simulation // ROOM: NORTHERN A2	S023	Socio-cultural Aspects in Monolingual and Multilingual Human-Computer Interaction // ROOM: SOUTHERN III
	S002	Designing the User Experience of Urban Spaces ROOM: NORTHERN A1	S024	Quality in Interaction // ROOM: NORTHERN A1
HIMI	S003	Use of Visual Displays to Enhance User Comprehension and Performance // ROOM: OCEANIC 2	S026	VR2.0 and Novel Interaction Technologies // ROOM: OCEANIC 4
	S004	Human-centered Information Systems, Services, and Applications // ROOM: OCEANIC 4	S027	Evidence Based Design and UX for Design Process // ROOM: OCEANIC 2
EPCE	S005	Human Performance on Flight Operations ROOM: EUROPE 4	S028	Aviation Safety and Human Performance // ROOM: EUROPE 4
UAHCI	S006	Technology for Inclusion and Participation (TIP) ROOM: ASIA 2	S029	Cutting Edge in Biosignal Processing and Analysis for Automatic Control Systems, Virtual Reality and the Education // ROOM: ASIA 2
VAMR	S007	Augmented Reality for Human-Robot Interaction ROOM: NORTHERN A4	S030	Examining the Use of Head-Mounted Displays for Games and Simulation // ROOM: OCEANIC 6
			S031	HCI Issues in Immersive Analytics: Data Visualization using 3D immersive and interactive technologies ROOM: NORTHERN A4
CCD	S008	OPOP - I -- One Product One Paper for Cross-Cultural Design - I // ROOM: ASIA 5	S032	OPOP - II -- One Product One Paper for Cross-Cultural Design - II // ROOM: ASIA 5
SCSM	S009	User Behavior(s) and Experience(s) in Social Media ROOM: ASIA 4	S033	Innovations in Education, Training and Online Interaction through Social Media // ROOM: ASIA 4
	S010	Frontiers of Social Media ROOM: ASIA 3	S034	(Health) Information Behavior and Gamification on Digital Media // ROOM: ASIA 3
AC	S011	Self-regulatory Strategies to Augment Cognition - I ROOM: EUROPE 1	S035	Self-regulatory Strategies to Augment Cognition - II ROOM: EUROPE 1
DHM	S012	Robots, Agents, and Bots for Super Smart Society - I ROOM: OCEANIC 8	S036	Robots, Agents, and Bots for Super Smart Society - II ROOM: OCEANIC 8
DUXU	S013	Developments in DUXU: Contributions for the Context of Technological Environments - I ROOM: SOUTHERN II	S037	Developments in DUXU: Contributions for the Context of Technological Environments - II ROOM: SOUTHERN II
	S014	Research on User-Centered interacting with information and systems ROOM: SOUTHERN III		
DAPI	S015	Ambient and Civic Computing // ROOM: EUROPE 5	S038	Various systems in learning environments // ROOM: EUROPE 5
HCIBGO	S016	HCI in Digital Retail and Online Marketing ROOM: NORTHERN A3	S039	Enterprise User Experience Research and Design ROOM: NORTHERN A3
LCT	S017	Interactive learning ecosystems - I // ROOM: SOUTHERN V	S040	Interactive learning ecosystems - II // ROOM: SOUTHERN V
ITAP	S018	Intergenerational use of new media // ROOM: OCEANIC 1	S041	Being Connected at Home – Making use of digital devices in later life // ROOM: OCEANIC 1
HCI-CPT	S019	Cybersecurity in organizations // ROOM: OCEANIC 6		
HCI-GAMES	S020	Gamification toward Information Systems // ROOM: EUROPE 2	S042	Edutainment, Gamification, Educational Games, and the Use of Game Design Elements ROOM: EUROPE 2
MOBITAS	S021	External human machine interfaces communicating intentions of automated vehicles // ROOM: EUROPE 3	S043	Automotive UI and UX for Vehicle Information and Assistance Systems // ROOM: EUROPE 3
AIS	S022	Applying Cognitive Psychology Methods to Adaptive Instruction // ROOM: SOUTHERN IV	S044	Interaction Design for Adaptive Instructional Systems ROOM: SOUTHERN IV

**HCI** Human-Computer Interaction • **HIMI** Human Interface and the Management of Information • **EPCE** Engineering Psychology and Cognitive Ergonomics • **UAHCI** Universal Access in Human-Computer Interaction • **VAMR** Virtual, Augmented and Mixed Reality • **CCD** Cross-Cultural Design • **SCSM** Social Computing and Social Media • **AC** Augmented Cognition • **DHM** Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management

# Sessions DAY 1

Monday, 29 July 2019

Afternoon

	13:30 – 15:30 (page 32-37)	16:00 – 18:00 (page 38-43)
Thematic Area	session code Session Title	session code Session Title
<b>HCI</b>	<b>S045</b> Benefits of Inconvenience in Human Machine Interaction - I // ROOM: NORTHERN A1	<b>S067</b> Benefits of Inconvenience in Human Machine Interaction - II ROOM: NORTHERN A1
	<b>S046</b> Design and Evaluation Methods and Tools ROOM: NORTHERN A2	
	<b>S047</b> Touch and Haptics // ROOM: NORTHERN A3	
<b>HIMI</b>	<b>S048</b> user-oriented technologies and services // ROOM: OCEANIC 2	<b>S070</b> Embodied Interaction and Communication ROOM: OCEANIC 2
	<b>S049</b> Knowledge, information and interaction // ROOM: OCEANIC 4	<b>S071</b> Visualization Methods and Tools ROOM: OCEANIC 4
<b>UAHCI</b>	<b>S050</b> Haptic Interfaces for Assistive, Rehabilitative, and Healthcare Technologies // ROOM: ASIA 2	<b>S072</b> Education and Learning Processes // ROOM: ASIA 3
	<b>S051</b> New technologies for Universal Access // ROOM: ASIA 3	<b>S073</b> Spatial Interaction for Universal Access ROOM: ASIA 2
<b>VAMR</b>	<b>S052</b> Human-Machine Teaming: Definitions, Approaches, Lessons Learned ROOM: NORTHERN A4	
<b>CCD</b>	<b>S053</b> OPOP - III -- One Product One Paper for Cross-Cultural Design - III ROOM: ASIA 5	<b>S074</b> Design for social interaction and urban experience ROOM: EUROPE 2
<b>SCSM</b>	<b>S054</b> Social Media : Towards an Advertising Digital Literacy // ROOM: EUROPE 5	<b>S075</b> Misleading information in social media ROOM: EUROPE 5
<b>AC</b>	<b>S055</b> Augmented Cognition Applications ROOM: EUROPE 1	<b>S076</b> The Psychoinformatics of Mixed Reality and Biomimicry ROOM: EUROPE 1
<b>DHM</b>	<b>S056</b> Anthropometry and posture analysis ROOM: OCEANIC 8	<b>S077</b> Creative Processes and Cognitive Science Cooperation in Art, Architecture and Design for Education, Health and Well Being // ROOM: OCEANIC 8
<b>DUXU</b>	<b>S057</b> Ergonomics in Design ROOM: SOUTHERN II	<b>S078</b> DUXU for Smart Living, Working, Learning, Commuting, and Playing // ROOM: SOUTHERN II
	<b>S058</b> Designing and Measuring Novel User Experiences ROOM: SOUTHERN III	<b>S079</b> Psychological considerations in designing and using online and digital communication // ROOM: SOUTHERN III
	<b>S059</b> Design and UX for AI systems ROOM: SOUTHERN IV	<b>S080</b> Artificial Intelligence+Big Data+Internet of Everything+Grand Interaction Design // ROOM: NORTHERN A2
		<b>S081</b> Information Design & UX // ROOM: NORTHERN A3
<b>HCIBGO</b>	<b>S060</b> HCI in Project Management ROOM: EUROPE 4	<b>S082</b> DUXU Case Studies // ROOM: SOUTHERN IV
<b>LCT</b>	<b>S061</b> Interactive learning ecosystems - III ROOM: SOUTHERN V	<b>S083</b> Service Design and Business Design ROOM: EUROPE 4
<b>ITAP</b>	<b>S062</b> Everyday Life Information Behavior and Practice of older adults ROOM: OCEANIC 1	<b>S084</b> Interactive learning ecosystems - IV ROOM: SOUTHERN V
<b>HCI-CPT</b>	<b>S063</b> Cybersecurity and user behavior ROOM: OCEANIC 6	<b>S085</b> ICT for Care and Support of Elderly People in Hyper Aged Societies ROOM: OCEANIC 1
<b>HCI-GAMES</b>	<b>S064</b> Games, affect and well-being ROOM: EUROPE 2	<b>S086</b> Novel approaches to authentication ROOM: NORTHERN A4
<b>MobITAS</b>	<b>S065</b> Mobility and User Experience ROOM: EUROPE 3	<b>S087</b> Mobility-as-a-Service - Digitization of Public Transport ROOM: EUROPE 3
<b>AIS</b>	<b>S066</b> Application of Artificial Intelligence and Machine Learning techniques to Adaptive Instruction ROOM: ASIA 4	<b>S088</b> Adaptive Instruction System Standards ROOM: OCEANIC 6

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# Parallel Sessions Overview

Tuesday, 30 July 2019

Morning

	08:00 – 10:00 (page 44-49)		10:30 – 12:30 (page 50-55)	
Thematic Area	session code	Session Title	session code	Session Title
HCI	S089	Elderly Kansei Issues of Interaction Design <i>ROOM: NORTHERN A3</i>	S111	Writing Off the Page: Perspectives of E-lit, Interactive Fiction and Transmedia Storytelling <i>ROOM: NORTHERN A1</i>
	S090	Kansei Engineering and Emotion Research <i>ROOM: NORTHERN A1</i>	S112	Design Access in Ergonomics and Interaction <i>ROOM: NORTHERN A2</i>
	S091	Usability and user experience <i>ROOM: NORTHERN A2</i>	S113	HCI in Industry // <i>ROOM: NORTHERN A3</i>
HIMI	S092	Relationality Design and Relationality-oriented Systems - I <i>ROOM: OCEANIC 4</i>	S114	Relationality Design and Relationality-oriented Systems - II <i>ROOM: OCEANIC 4</i>
EPCE	S093	Human Factors and Ergonomics in Safety-critical Systems // <i>ROOM: EUROPE 4</i>	S115	Harmonized Interaction with Complex Systems <i>ROOM: EUROPE 4</i>
UAHCI	S094	Interaction techniques and technologies supporting user diversity <i>ROOM: ASIA 2</i>	S116	Technology-Based Accessibility (TBA) - Access Technologies for Inclusion and Participation <i>ROOM: ASIA 2</i>
VAMR	S095	User experience in VAMR <i>ROOM: SOUTHERN V</i>	S117	Navigation and teleporting in VAMR <i>ROOM: NORTHERN A4</i>
	S096	PANEL: Real-Time Facial and Body Tracking <i>ROOM: SOUTHERN IV</i>		
CCD	S097	User Behavior Research <i>ROOM: ASIA 5</i>	S118	Uncovering Research and Design for People of All Ages <i>ROOM: ASIA 5</i>
SCSM	S098	Customer eXperience and Behavior <i>ROOM: ASIA 4</i>	S119	HCI in MIS <i>ROOM: ASIA 4</i>
AC	S099	Augmented Cognition through Immersive User Experiences - I // <i>ROOM: EUROPE 1</i>	S120	Augmented Cognition through Immersive User Experiences - II // <i>ROOM: EUROPE 1</i>
DHM	S100	Models for Human-Algorithm Interaction <i>ROOM: OCEANIC 8</i>	S121	Human modeling for nursing and medical art <i>ROOM: OCEANIC 8</i>
DUXU	S101	User Experience and Usability Driven Design: Emerging Theory and Practice - I <i>ROOM: SOUTHERN III</i>	S122	New Approaches of Research on User Experience Design // <i>ROOM: SOUTHERN V</i>
	S102	User experience of culture <i>ROOM: SOUTHERN II</i>	S123	DUXU practice in organizations // <i>ROOM: SOUTHERN II</i>
			S124	User experience and user behavior // <i>ROOM: SOUTHERN IV</i>
			S125	User Experience and Usability Driven Design: Emerging Theory and Practice - II // <i>ROOM: SOUTHERN III</i>
DAPI	S103	Computing with and for the Senses <i>ROOM: EUROPE 5</i>	S126	Social IoT and digital media <i>ROOM: EUROPE 5</i>
HCIBGO	S104	Mixed Methods for Intelligent Data Analysis <i>ROOM: NORTHERN A4</i>	S127	E-Commerce <i>ROOM: ASIA 3</i>
LCT	S105	Wearable Technologies for Learning and Collaboration <i>ROOM: OCEANIC 2</i>	S128	Human-centered Aspects Of Digital Learning Environments <i>ROOM: OCEANIC 2</i>
ITAP	S106	Digital gaming among older populations <i>ROOM: OCEANIC 1</i>	S129	New media use in the everyday life of older people <i>ROOM: OCEANIC 1</i>
HCI-CPT	S107	Privacy issues and user awareness <i>ROOM: OCEANIC 6</i>		
HCI-GAMES	S108	Playfull Experiences: Design and Impact <i>ROOM: EUROPE 2</i>	S130	Games and Cultural Identities <i>ROOM: EUROPE 2</i>
MobITAS	S109	Gender Equality and Smart Mobility <i>ROOM: EUROPE 3</i>	S131	Mobility Research - New Methods, Tools and Tactics <i>ROOM: EUROPE 3</i>
AIS	S110	Dialogue-based Adaptive Instructional Systems // <i>ROOM: ASIA 3</i>	S132	Diagnostics for AIS Learner Modeling <i>ROOM: OCEANIC 6</i>

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# Sessions DAY 2

Tuesday, 30 July 2019

Afternoon

	13:30 – 15:30 (page 56-61)		16:00 – 18:00 (page 62-67)	
Thematic Area	session code	Session Title	session code	Session Title
HCI	S133	Communication Enhancement <i>ROOM: NORTHERN A1</i>	S155	HCI: Theory and History // <i>ROOM: NORTHERN A2</i>
	S134	Motivation and Persuasion <i>ROOM: NORTHERN A2</i>	S156	Mobile Interaction // <i>ROOM: NORTHERN A3</i>
HIMI	S135	Improvement in Learning and Educational Environments using ICT // <i>ROOM: ASIA 4</i>	S157	Hand- and Eye-based Gesture Interaction <i>ROOM: NORTHERN A1</i>
	S136	Visual and haptic interactions in Immersive environment // <i>ROOM: OCEANIC 4</i>	S159	Data, semantics and interaction // <i>ROOM: ASIA 4</i>
UAHCI	S137	Urban Life in Smart Cities, Learning Cities, and Future Cities // <i>ROOM: ASIA 2</i>	S160	Information Visualization in Support of Human Cognition and Decision Making <i>ROOM: OCEANIC 4</i>
	S138	Beyond-Usability: A Call to Action for Designers and Researchers in HCI // <i>ROOM: ASIA 3</i>	S161	Usability and Accessibility of ICT in Emergency and Disaster Management // <i>ROOM: ASIA 2</i>
VAMR	S139	Human perception and behavior in VAMR - I <i>ROOM: SOUTHERN V</i>	S162	Universal Access in new interactive technologies <i>ROOM: ASIA 3</i>
			S163	Human Factors in Technologies Enabling All Weather <i>ROOM: SOUTHERN IV</i>
CCD	S140	Interaction and Experience Design of Smart Product in Different Cultures // <i>ROOM: ASIA 5</i>	S164	Human perception and behavior in VAMR - II <i>ROOM: SOUTHERN V</i>
			S165	Cross-Cultural Behavior and Attitude Studies // <i>ROOM: ASIA 5</i>
SCSM	S141	Consumer Behavior from the Viewpoint of Marketing - I // <i>ROOM: EUROPE 5</i>	S166	Cultural and intercultural experiences // <i>ROOM: EUROPE 2</i>
			S167	Consumer Behavior from the Viewpoint of Marketing - II <i>ROOM: EUROPE 5</i>
AC	S142	Biomimetic Intelligence: Mathematical Analogies of Animal and Machine Cognition // <i>ROOM: EUROPE 1</i>	S168	Modeling Cognitive Factors in Human Behavior <i>ROOM: EUROPE 1</i>
DHM	S143	Advanced Applications of Intelligent Systems <i>ROOM: OCEANIC 8</i>	S169	Occupational Safety and Health and Human-System-Interaction // <i>ROOM: OCEANIC 8</i>
			S170	Safety and emergency // <i>ROOM: OCEANIC 6</i>
DUXU	S144	New Requirements of User Experience for Modern Design // <i>ROOM: SOUTHERN IV</i>	S171	Designing behaviours, behaving design <i>ROOM: SOUTHERN III</i>
	S145	UX design for AI and Education - I <i>ROOM: SOUTHERN II</i>	S172	UX design for AI and Education - II <i>ROOM: SOUTHERN II</i>
	S146	User Experience and Usability Driven Design: Emerging Theory and Practice - III <i>ROOM: SOUTHERN III</i>		
HCIBGO	S147	User Experience and Analytics <i>ROOM: EUROPE 4</i>	S173	HCI and Management in Business and Organizations <i>ROOM: EUROPE 4</i>
LCT	S148	Mobile learning and Ubiquitous Technologies for Learning // <i>ROOM: NORTHERN A4</i>	S174	Novel technologies supporting new ways of learning <i>ROOM: EUROPE 3</i>
ITAP	S149	Research and Practice in Human Factors and Design // <i>ROOM: OCEANIC 1</i>	S175	Digital devices and services in an aging world <i>ROOM: OCEANIC 1</i>
	S150	Activity tracking and exergaming for the elderly <i>ROOM: OCEANIC 2</i>	S176	Robots and assistive technologies in home care <i>ROOM: OCEANIC 2</i>
HCI-CPT	S151	Trust and Behavior <i>ROOM: OCEANIC 6</i>		
HCI-GAMES	S152	Applied Design-Focused Games User Research <i>ROOM: EUROPE 2</i>		
MOBITAS	S153	Interacting with Autonomous Vehicles <i>ROOM: EUROPE 3</i>		
AIS	S154	Fundamentals of Adaptive Instructional Systems <i>ROOM: NORTHERN A3</i>		

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# Parallel Sessions Overview

Wednesday, **31 July 2019**

Morning

	<b>08:00 – 10:00</b> (page 68-72)		<b>10:30 – 12:30</b> (page 73-77)	
Thematic Area	session code	Session Title	session code	Session Title
<b>HCI</b>	<b>S177</b>	Design Case Studies <i>ROOM: NORTHERN A1</i>	<b>S197</b>	Tactile displays: Issues and user experience <i>ROOM: OCEANIC 4</i>
<b>HIMI</b>	<b>S178</b>	UX Based Interaction Design <i>ROOM: OCEANIC 4</i>		
<b>EPCE</b>	<b>S179</b>	Cognition and Design - I <i>ROOM: EUROPE 4</i>	<b>S198</b>	Cognition and Design - II <i>ROOM: EUROPE 4</i>
<b>UAHCI</b>	<b>S180</b>	Video Games and Advanced Technologies for Health: Design, User Experience and Usability Issues // <i>ROOM: ASIA 3</i>	<b>S199</b>	Sensors and Mobile Applications for Human-Computer Interaction // <i>ROOM: ASIA 2</i>
	<b>S181</b>	ICT in Health and in Active Ageing // <i>ROOM: ASIA 2</i>	<b>S200</b>	Innovative Product Design and Development // <i>ROOM: ASIA 3</i>
<b>VAMR</b>	<b>S182</b>	Health and ergonomic issues in VR <i>ROOM: NORTHERN A4</i>	<b>S201</b>	Applications of VAMR // <i>ROOM: NORTHERN A4</i>
			<b>S202</b>	Designing Virtual Environments // <i>ROOM: NORTHERN A3</i>
<b>CCD</b>	<b>S183</b>	Interacting with Emerging Technologies <i>ROOM: ASIA 5</i>	<b>S203</b>	Affective Engineering: Strengthening User Experience <i>ROOM: ASIA 5</i>
<b>SCSM</b>	<b>S184</b>	Data based Social Signal Processing // <i>ROOM: ASIA 4</i>	<b>S204</b>	Impact of multicultural environments on social computing and social media <i>ROOM: ASIA 4</i>
	<b>S185</b>	Experiences in Social Media // <i>ROOM: EUROPE 3</i>		
<b>AC</b>	<b>S186</b>	Neuroscience and brain interfaces <i>ROOM: EUROPE 1</i>		
<b>DHM</b>	<b>S187</b>	Why organisations must consider OSH & standardization for HCI // <i>ROOM: OCEANIC 8</i>	<b>S205</b>	Beyond entertainment: games, gamification, and transmedia in education, health, and well-being // <i>ROOM: OCEANIC 8</i>
<b>DUXU</b>	<b>S188</b>	Designing and Evaluating User Experience (UX) in Interactive Systems // <i>ROOM: SOUTHERN III</i>	<b>S206</b>	Trans-inclusive design <i>ROOM: SOUTHERN II</i>
	<b>S189</b>	HCI Innovation in the Field of AI: Autonomous Vehicles, Intelligent Recommendation, Robotics, and Smart Home // <i>ROOM: SOUTHERN II</i>		
<b>DAPI</b>	<b>S190</b>	Designing intelligent interactive environments - I <i>ROOM: EUROPE 5</i>	<b>S207</b>	Designing intelligent interactive environments - II <i>ROOM: EUROPE 5</i>
<b>HCIBGO</b>	<b>S191</b>	Mobile Finance and Privacy <i>ROOM: NORTHERN A2</i>	<b>S208</b>	HCI in Business and Organizations <i>ROOM: NORTHERN A2</i>
<b>LCT</b>			<b>S209</b>	Language learning technologies <i>ROOM: SOUTHERN V</i>
<b>ITAP</b>	<b>S192</b>	Aging and Technology Acceptance // <i>ROOM: OCEANIC 2</i>	<b>S210</b>	Emerging technologies in an aging society <i>ROOM: OCEANIC 2</i>
	<b>S193</b>	Older adults in the web ecology experiences <i>ROOM: OCEANIC 1</i>	<b>S211</b>	Senior Cloud and Active Aging // <i>ROOM: OCEANIC 1</i>
<b>HCI-CPT</b>	<b>S194</b>	Novel approaches to cybersecurity <i>ROOM: OCEANIC 6</i>		
<b>HCI-GAMES</b>	<b>S195</b>	Transformative Playground // <i>ROOM: EUROPE 2</i>	<b>S213</b>	Gaming Experiences // <i>ROOM: EUROPE 2</i>
<b>AIS</b>	<b>S196</b>	Adaptive Agents for Adaptive Instruction: Teaching old agents new tricks // <i>ROOM: SOUTHERN IV</i>	<b>S214</b>	Learner and Domain Context in Adaptive Instructional Systems // <i>ROOM: SOUTHERN IV</i>
			<b>S215</b>	Standards for Adaptive Instructional System (AIS) Conceptual Models // <i>ROOM: SOUTHERN III</i>

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# Sessions DAY 3

Wednesday, **31 July 2019**

Afternoon

	<b>13:30 – 15:30</b> (page 78-82)		<b>16:00 – 18:00</b> (page 83-85)	
Thematic Area	session code	Session Title	session code	Session Title
<b>HCI</b>	<b>S216</b>	Facial Expressions and Emotions - I <i>ROOM: NORTHERN A2</i>	<b>S235</b>	Facial Expressions and Emotions - II <i>ROOM: ASIA 3</i>
	<b>S217</b>	UI Design and Development // <i>ROOM: NORTHERN A1</i>		
<b>HIMI</b>			<b>S236</b>	Science / technology and society <i>ROOM: OCEANIC 4</i>
<b>EPCE</b>	<b>S218</b>	Mental Workload and Productivity // <i>ROOM: EUROPE 4</i>		
<b>UAHCI</b>	<b>S219</b>	Technologies for ASD - I // <i>ROOM: ASIA 2</i>	<b>S237</b>	Technologies for ASD - II <i>ROOM: ASIA 2</i>
	<b>S220</b>	Universal Access to Learning // <i>ROOM: ASIA 3</i>		
<b>VAMR</b>	<b>S221</b>	Alternative Control for Interaction <i>ROOM: NORTHERN A3</i>	<b>S238</b>	VAMR in training <i>ROOM: EUROPE 4</i>
	<b>S222</b>	Developing virtual environments <i>ROOM: NORTHERN A4</i>		
<b>CCD</b>	<b>S223</b>	Next Generation Natural UI // <i>ROOM: ASIA 5</i>		
<b>AC</b>	<b>S224</b>	Human-Machine Teaming: What makes a good teammate? // <i>ROOM: EUROPE 1</i>	<b>S239</b>	Field Studies of Human Performance and Training Assessment // <i>ROOM: EUROPE 1</i>
<b>DHM</b>	<b>S225</b>	Modelling human motion, abilities and skills <i>ROOM: OCEANIC 8</i>	<b>S240</b>	Ergonomic applications <i>ROOM: OCEANIC 8</i>
	<b>S226</b>	Quality in care - I <i>ROOM: OCEANIC 6</i>	<b>S241</b>	Quality in care - II <i>ROOM: OCEANIC 6</i>
<b>DUXU</b>	<b>S227</b>	Virtual Image, Interactive Storytelling <i>ROOM: SOUTHERN II</i>	<b>S242</b>	User research and user involvement <i>ROOM: ASIA 4</i>
	<b>S228</b>	Research on the Practicability of Modern Design in User Experience // <i>ROOM: SOUTHERN III</i>		
	<b>S229</b>	User experience evaluation methods and tools <i>ROOM: SOUTHERN IV</i>		
<b>DAPI</b>	<b>S230</b>	Remote Health Monitoring for Unreached and Aging Communities // <i>ROOM: EUROPE 5</i>	<b>S243</b>	Design, Development and Implementation Issues in the 4th Industrial Revolution // <i>ROOM: EUROPE 5</i>
<b>HCIBGO</b>	<b>S231</b>	HCI in Social Computing and Service Innovation <i>ROOM: EUROPE 2</i>		
<b>LCT</b>	<b>S232</b>	STEM learning technologies <i>ROOM: SOUTHERN V</i>	<b>S244</b>	Novel learning environments // <i>ROOM: EUROPE 2</i>
			<b>S245</b>	Supporting collaboration and work // <i>ROOM: EUROPE 3</i>
<b>ITAP</b>	<b>S233</b>	Designing the elderly user experience - I <i>ROOM: OCEANIC 1</i>	<b>S246</b>	Designing the elderly user experience - II <i>ROOM: OCEANIC 1</i>
<b>MobiTAS</b>	<b>S234</b>	Human Vehicle Interaction <i>ROOM: EUROPE 3</i>		

HCI	S001
<b>Research and Development of Medical Navigation and Simulation</b>	
Chair(s): Katsuhiko Onishi, <i>Japan</i>	
Room: <b>NORTHERN A2</b>	
<b>Evaluation of the Degree of Heat Conduction with the da Vinci Surgical System</b>	
Akihiro Hamada, Atsuro Sawada, Jin Kono, Masanao Koeda, Katsuhiko Onishi, Takashi Kobayashi, Toshinari Yamasaki, Takahiro Inoue, Hiroshi Noborio, Osamu Ogawa, <i>Japan</i>	
<b>Multi-camera coordinate calibration and accuracy evaluation for robot control</b>	
Masahiro Nonaka, Hiroshi Noborio, Katsuhiko Onishi, Katsunori Tachibana, Kaoru Watanabe, Kiminori Mizushino, <i>Japan</i>	
<b>A Study of Camera Tip Position Estimating Methods in Transnasal Endoscopic Surgery</b>	
Katsuhiko Onishi, Seiyu Fumiyama, Yohei Miki, Masahiro Nonaka, Masanao Koeda, Hiroshi Noborio, <i>Japan</i>	
<b>Proposal and Evaluation of AR-Based Microscopic Brain Surgery Support System</b>	
Masanao Koeda, Sana Nishimoto, Hiroshi Noborio, Kaoru Watanabe, <i>Japan</i>	
<b>Angle and load measurement method for ankle joint using active bone-conducted sound sensing</b>	
Atsutoshi Ikeda, Shinichi Kosugi, Yasuhito Tanaka, <i>Japan</i>	
<b>Performance and Accuracy Analysis of 3D Model Tracking for Liver Surgery</b>	
Satoshi Numata, Masanao Koeda, Katsuhiko Onishi, Kaoru Watanabe, Hiroshi Noborio, <i>Japan</i>	

S002
<b>Designing the User Experience of Urban Spaces</b>
Chair(s): Maria Laura Mele, Stefano Federici, <i>Italy</i> ; Simone Borsci, <i>Netherlands</i> ; Antonio Opromolla, <i>Italy</i> ; Alessio Malizia, <i>United Kingdom</i>
Room: <b>NORTHERN A1</b>
<b>Optimizing user experience in amusement parks and enhancing their active role in urban spaces through new technology</b>
Eliseo Sciarretta, Alessandra Carriero, Giada Marinensi, <i>Italy</i>
<b>Towards a multi-modal transportation scenario: an analysis about elderly needs</b>
Valentina Volpi, Antonio Opromolla, Giovanni Andrea Parente, Carlo Maria Medaglia, <i>Italy</i>
<b>Analyzing social impact evaluation tools applied to design thinking: a proposal for improving user experience in urban spaces through social innovation</b>
Valentina Volpi, Antonio Opromolla, Carlo Maria Medaglia, <i>Italy</i>
<b>The IoT Design Deck 2.0: Improving the tool for the co-design of connected products</b>
Massimiliano Dibitonto, Federica Tazzi, Katarzyna Leszczynska, Carlo Maria Medaglia, <i>Italy</i>
<b>Research on Innovative Design of Urban Smart Lighting Equipment based on User Experience</b>
Junnan Ye, Jianxin Cheng, Dadi An, Chaoxiang Yang, Sihui Shen, Junzhe Lu, <i>P.R. China</i>
<b>Collaborative design of urban spaces uses: from the citizen idea to the educational virtual development</b>
Mónica V. Sánchez-Sepúlveda, David Fonseca, Jordi Franquesa, Ernest Redondo, <i>Spain</i> ; Fernando Moreira, <i>Portugal</i> ; Sergi Villagrasa, Enric Peña, Nuria Marti, Xavier Canaleta, Jose Antonio Montero, <i>Spain</i>

HIMI	S003
<b>Use of Visual Displays to Enhance User Comprehension and Performance</b>	
Chair(s): Kim-Phuong L. Vu, <i>United States</i>	
Room: <b>OCEANIC 2</b>	
<b>Use of Customized Text Can be Beneficial to Students Who Read Online Materials under Constrained Visual Conditions</b>	
Kim-Phuong L. Vu, Amber Latham, Timothy Diep, Jonathan Van Luven, Ryan Fritz, Wayne E. Dick, <i>United States</i>	
<b>Customization: The Path to a Better and More Accessible Web Experience</b>	
Ryan Fritz, Kim-Phuong L. Vu, Wayne E. Dick, <i>United States</i>	
<b>Users' Interpretation of Pictograms and Pictures for Conveying Instructions and Warnings on Pharmaceutical Labels</b>	
Destyn Jones, Sabrina Moran, Jamie Sanchez, Amber Latham, Kim-Phuong L. Vu, <i>United States</i>	
<b>Does a Character's Visual Style Affect Audience Empathy and Sympathy?</b>	
Jisu Park, Nicoletta Adamo-Villani, Robert W. Proctor, <i>United States</i>	
<b>Does the Use of Tablets Lead to More Information Being Recorded and Better Recall in Short-Term Memory Tasks?</b>	
Hailey Arreola, Andrea-Nicole Flores, Amber Latham, Hanna MacNew, Kim-Phuong L. Vu, <i>United States</i>	
<b>Modeling pilots' operation error based on Fitts' Law</b>	
Qianzheng Zhuang, Xiaoyan Zhang, Hua Zhao, Hongjun Xue, Tao Li, <i>P.R. China</i>	

S004
<b>Human-centered Information Systems, Services, and Applications</b>
Chair(s): Ryosuke Saga, Hiroshi Tanaka, <i>Japan</i>
Room: <b>OCEANIC 4</b>
<b>Initial Investigation of a Notification System for Indoor Alarm Sounds using a Neural Network</b>
Takeru Kadokura, Kohei Watanabe, Yoshikaze Yanagiya, <i>Japan</i> ; Elisa Sihombing, Syauqan Wafiqi, <i>Indonesia</i> ; Yasuhiro Sudo, Hiroshi Tanaka, <i>Japan</i>
<b>Evaluation index to find relevant papers: Improvement of focused citation count</b>
Tetsuya Nakatoh, Sachio Hirokawa, <i>Japan</i>
<b>A practical study on the Information Sharing System for Producers</b>
Tomoko Kasihma, Shimpei Matsumoto, Takashi Hasuike, <i>Japan</i>
<b>Value-of-Information Driven Content Presentation and Filtering in Military Geographic Information Systems</b>
James Michaelis, <i>United States</i>
<b>CiSA: An Inclusive Chatbot Service for International Students and Academics</b>
Jeongyun Heo, Jiyeon Lee, <i>Korea</i>

**EPCE S005****Human Performance on Flight Operations**

Chair(s): Wen-Chin Li, *United Kingdom*; Lei Wang, *P.R. China*

Room: **EUROPE 4**

**Study on Evaluation of Airline Pilot's Flight Violation Behaviors and Psychological Risk**

Jingyi Zhang, Lei Wang, *P.R. China*

**Checklist and Alert language: Impact on ESL Pilot Performance in Airline Operations**

Dujuan Sevillian, *United States*

**Enhancing Aviation Simulator De-briefs through the Integration of Student Eye Tracking: the Instructor's Perspective**

Julius Jakubowski, Wen-Chin Li, *United Kingdom*

**From Paper-based Operational Procedures to Onboard Context-Sensitive Information System (OCSIS) for Commercial Aircrafts**

Wei Tan, *P.R. China*; Guy Boy, *France*

**Fixation adjustment during the landing process and its relationship with pilot expertise and landing performance**

Yanjin Sun, *Hong Kong*; Jingyu Zhang, Han Qiao, Xianghong Sun, Ping Qian, Yang Song, *P.R. China*

**UAHCI S006****Technology for Inclusion and Participation (TIP)**

Chair(s): Ingo Bosse, Christoph Kaletka, *Germany*

Room: **ASIA 2**

**How to Design an Intervention to Raise Digital Competences: ALL DIGITAL Week – Dortmund 2018**

Manuela Becker, Alexandra Benner, Katrin Borg, Jan Hüls, Marina Koch, Annik Kost, Annabelle Korn, Marie-Christin Lüg, Dominique Osthoff, Bastian Pelka, Carina Rosenberger, Helene Sattler, *Germany*

**Caregivers' Influence on Smartphone Usage of People with Cognitive Disabilities: An Explorative Case Study in Germany**

Vanessa Heitplatz, Christian Bühler, Matthias Hastall, *Germany*

**Internet and social media use by adolescents with physical impairments and complex communication needs**

Ingo Bosse, Gregor Renner, Leevke Wilkens, *Germany*

**Empowering instead of hindering – challenges in participatory development of cognitively accessible software**

Susanne Dirks, *Germany*

**Design and Evaluation of Mobile Applications for Augmentative and Alternative Communication in Minimally-verbal Learners with Severe Autism**

Oliver Wendt, Grayson Bishop, Ashka Thakar, *United States*

**Inquiring Evaluation Aspects of Universal Design and Natural Interaction in Socioenactive Scenarios**

Andressa Cristina Dos Santos, Vanessa Regina Margareth Lima Maíke, Yusseli Lizeth Méndez Mendoza, José Vanderlei Da Silva, Rodrigo Bonacin, Julio Cesar Dos Reis, M. Cecília C. Baranauskas, *Brazil*

**VAMR S007****Augmented Reality for Human-Robot Interaction**

Chair(s): Tom Williams, *United States*

Room: **NORTHERN A4**

**Investigating the Potential Effectiveness of Allocentric Mixed Reality Deictic Gesture**

Tom Williams, Matthew Bussing, Sebastian Cabrol, Ian Lau, Elizabeth Boyle, Nhan Tran, *United States*

**Exploring Temporal Dependencies in Multimodal Referring Expressions with Mixed Reality**

Elena Sibirtseva, Ali Ghadirzadeh, Iolanda Leite, Mårten Björkman, Danica Kragic, *Sweden*

**Augmented Reality for Human-Robot Teaming in Field Environments**

Christopher Reardon, Kevin Lee, John Rogers, Jonathan Fink, *United States*

**Mediating Human-Robot Interactions with Virtual, Augmented, and Mixed Reality**

Daniel Szafir, *United States*

**Scalable Representation Learning for Long-Term Augmented Reality-Based Information Delivery in Collaborative Human-Robot Perception**

Fei Han, Sriram Siva, Hao Zhang, *United States*

**Design of Virtual Reality for Humanoid Robots with Inspiration from Video Games**

Jordan Allspaw, Lilia Heinold, Holly Yanco, *United States*

**CCD S008****OPOP - I -- One Product One Paper for Cross-Cultural Design - I**

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

Room: **ASIA 5**

**Research on Creation Architecture of Opera Cartoons**

Jiede Wu, Jianping Huang, *P.R. China*; Rungtai Lin, *Taiwan*

**How flow and mindfulness interact with each other in different types of mandala coloring activities?**

Hao Chen, Chao Liu, *P.R. China*; Wen-Ko Chiou, Rungtai Lin, *Taiwan*

**Communication between Artist and Audience: A Case Study of Creation Journey**

Yajuan Gao, Jiede Wu, *P.R. China*; Sandy Lee, Rungtai Lin, *Taiwan*

**Effects of mandala coloring on mindfulness, spirituality, and subjective well-being**

Chao Liu, Hao Chen, *P.R. China*; Wen-Ko Chiou, Rungtai Lin, *Taiwan*

**The Study of Developing Innovation on Technology-enabled Design Process**

Chiui Hsu, Claudia Wang, Rungtai Lin, *Taiwan*

**The Design Thinking between Man-made and Natural – Taking Jewelry as an Example**

I -Ting Wang, Hsienfu Lo, Gao Yang, *Taiwan*

**A Study of Cultural Ergonomics in Atayal Weaving Box**

John Kreifeldt, *United States*; Yajuan Gao, *P.R. China*; Gao Yang, Hui-Yun Yen, *Taiwan*; Yuma Taru, *P.R. China*; Rungtai Lin, *Taiwan*

**SCSM S009****User Behavior(s) and Experience(s) in Social Media**Chair(s): Adela Coman, *Romania*Room: **ASIA 4****The Digital Tools: Supporting the "Inner Lives" of Customers/Visitors In Museums**Adela Coman, Ana-Maria Grigore, Andreea Ardelean, *Romania***User Characteristics of Vaguebookers Versus General Social Media Users**Chloe Berryman, Bridget McHugh, Pamela Wisniewski, Chris Ferguson, Charles Negy, *United States***Human-Computer Interaction (HCI) between 'Virtual Family' Members: a Bulgarian Case**Mariyan Tomov, *Bulgaria***Implications of a psychodynamic discourse analysis study of aggression in the online body positive community**Heather Michelann Quimby, *United States***Towards Understanding Negative Votes in a Question and Answer Social Network**Ifeoma Adaji, Kiemute Oyibo, Julita Vassileva, *Canada***Examining Parent versus Child Reviews of Parental Control Apps on Google Play**Turki Alelyani, *United States*; Arup Kumar Ghosh, *India*; Larry Morales, Shion Guha, Pamela Wisniewski, *United States***S010****Frontiers of Social Media**Chair(s): Christian W. Scheiner, *Germany*; Gabriele Meiselwitz, *United States*Room: **ASIA 3****Digital Marketing Research – How to Effectively Utilize Online Research Methods**Marc Oliver Opresnik, *Germany***Mentoring College Students via Computer-Supported Tools in a Public University in Mexico**Cuauhtemoc Rivera-Loaiza, Karina Figueroa Mora, Francisco J. Domínguez-Mota, *Mexico***Clustering help-seeking behaviors in LGBT online communities: A prospective trial**Chen Liang, Dena Abbott, Y. Alicia Hong, Mahboubah Madadi, Amelia White, *United States***The Effectiveness of Twitter as a Tertiary Education Stakeholder Communication Tool: a Case of #FeesMustFall in South Africa**Nkululeko Makhubu, Adheesh Budree, *South Africa***AC S011****Self-regulatory Strategies to Augment Cognition - I**Chair(s): Melissa Walwanis, Amy Bolton, *United States*Room: **EUROPE 1****Self-Regulated Learning and Expertise: Dual Cognitive Processes**Webb Stacy, Jeffrey M. Beaubien, Tara Brown, *United States***Self-Control Strategies: Interpreting and Enhancing Augmented Cognition from a Self-Regulatory Perspective**Mina Milosevic, Nicholas Moon, Michael McFerran, Sherif Al-Qallawi, Lida P. Ponce, Christopher Juszczyk, Patrick Converse, *United States***Guided Mindfulness: New Frontier to Augmented Learning**Nisha Quraishi, Nicholas Moon, Katherine Rau, Lida P. Ponce, Mina Milosevic, Katrina Merlini, Richard Griffith, *United States***Enhancing Simulated Students with Models of Self-regulated Learning**Robert Wray, *United States***DHM S012****Robots, Agents, and Bots for Super Smart Society - I**Chair(s): Masahide Nakamura, *Japan*Room: **OCEANIC 8****Identifying Users in the Bridging Service between Two Different Chat Services using User Icons**Ko Miyazaki, Haruaki Tamada, *Japan***Research on Path Planning Algorithm for Two-Dimensional Code Guidance Model of Automated Guided Vehicle**Wei-Dong Zheng, Ben Yan, Zhi-Xian Li, Hua-Ping Yao, Li-Li Wei, *P.R. China*; Masahide Nakamura, *Japan***Implementation and Evaluation of Personal Ontology Building System with Virtual Agent**Shota Nakatani, Sachio Saiki, Masahide Nakamura, KIYOSHI YASUDA, *Japan***Extraction of the Graceful Feature from Classical Dance Motion focused on Dancer's Perspective**Yuki Inazu, Yuya Tsukigata, Etsuko Ueda, Kenichi Iida, Kentaro Takemura, Takayuki Nakamura, Masanao Koeda, *Japan***Developing Real-time Face Identification Device Composable with Distributed Applications**Kosuke Hirayama, Sachio Saiki, Masahide Nakamura, *Japan***A Method of Generating a Dialogue Pattern to Induce Awareness based on a Reflection Support Agent**Kazuaki Yokota, Sho Ooi, Mutsuo Sano, *Japan*

**DUXU S013****Developments in DUXU: Contributions for the Context of Technological Environments - I**Chair(s): Freddy Paz Espinoza, *Peru*Room: **SOUTHERN II****Development and Validation of Usability Heuristics for Evaluation of Interfaces in ATMs**Cristhian Chanco, Arturo Moquillaza, Freddy Paz Espinoza, *Peru***Redesigning a Main Menu ATM Interface Using a User-Centered Design Approach Aligned to Design Thinking: A Case Study**Arturo Moquillaza, Fiorella Falconi, Freddy Paz Espinoza, *Peru***A User-Centered Framework for the Design of Usable ATM Interfaces**Joel Aguirre, Arturo Moquillaza, Freddy Paz Espinoza, *Peru***Developing QR Authentication and Fingerprint Record in an ATM Interface using User-Centered Design Techniques**Diana Chumpitaz, Kevin Pereda, Katherine Espinoza, Carlos Villarreal, William Perez, Arturo Moquillaza, *Peru*; Jaime Díaz, *Chile*; Freddy Paz Espinoza, *Peru***Proposal of Usability Metrics to Evaluate E-commerce Websites**Ediber Diaz, Silvia Flores, Freddy Paz Espinoza, *Peru***User-Centered Gestures for Mobile Phones: Exploring a Method to Evaluate User Gestures for UX Designers**Ariane Beauchesne, Sylvain Senecal, Marc Fredette, Shang Lin Chen, Bertrand Demolin, Marie-Laure Di Fabio, Pierre-Majorique Léger, *Canada***S014****Research on User-Centered interacting with information and systems**Chair(s): Yi Ji, *P.R. China*Room: **SOUTHERN III****A Prototype System for Saving and Representing Personal Moments**Fei Jiang, *P.R. China***Affective Haptics Research and Interaction Design**Yang Jiao, Yingqing Xu, Xiaobo Lu, *P.R. China***Art as a Living Interface**Peter Beyls, *Belgium***Research on Chinese Traditional Handicraft Education Expansion Model Based on STEAM**Yi Ji, Yutong Liu, Xiaohong Sun, Peng Tan, *P.R. China*; Fu Tieming, *Chile*; Kaiping Feng, *P.R. China***Search-efficacy of Modern Icons Varying in Appeal and Visual Complexity**Mick Smythwood, *United States*; Siné McDougall, *United Kingdom*; Mirsad Hadzikadic, *United States***DAPI S015****Ambient and Civic Computing**Chair(s): Tatsuo Nakajima, Kaoru Sezaki, *Japan*Room: **EUROPE 5****Capturing People Mobility with Mobile Sensing Technology for Disaster Evacuation**Chenwei Song, Masaki Ito, Kaoru Sezaki, *Japan***Comparison of User Listening Attitude for Birdsongs Recorded in Fukushima Restricted Area to Prepare Training Data for AI**Hill Hiroki Kobayashi, Daisuké Shimotoku, *Japan***The Potential of Virtual Real World for Usability Test of Location-Aware Apps**Tomoyo Sasao, Ruochen Si, Mitsutoshi Shibuya, Min Lu, *Japan***Supporting Human Relationship-Building in a Daily Life Community**Koya Iwase, Kota Gushima, Tatsuo Nakajima, *Japan***On the Relationship between Accuracy of Bus Position Estimated by Crowdsourcing and Participation Density**Kenro Aihara, Piao Bin, Hajime Imura, *Japan***A User-Centric Design Framework for Smart Built Environments: A Mixed Reality Perspective**Archi Dasgupta, *Bangladesh*; Mohamed Handosa, Mark Manuel, Denis Gracanin, *United States***Designing Mobile and IoT Solutions for Sustainable Smart Cities: studies with electronic waste disposal**Alex Rodrigo Moises Costa Wanderley, Rodrigo Bonacin, *Brazil***HCIBGO S016****HCI in Digital Retail and Online Marketing**Chair(s): Martin Stabauer, Andreas Auinger, Werner Wetzlinger, *Austria*Room: **NORTHERN A3****Human-Computer Interaction in Physical Retail Environments and the Impact on Customer Experience: Systematic Literature Review and Research Agenda**Gabriele Obermeier, Andreas Auinger, *Austria***The Effects of Privacy Awareness and Content Sensitivity on User Engagement**Martin Stabauer, *Austria***The Role of User Emotions for Content Personalization in e-Commerce: Literature Review**Artem Bielezorov, Marija Bezbradica, Markus Helfert, *Ireland***Online Shopping Motives - an Empirical Investigation of Consumer Buying Behavior in Germany's Main Online Retail Segments**Silvia Zaharia, *Germany***Smartphones as an Opportunity to Increase Sales in Brick-and-Mortar Stores: Identifying Sales Influencers based on a Literature Review**Robert Zimmermann, Andreas Auinger, Rene Riedl, *Austria***Current State of Mixed Reality Technology for Digital Retail: A Literature Review**Shubham Jain, Dirk Werth, *Germany*

**LCT S017****Interactive learning ecosystems - I**

Chair(s): Francisco José García-Peñalvo, David Fonseca, *Spain*

Room: **SOUTHERN V**

**Virtual Companions and 3D Virtual Worlds: investigating the Sense of Presence in Distance Education**

Aliane Loureiro Krassmann, Felipe Becker Nunes, *Brazil*; Maximino Bessa, *Portugal*; Liane Margarida Rockenbach Tarouco, Magda Bercht, *Brazil*

**Parent and Child Voice Activity Detection in Pivotal Response Treatment Video Probes**

Corey D.C. Heath, Troy McDaniel, Hemanth Venkateswara, Sethuraman Panchanathan, *United States*

**A VRLE Design Scheme for the Learning of Film Making**

Xi Qiao, Zhejun Liu, Yunshui Jin, *P.R. China*

**Fables for Teachers and Pupils: Incrementally defined scenario-based, interactive and spatial stories**

Andrea Valente, Emanuela Marchetti, *Denmark*

**Accessibility in Mobile Applications of Portuguese Public Administration**

Marcos Carneiro, Frederico Branco, Ramiro Gonçalves, Manuel Au-Yong-Oliveira, Fernando Moreira, José Martins, *Portugal*

**Information and Communication Science Challenges for Modeling Multifaceted Online Courses**

Karim Elia Fraoua, Jean-Marc Leblanc, Sarah Charraire, Olivier Champalle, *France*

**ITAP S018****Intergenerational use of new media**

Chair(s): Eugene Loos, *Netherlands*; Sanela Osmanovic, *United States*

Room: **OCEANIC 1**

**Playing with Words: The Experience of Self-Disclosure in Intergenerational Gaming**

Sanela Osmanovic, Loretta Pecchioni, *United States*

**Impact of Intergenerational Play on Young People's Perceptions towards Old Adults**

Fan Zhang, *Canada*

**Analyzing cognitive flexibility in older adults through playing with robotic cubes**

Margarida Romero, *France*

**Setting up and conducting the Co-Design of an Intergenerational Digital Game: A State-of-the-Art Literature Review**

Eugene Loos, Teresa De la Hera, Monique Simons, Dorus Gevers, *Netherlands*

**Design and Deploying Tools to 'Actively Engaging Nature' - The My Naturewatch project as an Agent for Engagement**

Robert Phillips, Amina Abbas-Nazari, James Tooze, Bill Gaver, Andy Boucher, Liliana Ovalle, Andy Sheen, Dean Brown, Naho Matsuda, Mike Vanis, *United Kingdom*

**HCI-CPT S019****Cybersecurity in organizations**

Chair(s): David Schuster, *United States*

Room: **OCEANIC 6**

**Informing Hybrid System Design in Cyber Security Incident Response**

Megan Nyre-Yu, Kelly Sprehn, Barrett Caldwell, *United States*

**Policy Creation for Enterprise-Level Data Sharing**

Linda Briesemeister, Woodrow Gustafson, Grit Denker, April Martin, Karsten Martiny, Ron Moore, Dusko Pavlovic, Mark St John, *United States*

**Company Privacy Dashboards: Employee Needs and Requirements**

Svenja Polst, Patricia Kelbert, Denis Feth, *Germany*

**Social Preferences in Decision Making under Cybersecurity Risks and Uncertainties**

Mazaher Kianpour, Harald Øverby, Stewart James Kowalski, Christopher Frantz, *Norway*

**Gamifying Security Awareness: A New Prototype**

John Russell Cole, Toni Pence, Jeffrey Cummings, Elizabeth Baker, *United States*

**Frictionless Web Payments with Cryptographic Cardholder Authentication**

Francisco Corella, Karen Pomian Lewison, *United States*

**HCI-Games S020****Gamification toward Information Systems**

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

Room: **EUROPE 2**

**Small Business Owners Handle Website Design Effectively Using Gamification**

Klaudia Fisheku, Fan Zhao, Eugene Hoyt, *United States*

**Gamification in Mobile Application Development Education**

Yuchen Gui, Fan Zhao, Eugene Hoyt, *United States*

**Rewards in Gamification**

Fan Zhao, Dahai Guo, *United States*

**Gamification of In-Flight Entertainment (IFE) To Motivate People to Relax: A Case Design**

Tao Shen, Yuchen Weng, Ting Han, *P.R. China*



**MobiTAS S021**

**External human machine interfaces communicating intentions of automated vehicles**

Chair(s): Riender Happee, Netherlands; Anna Schieben, Germany

Room: **EUROPE 3**

**Methodologies to understand the road user needs when interacting with automated vehicles**

Evangelia Portouli, Dimitris Nathanael, Angelos Amditis, Greece; Yee-Mun Lee, Natasha Merat, Jim Uttley, Oscar Giles, Gustav Markkula, United Kingdom; Andre Dietrich, Anna Schieben, Germany; James Jenness, United States

**Methodologies to understand the road user needs when interacting with automated vehicles - Part II - Findings**

Evangelia Portouli, Dimitris Nathanael, Angelos Amditis, Greece; Yee-Mun Lee, Natasha Merat, Jim Uttley, Oscar Giles, Gustav Markkula, United Kingdom; Andre Dietrich, Anna Schieben, Germany; James Jenness, United States

**Crossing the street across the globe: a study on the effects of eHMI on pedestrians in the US, Germany and China**

Florian Weber, Ronee Chadowitz, Kathrin Schmidt, Julia Messerschmidt, Tanja Fuest, Germany

**Multi-Methods Research to Examine External HMI for Highly Automated Vehicles**

Melissa Ceffkin, Jingyi Zhang, Erik Stayton, Erik Vinkhuyzen, United States

**Assessing the Clarity of eHMIs via Crowdsourcing**

Pavlo Bazilinsky, Dimitra Dodou, Joost De Winter, Netherlands

**AIS S022**

**Applying Cognitive Psychology Methods to Adaptive Instruction**

Chair(s): Anne Sinatra, United States

Room: **SOUTHERN IV**

**Developing an Adaptive Trainer for Joint Terminal Attack Controllers**

Cheryl Johnson, Matthew Marraffino, Daphne Whitmer, Shannon Bailey, United States

**Foundational Principles and Design of a Hybrid Tutor**

Andrew J. Hampton, Arthur C. Graesser, United States

**Development of Cognitive Transfer Tasks for Virtual Environments and Applications for Adaptive Instructional Systems**

Anne Sinatra, Ashley Olkne, Debbie Patton, Mark Ericson, Antony Passaro, Benjamin Files, Bianca Dalangin, Peter Khooshabeh, Kimberly Pollard, United States

**Using an Adaptive Intelligent Tutoring System to Promote Learning Affordances for Adults with Low Literacy Skills**

Anne Lippert, Jessica Gatewood, Zhiqiang Cai, Arthur C. Graesser, United States

**Integrating Engagement Inducing Interventions into Traditional, Virtual and Embedded Learning Environments**

Meredith Carroll, Summer Lindsey, Maria Chaparro, United States

**Application of theory to the development of an adaptive training system for a submarine electronic warfare task**

Wendi L. Van Buskirk, Nicholas Fraulini, Bradford Schroeder, Cheryl Johnson, Matthew Marraffino, United States

**NOTES**

**HCI S023**
**Socio-cultural Aspects in Monolingual and Multilingual Human-Computer Interaction**

Chair(s): Christina Alexandris, Greece

Room: **SOUTHERN III**

**Multiple Representations of the UI, Score and Scale for Musical Performance System and Score DB**

Sachiko Deguchi, Japan

**Generating Graphic Representations of Spoken Interactions from Journalistic Data**

Dimitrios Mourouzidis, Vasilios Floros, Christina Alexandris, Greece

**A Multimodal Chatbot System for Enhancing Social Skills Training for Security Guards**

Stein De Bever, Daniel Formolo, Shuai Wang, Tibor Bosse, Netherlands

**How Do Humans Identify Human-likeness from online Text-based Q&A Communication?**

Erika Mori, Yugo Takeuchi, Eiji Tsuchikura, Japan

**Evaluating system sufficiency in a multimodal, multiuser sensemaking environment designed for intelligence analysis**

Shannon Briggs, United States

**S024**
**Quality in Interaction**

Chair(s): Stefano Federici, Antonio Opromolla, Italy; Simone Borsci, Netherlands; Maria Laura Mele, Italy

Room: **NORTHERN A1**

**Heuristic Evaluation of eGLU-box: A Semi-automatic Usability Evaluation Tool for Public Administrations**

Stefano Federici, Maria Laura Mele, Rosa Lanzilotti, Giuseppe Desolda, Marco Bracalenti, Arianna Buttafuoco, Giancarlo Gaudino, Antonello Cocco, Massimo Amendola, Emilio Simonetti, Italy

**Author-Driven Approaches to Computational Narrative Design for Games**

David John Tree, Alessio Malizia, United Kingdom

**The Assessment of Sencogi: A Visual Complexity Model Predicting Visual Fixations**

Maria Laura Mele, Silvia Colabrese, Luca Calabria, Damon Millar, Christiaan Erik Rijnders, Italy

**Analysis of the Mixture of Linear and Circular Vections in Immersive Visual Space - Comparison of Forward and Backward Moving Visual Stimuli -**

Ayumi Matsuda, Yuma Koga, Miki Matsumuro, Fumihisa Shibata, Hideyuki Tamura, Asako Kimura, Japan

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

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

**HIMI S026**
**VR2.0 and Novel Interaction Technologies**

Chair(s): Michitaka Hirose, Japan

Room: **OCEANIC 4**

**Novel Display using Percutaneous Electrical Stimulation for Virtual Reality**

Kazuma Aoyama, Japan

**Immersive Virtual Reality Environment to Test Interface of Advanced Driver Assistance Systems for Elder Driver**

Kenichiro Ito, Michitaka Hirose, Japan

**rapoptosis: Renatusu via Apoptosis - Prototyping using Clothes**

Young ah Seong, Tomoko Hashida, Ryoko Ueoka, Japan

**Laugh Log: E-textile Bellyband Interface for Laugh Detection and Logging**

Ryoko Ueoka, Japan

**Demonstration Experiment of AR Exhibition System Inducing User Behavior with Visual Incompatibility**

Isamu Ohashi, Toshiyuki Numata, Hiroaki Yata, Shigeo Yoshida, Takuji Narumi, Tomohiro Tanikawa, Michitaka Hirose, Japan

**Rendering of Virtual Walking Sensation by a Vestibular Display**

Kouichi Shimizu, Vibol Yem, Kentaro Yamaoka, Gaku Sueta, Tomohiro Amemiya, Michiteru Kitazaki, Yasushi Ikei, Japan

**A System of Tactile Transmission on the Fingertips with Electrical-Thermal and Vibration Stimulation**

Vibol Yem, Hiroyuki Kajimoto, Katsunari Sato, Hidekazu Yoshihara, Japan

**S027**
**Evidence Based Design and UX for Design Process**

Chair(s): Keiko Kasamatsu, Takeo Ainoya, Japan

Room: **OCEANIC 2**

**Interface design for Boccia robot considering operation characteristic**

Minzhi Deng, Japan

**Development of an interface which was customized for people with disabilities using 3D printers**

Yudai Sato, Takeo Ainoya, Ryuta Motegi, Keiko Kasamatsu, Japan

**Development of Boccia Robot and Its Throwing Support Interface**

Ryotaro Suzuki, Rintaro Onishi, Keiko Kasamatsu, Yoshiki Shimomura, Osamu Nitta, Ryuta Motegi, Shin Tsuchiya, Nami Shida, Naoyuki Takesue, Japan

**User-eXperience values of automatic driving to consider from dual tasks**

Naomichi Terazawa, Takeo Ainoya, Keiko Kasamatsu, Japan

**A Study on Design Process Model Based on User Experience -Development for the Concept of Service for Vision-impaired People-**

Fuko Oura, Takeo Ainoya, Keiko Kasamatsu, Japan

**Barriers against the Introduction of Teleworking and Survey for Workers on Their Work Contents**

Miki Numano, Fuko Oura, Takeo Ainoya, Keiko Kasamatsu, Akio Tomita, Kunika Yagi, Japan

**EPCE S028****Aviation Safety and Human Performance**

Chair(s): Wen-Chin Li, *United Kingdom*; Jingyu Zhang, *P.R. China*

Room: **EUROPE 4**

**Classification of Safety-Relevant Activities by using Visual Scan Pattern in Airport Control Operations**

Lothar Meyer, Åsa Svensson, Maximilian Peukert, Sven Malmberg Luengo, Jonas Lundberg, Billy Josefsson, *Sweden*

**Socio-Technical Safety Investigations in Healthcare – Investigating Human Performance in Modern High Reliability Sector Organizations**

Pete McCarthy, Andrew Blackie, *United Kingdom*

**How Task Level Factors Influence Controllers' Backup Behavior: the Mediating Role of Perceived Legitimacy and Anticipated Workload**

Saisai Yu, Jingyu Zhang, Xiaotian E, *P.R. China*

**Roster and Air Traffic Controller's Situation Awareness**

Peter Kearney, *Ireland*; Wen-Chin Li, Graham Braithwaite, *United Kingdom*

**UAHCI S029****Cutting Edge in Biosignal Processing and Analysis for Automatic Control Systems, Virtual Reality and the Education**

Chair(s): Hiroki Takada, *Japan*  
Room: **ASIA 2**

**Automation of Box and Block Test in Virtual Reality and Augmented Reality**

Kouki Nagamune, Yujiro Tsuzuki, *Japan*

**Changes in Eye Movements and Body Sway While Viewing Stereoscopic Movies under Controlled Consciousness**

Akihiro Sugiura, Kunihiro Tanaka, Hiroki Takada, *Japan*

**Expressing the Personality of a Humanoid Robot as a Talking Partner in an Elementary School Classroom**

Reika Omokawa, Makoto Kobayashi, Shu Matsuura, *Japan*

**Effect of Differences in the Meal Ingestion Amount on the Electrogastragram Using Non-linear Analysis**

Fumiya Kinoshita, Kazuya Miyanaga, Kosuke Fujita, Hideaki Touyama, *Japan*

**Integration and Development of Science, Technology and Innovation in Developed Countries: Perspective from Ocean Policy (Provisional)**

Yuta Komori, Yasuyuki Matsuura, Riho Gojo, *Japan*

**Effects of Low/High-definition Stereoscopic Video Clips on the Equilibrium Function**

Masumi Takada, Syota Yamamoto, Masaru Miyao, Hiroki Takada, *Japan*

**Visual Issues on Augmented Reality Using Smart Glasses with 3D Stereoscopic Images**

Masaru Miyao, Masumi Takada, Hiroki Takada, *Japan*

**VAMR S030****Examining the Use of Head-Mounted Displays for Games and Simulation**

Chair(s): Crystal S. Maraj, *United States*

Room: **OCEANIC 6**

**Image-Based Ground Visibility for Aviation: Is What You See What You Get? (Pilot Study)**

Daniela Kratchounova, David Newton, Robbie Hood, *United States*

**Multimodal head-mounted virtual-reality brain-computer interface for stroke rehabilitation: A clinical case study with REINVENT**

Athanasios Vourvopoulos, *United States*; Octavio Marin-Pardo, *Mexico*; Meghan Neureither, David Saldana, Esther Jahng, Sook-Lei Liew, *United States*

**Enabling Immunology Learning in Virtual Reality through Storytelling and Interactivity**

Lei Zhang, Doug Bowman, Caroline Jones, *United States*

**Exploring Extended Reality as a Simulation Training Tool Through Naturalistic Interactions and Enhanced Immersion**

Daniel Duggan, Caroline Kingsley, Mark Mazzeo, Michael Jenkins, *United States*

**Emergency Response using HoloLens for Building Evacuation**

Sharad Sharma, Sri Teja Bodempudi, David Scribner, Jock Grynowicki, Peter Grazaitis, *United States*

**Using HMD for Immersive Training of Voice-based Operation of Small Unmanned Ground Vehicles**

Daniel W. Carruth, Christopher R. Hudson, Cindy L. Bethel, *United States*; Matus Pleva, Stanislav Ondas, Jozef Juhar, *Slovakia*

**S031****HCI Issues in Immersive Analytics: Data Visualization using 3D immersive and interactive technologies**

Chair(s): Simon Su, Sue Kase, Bo Sun, *United States*

Room: **NORTHERN A4**

**An Augmented Reality Shared Mission Planning Scenario: Observations on Shared Experience**

Sue Kase, Simon Su, Vincent Perry, Heather Roy, Katherine Gamble, *United States*

**Characterizing the Cognitive Impact of Tangible Augmented Reality**

Michael Boyce, Aaron Gardony, Paul Shorter, Carlene Horner, Cortnee Stainrod, Jeremy Flynn, Tad T. Brunye, Charles Amburn, *United States*

**Comparative study for multiple coordinated views across immersive and non-immersive visualization systems**

Simon Su, Vincent Perry, Venkateswara Dasari, *United States*

**A Multimodal Interface for Virtual Information Environments**

Jeffrey Hansberger, Chao Peng, Victoria Blakely, Sarah Meacham, Lizhou Cao, Nicholas Diliberti, *United States*

**Evaluation of immersive interfaces for tactical decision support**

Mark Dennison, Mark Mittrick, John Richardson, Theron Trout, Adrienne Raglin, Eric Heilman, Timothy Hanratty, *United States*

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

Rajiv Khadka, Amy Banic, *United States*

**CCD S032**
**OPOP - II -- One Product One Paper for Cross-Cultural Design - II**

Chair(s): John Kreifeldt, *United States*; Rungtai Lin, *Taiwan*

Room: **ASIA 5**

**Museum and Cultural Products Co-Creation Brand Value: Taking the innovative cultural products of Ningbo Port Museum as an example**  
Ching-Wen Chang, *Taiwan*

**Selective Preference in Visual Design: A Case Study of Cover Designs of Industrial Design Magazine**  
Rungtai Lin, Ming-Xean Sun, *Taiwan*; Jianping Huang, Jiede Wu, *P.R. China*

**A Feasibility Study on the Transformation and Sustainable Development of "Disposable Tableware" in Taiwan Night Market**  
Yikang Sun, *P.R. China*; Szuyao Lin, *Taiwan*

**Designing Gardenia-Inspired Cultural Products**  
Shin Ling Kuo, *Taiwan*

**A Framework of Experiential Service Design in Creative Tourism**  
Shu-Hua Chang, Rungtai Lin, *Taiwan*

**A Study on Application of Enclothed Cognition in Apparel Design**  
Szuyao Lin, *Taiwan*

**A Study of Japan's Welfare Beauty Service from Cultural Creative's Perspective**  
Chin Lon Lin, Hui-Yun Yen, Chun-Liang Chen, *Taiwan*

**SCSM S033**
**Innovations in Education, Training and Online Interaction through Social Media**

Chair(s): James Braman, Giovanni Vincenti, Kathy Wang, *United States*

Room: **ASIA 4**

**Quality Assurance in Online Education: A Development Process to design High-Quality Courses**  
Fernando Paniagua, *United States*

**Using Social Media to Express Grief While Considering Security Vulnerabilities of Inactive Accounts of the Deceased**  
James Braman, Alexander Wood, Alfreda Dudley, Giovanni Vincenti, *United States*

**Enhancing Database Courses through the EDNA Project: A Preliminary Framework for the Extraction of Diverse Datasets and Analysis**  
Sandra Tavegia, James Braman, Giovanni Vincenti, Barbara Yancy, *United States*

**Emojis in Textual-Based Communication Among College Students: A Study in Perception and Frequency**  
Hannah Kabir, David Marlow, *United States*

**Understanding appropriation through end-user tailoring in communication systems: a case study on Slack and WhatsApp**  
Ana Paula Retore, Leonelo Dell Anhol Almeida, *Brazil*

**S034**
**(Health) Information Behavior and Gamification on Digital Media**

Chair(s): Franziska Zimmer, Katrin Scheibe, Aylin Ilhan, *Germany*

Room: **ASIA 3**

**User Motivation and Personal Safety on a Mobile Dating App**  
Vanessa Breitschuh, Julia Göretz, *Germany*

**Healthier Life and More Fun? Users' Motivations to Apply Activity Tracking Technology and the Impact of Gamification**  
Linda Schaffarczyk, Aylin Ilhan, *Germany*

**Fifteen Seconds of Fame: A Qualitative Study of Douyin, a Short Video Sharing Mobile Application in China**  
Xing Lu, *P.R. China*; Zhicong Lu, *Canada*

**The Effects of Online Social Supports on Exercise Behavior**  
Xinjia Yu, Chunyan Miao, Singapore; Cyril Leung, *Canada*; Charles.T. Salmon, *Singapore*

**The Gamification Encouraging Access to Information and Academic Interaction**  
Klaudia Weronika Serwa Dionisio, Gustavo Marcelino Dionisio, Rafaela Oliveira Santos, Daniela De Freitas Guilhermino Trindade, Thiago Adriano Coleti, José Reinaldo Merlin, Ederson Marcos Sgarbi, Carlos Eduardo Ribeiro, *Brazil*

**Searching for Community and Safety: Evaluating Common Information Shared in Online Ex-Vaxxer Communities**  
Alicia J.W. Takaoka, *United States*

**Dr. Google, Please Help Me Understand! The Quality of Health Information Found Through Web Searches**  
Lisa Beutelspacher, *Germany*

**AC S035**
**Self-regulatory Strategies to Augment Cognition - II**

Chair(s): Melissa Walwanis, Amy Bolton, *United States*

Room: **EUROPE 1**

**Clarifying Cognitive Flexibility from a Self-Regulatory Perspective**  
Melissa Walwanis, Shelby-Jo Ponto, *United States*

**Nature Inspired Scenes for Guided Mindfulness Training: Presence, Perceived Restorativeness and Meditation Depth**  
Mark Costa, Dessa Bergen-Cico, Trevor Grant, *United States*; Rocio Herrero, Jessica Navarro, *Spain*; Rachel Razza, Qiu Wang, *United States*

**Training to Instill a Cyber-Aware Mindset**  
PKelly Neville, Larry Flint, Lauren Massey, Alex Nickels, Jose Medina, Amy Bolton, *United States*

**DHM S036**
**Robots, Agents, and Bots for Super Smart Society - II**

Chair(s): Masahide Nakamura, Japan

Room: **OCEANIC 8**

**Estimating Age-Dependent Degradation using Nonverbal Feature Analysis of Daily Conversation**

Natsumi Kana, Yumi Wakita, Yoshihisa Nakatoh, Japan

**Memory Aid Service Using Mind Sensing and Daily Retrospective by Virtual Agent**

Haruhisa Maeda, Sachio Saiki, Masahide Nakamura, KIYOSHI YASUDA, Japan

**Design of Coimagination Support Dialogue System with Pluggable Dialogue System - Towards Long-term Experiment**

Seiki Tokunaga, Mihoko Otake-Matsuura, Japan

**Development of IoT Robotic Devices for Elderly Care to Measure Daily Activities**

Yoshio Matsumoto, Kunihiro Ogata, Isamu Kajitani, Keiko Homma, Yujin Wakita, Japan

**Smart Garment Design for Emotion Prediction of People with Dementia using Deep Learning**

Fangmeng Zeng, P.R. China

**The Decision-Making System for Alzheimer's Patients by Understanding Ability Test from Physiological Signals**

Peijia Liao, Japan; Fangmeng Zeng, P.R. China; Iwamoto Miyuki, Noriaki Kuwahara, Japan

**DUXU S037**
**Developments in DUXU: Contributions for the Context of Technological Environments - II**

Chair(s): Freddy Paz Espinoza, Peru

Room: **SOUTHERN II**

**Web Accessibility Evaluation Methods: A Systematic Review**

Almendra Núñez, Arturo Moquillaza, Freddy Paz Espinoza, Peru

**Usability and Playability heuristics for augmented reality video games in smartphones**

Alberto Chang, Lourdes Montalvo, Freddy Paz Espinoza, Peru

**Usability in the development of a project management software reinforced with machine learning**

Jorge Espinoza, Pamela Loarte, Freddy Paz Espinoza, Luis Flores, Peru

**The Advent of Speech Based NLP QA Systems: A Refined Usability Testing Model**

Diarmuid Lane, Robin Renwick, John McAvoy, Philip O'Reilly, Ireland

**UX Analysis of the North Korean Information Technology**

Xianglian Han, P.R. China; Sung Woo Kim, Chungchak Oh, Korea

**DAPI S038**
**Various systems in learning environments**

Chair(s): Kousuke Mouri, Japan

Room: **EUROPE 5**

**Elicitation of Appropriate Scratching Zones based on Lecture Slide Layouts**

Fumiya Suzuki, Kousuke Mouri, Noriko Uosaki, Atsushi Shimada, Chengjiu Yin, Keiichi Kaneko, Japan

**Learning Behavioral Pattern Analysis based on Digital Textbook Reading Logs**

Chengjiu Yin, Zhuo Ren, Japan; Agoritsa Polyzou, United States; Yong Wang, Japan

**Advanced Tools for Digital Learning Management Systems in University Education**

Atsushi Shimada, Tsubasa Minematsu, Masanori Yamada, Japan

**Vocabulary Learning Support System based on Automatic Image Captioning Technology**

Mohammad Nehal Hasnine, Brendan Flanagan, Gokhan Akcapinar, Hiroaki Ogata, Kousuke Mouri, Noriko Uosaki, Japan

**Seamless Collaborative Learning Method to learn Business Japanese with eBook and chat system**

Noriko Uosaki, Kousuke Mouri, Fumiya Suzuki, Mohammad Nehal Hasnine, Takahiro Yonekawa, Chengjiu Yin, Hiroaki Ogata, Japan

**The Information infrastructure for analyzing and visualizing learning logs in ubiquitous learning environments**

Songran Liu, Kousuke Mouri, Hiroaki Ogata, Japan

**HCIBGO S039**
**Enterprise User Experience Research and Design**

Chair(s): Shuang Xu, United States

Room: **NORTHERN A3**

**Foundational UX Research | Process Best Practices**

Alwyn Sekhri, United States

**Prohibiting Bring Your Own Device (BYOD) in Companies: Effectiveness and Efficiency vs. Satisfaction**

Andreas Auinger, Werner Wetzlinger, Austria

**ICT Use as Mediator between Job Demands and Work-Life Balance Satisfaction**

Catherine Hellemans, Pierre Flandrin, Cécile Van de Leemput, Belgium

**Effect of Firms' Responsive Strategies in Crisis: Based on Big Data Analysis in Social Media**

Xiaolun Wang, Lin Liu, P.R. China

**A New Paradigm of Addressing the Complexity of Entrepreneurial Community Design Leveraging Augmented Reality**

Ke Ma, Yixiang Zhang, Jing Cao, P.R. China


**LCT S040**
**Interactive learning ecosystems - II**

Chair(s): Francisco José García-Peñalvo, David Fonseca, *Spain*

Room: **SOUTHERN V**

**Automated Behavioral Modeling and Pattern Analysis of Children with Autism in a Joint Attention Training Application: A Preliminary Study**

Tiffany Y. Tang, Pinata Winoto, *P.R. China*

**Barriers to Success in a Collaborative Technological Ecosystem: A Study on the Perception of the Interoperability Problem in Civil Engineering Education**

Jeffrey Otey, Jorge D. Camba, *United States*; José Ángel Aranda Domingo, Manuel Contero, *Spain*

**Study of the usability of the WYRED Ecosystem using heuristic evaluation**

Francisco José García-Peñalvo, Andrea Vázquez Ingelmo, Alicia García-Holgado, *Spain*

**Effects of Teaching Methodology on the Students' Academic Performance in an Introductory Course of Programming**

Patricia Compañ-Rosique, Rafael Molina-Carmona, Rosana Satorre-Cuerda, *Spain*

**Four-Dimensional Learning, a Response to Social Responsibility in Learning**

Rafael Molina-Carmona, Pilar Arques-Corralles, Faraón Llorens-Largo, *Spain*

**Analyzing students' WhatsApp messages to evaluate the individual acquisition of teamwork competence**

Miguel Conde, Francisco J. Rodríguez-Sedano, Francisco J. Rodríguez-Lera, Alexis Gutiérrez-Fernández, Ángel M. Guerrero-Higueras, *Spain*

**ITAP S041**
**Being Connected at Home – Making use of digital devices in later life**

Chair(s): Eugene Loos, *Netherlands*; Mireia Fernández-Ardèvol, *Spain*

Room: **OCEANIC 1**

**Improved Knowledge Changes the Mindset: Older Adults' Perceptions of Care Robots**

Rose-Marie Johansson-Pajala, *Sweden*; Kirsten Thommes, Julia A. Hoppe, *Germany*; Outi Tuisku, Lea Hennala, Satu Pekkarinen, Helinä Melkas, *Finland*; Christine Gustafsson, *Sweden*

**Are we Ready to Dance at Home?: a Review and Reflection of Available Technologies**

Paula Alexandra Silva, *Portugal*

**Durkheim's Legacy in the Digital Age: the "Elementary Forms" of Digital Communication of Portuguese Senior Users of Social Network Sites**

Tiago Lapa, *Portugal*

**Sustainable development and ICT use among elderly: a comparison between the Netherlands and Italy**

Paola Monachesi, *Netherlands*

**Methodological Strategies to Understand Smartphone Practices for Social Connectedness in Later Life**

Mireia Fernández-Ardèvol, Andrea Rosales, *Spain*; Eugene Loos, Alexander Peine, *Netherlands*; Roser Beneito-Montagut, Daniel Blanche, *Spain*; Björn Fischer, *Sweden*; Stephen Katz, *Canada*; Britt Östlund, *Sweden*

**Digital Home: Life Transitions and Digital Domestic Practices in Later Life**

Sanna Kuoppamäki, *Finland*

**HCI-Games S042**
**Edutainment, Gamification, Educational Games, and the Use of Game Design Elements**

Chair(s): Abdullah Azhari, *Saudi Arabia*

Room: **EUROPE 2**

**Digital Game Enjoyment: a Literature Review**

Owen Schaffer, Xiaowen Fang, *United States*

**Games for a Good Cause: Serious Games in Social Development and Medical & Rehabilitation Therapy**

Badar Al Lawati, *United States*

**Gamification Framework: The Contribution Of User Centered Design, Social Media Applications, Gaming And Psychology Concepts And Frameworks**

Abdullah Azhari, *Saudi Arabia*

**Realizing User Privacy & Security Issues in Edutainment e-Solutions**

Osama Alsaadoun, Badar Al Lawati, *United States*

**ShadowHunter: Facilitating Children's Outdoor Exploration with Shadows**

Yang Chen, Yuyu Lin, Lijuan Liu, Ziyu Liu, Cheng Yao, Fangtian Ying, *P.R. China*

**Developing Design Frameworks and Applications for Future Technologies Through Video Game Representations**

Amelia Lambeth, Maribeth Gandy, Laura Levy, *United States*

**A Design of Multifunctional Interfaces to Control Game Screens**

Carolina Enriquez, Danilo Saravia Vargas, *Ecuador*

**MobiTAS S043**
**Automotive UI and UX for Vehicle Information and Assistance Systems**

Chair(s): Lutz Krauss, *Germany*

Room: **EUROPE 3**

**Attentional dynamics after take-over requests: The need for handover assistance systems in highly automated vehicles**

Tobias Vogelpohl, Mark Vollrath, *Germany*

**Beyond Usability: Understanding and Measuring Desirability of Automotive User Interfaces**

Christian Purucker, Frederik Naujoks, Dennis Befelein, Markus Tomzig, Sebastian Hergeth, Andreas Keinath, *Germany*

**Designing augmented reality navigation visualizations for the vehicle: a question of real world object coverage?**

Nikolai Pärsch, Clemens Harnischmacher, Martin Baumann, Arnd Engeln, Lutz Krauss, *Germany*

**Automobile Auditory Experience: A Pilot Study**

Yang Zhao, *P.R. China*; Hua Dong, *United Kingdom*

**Proposal of Driving Support Agent which Speak Based on Politeness Theory**

Tomoki Miyamoto, Daisuke Katagami, Yuka Shigemitsu, Mayumi Usami, Takahiro Tanaka, Hitoshi Kanamori, Yuki Yoshihara, Kazuhiro Fujikake, *Japan*

**Self-Driving Vehicles: Do Their Risks Outweigh Their Benefits?**

Peng Liu, Zhigang Xu, *P.R. China*

**AIS S044**

**Interaction Design for Adaptive Instructional Systems**

Chair(s): Barbara Buck, *United States*

Room: **SOUTHERN IV**

**Developing Authoring Tools for Simulation-based Intelligent Tutoring Systems: Lessons Learned**

James E. McCarthy, Justin Kennedy, Jonathan Grant, Mike Bailey, *United States*

**Adaptive Team Training for One**

Elizabeth Biddle, Barbara Buck, *United States*

**Adaptive Learning Technology for AR Training: Possibilities and Challenges**

Alyssa Tanaka, Jeffrey Craighead, Glenn Taylor, Robert A. Sottolare, *United States*

**Adaptation and Pedagogy at the Collective Level: Recommendations for Adaptive Instructional Systems**

Benjamin Goldberg, *United States*

**SPECIAL SESSION ON**

**"SUCCESS AND IMPACT OF JOURNAL ARTICLE PUBLISHING"**

**Monday, 29 July 2019  
10:30 - 11:30**

Chair(s): Gavriel Salvendy, University of Central Florida, *United States*

Room: **NORTHERN A2**

- **Germinating high impact journal articles**  
Gavriel Salvendy, Editor, International Journal of Human-Computer Interaction
- **Tips and characteristics for a good journal article**  
Constantine Stephanidis, Editor, International Journal of Human-Computer Interaction
- **What the journal can do to increase the impact of your paper**  
Stephanie Loeh, Managing Editor, International Journal of Human-Computer Interaction

## HCI

S045

## Benefits of Inconvenience in Human Machine Interaction - I

Chair(s): Hiroshi Kawakami, *Japan*

Room: **NORTHERN A1**

## Redefinition of Benefits of Inconvenience

Toshihiro Hiraoka, Hiroshi Kawakami, *Japan*

## VuJaDessin: A Sketch Learning Support System Using a Blurred Motif Object

Kentaro Takashima, Ryuichi Tsuchiya, Kazushi Nishimoto, *Japan*

## Proposal for Encouraging Tourists to Stroll by Restricting Information Sharing Location to Destinations

Tomoko Izumi, Koki Takemoto, *Japan*

## Verification of a psychological effect of hiding speedometer when exceeding a speed limit

Tetsuma Konishi, Takayoshi Kitamura, Tomoko Izumi, Yoshio Nakatani, *Japan*

## Study on Career Education for the Age of Computerization with Benefit of Inconvenience

Kiyohisa Nishiyama, Manabu Sawaguchi, *Japan*

S046

## Design and Evaluation Methods and Tools

Chair(s): To be announced

Room: **NORTHERN A2**

## Development of a Generator System of Parameterized Questionnaires to Evaluate the Usability of Web Pages

William J. Yamada, Marcelo Morandini, Thiago A. Coleti, Cinthyan Renata S. C. Barbosa, *Brazil*

## Translating the Pen and Paper Brainstorming Process into a Cognitive and Immersive System

Matthew Peveler, Shannon Briggs, Jaimie Drozdal, Lilit Balagyozyan, Chang Sun, Michael Perrone, Hui Su, *United States*

## Examining Social Desirability Bias in Online and Offline Surveys

Aki Koivula, Pekka Räsänen, Outi Sarpila, *Finland*

## Interactive Search Profiles as a Design Tool

Maram Barifah, Monica Landoni, *Switzerland*

## End-user Requirements Elicitation Using Narratives

Fernanda Amâncio, Camilo C. Almendra, Gustavo Coutinho, *Brazil*

## Workstations of the Future for Transformational Gains in Solving Complex Problems

Rukman Senanayake, Grit Denker, *United States*

S047

## Touch and Haptics

Chair(s): To be announced

Room: **NORTHERN A3**

## Wrist-Mounted Haptic Feedback for Support of Virtual Reality in Combination with Electrical Muscle Stimulation and Hanger Reflex

Mose Sakashita, Satoshi Hashizume, Yoichi Ochiai, *Japan*

## Preliminary Experiment for Navigation on Tactile Display using DC Motor

Yusuke Komatsu, Makio Ishihara, *Japan*

## Study on Size Design of Touch-sensitive Button

Xiaoli Fan, Huimin Hu, Chaoyi Zhao, Wei Zhang, *P.R. China*

## Tangible Map: Designing and Assessing Spatial Information Retrieval through a Tactile Interface

Kimberly Leon, Will Walker, Yihyun Lim, Scott Penman, Sara Colombo, Federico Casalegno, *United States*

## HIMI

S048

## User-oriented Technologies and Services

Chair(s): Hiroyuki Miki, *Japan*

Room: **OCEANIC 2**

## Approach for Communication Design for Motivation to Health Behavior

Shigeyoshi Iizuka, Takanori Takebe, Shozo Nishii, Asuka Kodaka, *Japan*

## Show Something: Intelligent Shopping Assistant Supporting Quick Scene

Understanding and Immersive Preview  
Hao Dou, Zhinan Li, Minghao Cai, Kelvin Cheng, Soh Masuko, Jiro Tanaka, *Japan*

## Sharing Augmented Reality Experience between HMD and non-HMD user

Shihui Xu, Bo Yang, Boyang Liu, Kelvin Cheng, Soh Masuko, Jiro Tanaka, *Japan*

## Presenting Low-Accuracy Information of Emotion Recognition Enhances Human Awareness Performance

Shinichi Fukasawa, Hiroko Akatsu, Wakana Taguchi, Fumio Nihei, Yukiko I. Nakano, *Japan*

## User stress measurement of remote operation supporting system with hand gesture transmission function

Yusuke Suzuki, Shunsuke Ichihara, *Japan*

## The qualitative analysis in eye tracking studies: including subjective data collection in an experimental protocol

Tiffany Andry, *Belgium*

**HIMI S049****Knowledge, information and interaction**

Chair(s): To be announced

Room: **OCEANIC 4****Knowledge Management for Rapidly Extensible Collaborative Robots**Matthew Johnson, Matthew Beane, David Mindell, Jason Ryan, *United States***AR Cooking: Comparing Display Methods for the Instructions of Cookwares on AR Goggles**Hiroki Hasada, Junjian Zhang, Kenta Yamamoto, Bektur Ryskeldiev, Yoichi Ochiai, *Japan***Impact of Compiler's Feedback on Coding Performance**Tamirat T. Abegaz, Dianna J. Spence, *United States***Story Envisioning Framework for Visualized Collective Storytelling in Conversation**Qiang Zhang, Maryam Sadat Mirzaei, Hung-Hsuan Huang, Toyooki Nishida, *Japan***Chinese Pinyin Input Method in Smartphone Era: A Literature Review Study**Guanlong Li, Yueqing Li, *United States***A Study of Optimum Representation of Digital Contents on Smart Phones**Guo-Peng Qui, *P.R. China*; Chien-Nan Chen, *Taiwan*; Yi Gui Li, Ming-Chyuan Lin, *P.R. China***UAHCI S050****Haptic Interfaces for Assistive, Rehabilitative, and Healthcare Technologies**Chair(s): Troy McDaniel, *United States*Room: **ASIA 2****A Soft Exoskeleton Jacket with Pneumatic Gel Muscles for Human Motion Interaction**Antonio Vega Ramirez, Yuichi Kurita, *Japan***A Low Resolution Haptic Interface for Interactive Applications**Bijan Fakhri, Shashank Sharma, Bhavica Soni, Abhik Chowdhury, Troy McDaniel, Sethuraman Panchanathan, *United States***A Time-Discrete Haptic Feedback System for Use by Persons with Lower-Limb Prostheses During Gait**Gabe Kaplan, Troy McDaniel, James Abbas, *United States*; Ramin Tadayon, *Japan*; Sethuraman Panchanathan, *United States***Introducing Pneumatic Actuators in Haptic Training Simulators and Medical Tools**Thibault Senac, Arnaud Leleve, Richard Moreau, Minh Tu Pham, Cyril Novales, Laurence Nouaille, Pierre Vieyres, *France***Automatic Exercise Assistance for the Elderly Using Real-Time Adaptation to Performance and Affect**Ramin Tadayon, Antonio Vega Ramirez, Swagata Das, Yusuke Kishishita, Masataka Yamamoto, Yuichi Kurita, *Japan***Modeling Human Eye Movement Using Adaptive Neuro-Fuzzy Inference Systems**Pedro Ponce, *Mexico*; Troy McDaniel, *United States*; Arturo Molina, Omar Mata, *Mexico***S051****New technologies for Universal Access**Chair(s): Simeon Keates, *United Kingdom*Room: **ASIA 3****Universal Access: The challenges ahead**Simeon Keates, *United Kingdom***Adaptive Status Arrivals Policy (ASAP) Delivering Fresh Information (Minimise Peak Age) in Real World Scenarios**Basel Barakat, Simeon Keates, Ian Wassell, *United Kingdom*; Kamran Arshad, *United Arab Emirates***Achieving Inclusion with Contextualized User-Sensitive Design**Fang Li, *P.R. China*; Hua Dong, *United Kingdom***Quali-quantitative Review of the Use of Multimodal Interfaces for Cognitive Enhancement in People Who Are Blind**Lana Mesquita, *Brazil*; Jaime Sánchez, *Chile***Multi-faceted Approach to Computer Simplification via Personalization and Layering**Gregg C. Vanderheiden, J. Bern Jordan, *United States***The Rise of Accessibility Studies: Abuses, Misuses and the Method of Poietic Design**Gian Maria Greco, *Spain***VAMR S052****Human-Machine Teaming: Definitions, Approaches, Lessons Learned**Chair(s): Joseph B. Lyons, *United States*Room: **NORTHERN A4****Visualizations for Communicating Intelligent Agent Generated Courses of Action**Jessica Bartik, Heath Ruff, Gloria Calhoun, Kyle Behymer, Tyler Goodman, Elizabeth Frost, *United States***The Measurement of the Propensity to Trust Automation**Sarah Jessup, Tamera Schneider, Gene Alarcon, Tyler Ryan, August Capiola, *United States***Autonomous Agent Teammate-Likeness: Scale Development and Validation**Kevin T. Wynne, Joseph B. Lyons, *United States***Robot Authority in Human-Machine Teams: Effects of Human-Like Appearance on Compliance**Kerstin S. Haring, Ariana Mosley, Sarah Prusnick, Julie Fleming, Kelly Satterfield, Ewart J. De Visser, Chad C. Tossell, Gregory Funke, *United States***Training for Autonomy**Kevin B. Oden, Kevin B. Oden, *United States***Communicating Information in Virtual Reality: Objectively Measuring Team Performance**Shannon Moore, Michael Geuss, Joseph Campanelli, *United States*

Universal Access in Human-Computer Interaction

Virtual, Augmented and Mixed Reality

**CCD S053**
**OPOP - III -- One Product One Paper for Cross-Cultural Design - III**

Chair(s): Po-Hsien Lin, *Taiwan*; John Kreifeldt, *United States*; Rungtai Lin, *Taiwan*

Room: **ASIA 5**

**Analysis of Cover Design Styles of Magazines - Taking THE SHORT STORY MAGAZINE (1910-1932) as an Example**

Jianping Huang, Si Chen, Jiede Wu, *P.R. China*; Rungtai Lin, *Taiwan*

**Assessment of the Sense of Pleasure in Public Artwork in Living Environment - Taking the Streets near the Taipei University in Sanxia District as an Example**

Hsienfu Lo, I -Ting Wang, Gao Yang, *Taiwan*

**Research on the Influence of Interactivity on the Aesthetic Cognition of Art**

Gao Yang, I -Ting Wang, Hsienfu Lo, Rungtai Lin, *Taiwan*

**Research on the Audience's Cognition and Preference of the Styles of Chinese Landscape Paintings**

Jun Wu, *Taiwan*; Jiede Wu, *P.R. China*; Po-Hsien Lin, *Taiwan*

**The new approach of Chinese Animation: Exploring the Developing Strategies of Monkey King - Hero is Back**

Wen Ting Fang, *P.R. China*; Mei-Ling Hsu, Po-Hsien Lin, Rungtai Lin, *Taiwan*

**Design for Aesthetic Pleasure**

Po-Hsien Lin, Mo-Li Yeh, Hsi-Yen Lin, *Taiwan*

**Usability Testing of a Mobile Application for Alleviating Postpartum Emotional Disorders: A Case of We'll**

Wen-Ko Chiou, Shih-Chen Lai, Ding-Hau Huang, *Taiwan*

**SCSM S054**
**Social Media: Towards an Advertising Digital Literacy**

Chair(s): Karine Berthelot-Guiet, *France*

Room: **EUROPE 5**

**Algorithms and Advertising in Consumption Mediations: a Semio-pragmatic Perspective**

Eneus Trindade, *Brazil*

**The Post-Advertising Condition. A Socio-semiotic and Semio-pragmatic Approach to Algorithmic Capitalism**

Ruggero Eugeni, *Italy*

**The Cultural Component in Advertising Analysis. A Non-Numerical Vision of the Programmatic Advertising**

Pedro Antonio Hellin Ortuno, *Spain*

**Advertising or not Advertising: Representations and Expressions of Advertising Digital Literacy on Social Media**

Caroline Marti, Karine Berthelot-Guiet, *France*

**Do Consumers dream of Digital Advertising? New communication rules in Social Media**

Mauro Ferraresi, *Italy*

**Social Media Conversations: When Consumers Do Not React Positively to Brands' Kindness to Others**

Andria Andriuzzi, Géraldine Michel, *France*

**When complaining is the advertising: towards a collective efficacy model to understand social network complaints**

Daniel Halpern, *Chile*; Gerald Kane, *United States*; Claudia Montero, *Chile*

**AC S055**
**Augmented Cognition Applications**

Chair(s): Martha Crosby, Randall Minas, Michael-Brian Ogawa, *United States*

Room: **EUROPE 1**

**Usability inspection of a mobile clinical decision support app and a short form heuristic evaluation checklist**

Blaine Reeder, Cynthia Drake, Mustafa Ozkaynak, Wallace Jones, David Mack, Alexandria David, Raven Starr, Barbara Trautner, Heidi Wald, *United States*

**Using Eye Tracking to Assess the Navigation Efficacy of a Medical Proxy Decision Tool**

Soussan Djamassbi, Bengisu Tulu, Javad Norouzi Nia, Andrew Aberdale, Christopher Lee, Susanne Muehlschlegel, *United States*

**Reading Behavior and Comprehension of C++ Source Code – A Classroom Study**

Jonathan Saddler, Cole Peterson, Patrick Peachock, Bonita Sharif, *United States*

**Tokens of Interaction: Psychophysiological Signals, A Potential Source of Evidence of Digital Incidents**

Nancy Mogire, Randall Minas, Martha Crosby, *United States*

**Impedances of memorable passphrase design on augmented cognition**

Lila Loos, Michael-Brian Ogawa, Martha Crosby, *United States*

**Augmented Cognition for Socio-Technical Systems**

Scott David, Barbara Endicott-Popovsky, *United States*

**DHM S056**
**Anthropometry and posture analysis**

Chair(s): Rafael de Pinho André, *Brazil*

Room: **OCEANIC 8**

**Using Foot and Knee Movement and Posture Information to Mitigate the Probability of Injuries in Functional Training**

Rafael De Pinho André, Alberto Raposo, Hugo Fuks, *Brazil*

**Size North America – the new North American Anthropometric Survey**

Thorsten Kuebler, Andre Luebke, Jamie Campbell, Tim Guenzel, *United States*

**A Full-chain OpenSim Model and its Application on Posture Analysis of an Overhead Drilling Task**

Jing Chang, Damien Chablat, Fouad Bennis, *France*; Liang Ma, *P.R. China*

**Research on the Characteristic and Gender Differences in Adult Foot Shape in China**

Jing Zhao, Jingjing Wang, Haitao Wang, Fan Zhang, Chao Zhao, Gang Wu, *P.R. China*

**Preliminary Design of Soft Exo-suit for Arm Rehabilitation**

Deep Seth, V.K. Harsha Vardhan Varma, Padamati Anirudh, Pavan Kalyan, *India*

**Design and Usability Evaluation of Interface of Mobile Application for Nutrition Tracking for People with Parkinson's Disease**

Bojan Blažica, Peter Novak, Franc Novak, Barbara Koroušić Seljak, *Slovenia*

**DUXU S057**
**Ergonomics in Design**

Chair(s): Marcelo Soares, *P.R. China*

Room: **SOUTHERN II**

**The use of the Virtual Fashion Tester: a Usability Study**

Ademario Tavares, *Brazil*; Marcelo Soares, *P.R. China*; Marcio Marçal, Luiz W.N. Albuquerque, Aline Neves, Jaciara Silva, Samantha Pimentel, José C. Ramos Filho, *Brazil*

**ARena: Improving the construction process of line-follower robot arenas through Projection Mapping**

Pedro J.L. Silva, Diogo Henriques, Gustavo C.R. Lima, Júlia De Souza, Joao M.X.N. Teixeira, Veronica Teichrieb, *Brazil*

**Research on Design Style of Cartoon Medical Science Interface Based on Kansei Engineering**

Li Zhu, Chunxiao Li, Zhijuan Zhu, *P.R. China*

**Universal Quadrant Model (UQM): Enhancing Usability of a Collaborative Cloud Tool for Sharing Best Practices Among Novice Users**

Justus Nyagwencha, Kenya; Cheryl Seals, *United States*

**Towards the Meaningful 3D-Printed Object: Understanding the Materiality of 3D Prints**

Beth Nam, Alexander Berman, Brittany Garcia, Sharon Lynn Chu, *United States*

**S058**
**Designing and Measuring Novel User Experiences**

Chair(s): Kerem Rizvanoglu, Turkey; Huseyin Dogan, *United Kingdom*

Room: **SOUTHERN III**

**A Usability Evaluation of Privacy Add-ons for Web Browsers**

Matthew Corner, Huseyin Dogan, Alexios Mylonas, *United Kingdom*; Francis Djabri, *United States*

**Development and usability evaluation of a nutrition and lifestyle guidance application for people living with and beyond cancer**

Gareth Veale, Huseyin Dogan, Jane Murphy, *United Kingdom*

**Usability of University Recruitment Web Pages from International Doctoral Students' Perspectives**

Li-Min Huang, Dania Bilal, *United States*

**Examining the Influence of Visual Stimuli and Personal Characteristics on Users' Willingness-to-Wait Time and Waiting Patterns**

Jingyi Zhou, Pengyi Zhang, *P.R. China*

**A Systematic Literature Review of Usability Evaluation Guidelines on Mobile Educational Games for Primary School Students**

Xiao Wen Lin Gao, Braulio Murillo Veliz, Freddy Paz Espinoza, *Peru*

**S059**
**Design and UX for AI systems**

Chair(s): Heloisa Candello, Juliana Jansen Ferreira, *Brazil*

Room: **SOUTHERN IV**

**Modeling People-AI Interaction: A Case Discussion with Using an Interaction Design Language**

Juliana Jansen Ferreira, Ana Fucs, Vinicius Segura, *Brazil*

**Towards Explainable AI Using Similarity: An Analogues Visualization System**

Vinicius Segura, *Brazil*; Bruna Brandao, *Canada*; Ana Fucs, Emilio Vital Brazil, *Brazil*

**Design and development of a standard interface component to highlight automated AI recommendations in the Conta Azul software**

João Antonio De Menezes Neto, Bruno Carlos Cruz, Harry Porto Schroeter, Ludmila Rocha Ribeiro Feitosa, *Brazil*

**A solution development model for industry based on Design Thinking**

Raquel Zarattini Chebabi, Henrique Von Atzingen Amaral, *Brazil*

**Sentiment analysis through machine learning for the support on decision-making in job interviews**

Julio Martínez Zárate, Sandra Mateus Santiago, *Colombia*

**A Data-driven Design Framework for Customer Service Chatbot**

Shinhee Hwang, Beomjun Kim, Keeheon Lee, *Korea*

**HCIBGO S060**
**HCI in Project Management**

Chair(s): Elaine M. Raybourn, *United States*

Room: **EUROPE 4**

**Scaling Productivity & Innovation on the Path to Exascale With a "Team of Teams" Approach**

Elaine M. Raybourn, J. David Moulton, Aimee Hungerford, *United States*

**Human Collaboration on Crowdsourcing Platforms – A Content Analysis**

Navid Tavanapour, Eva A. C. Bittner, *Germany*

**Time to Track Cross-sector Collaboration: Digital Prescriptions for Governing Fragmented Governments**

Khadijeh Roya Rouzbehani, *Canada*

**HCI-Games S064**
**Games, affect and well-being**

Chair(s): Toyin Ajisafe, *United States*

Room: **EUROPE 2**

**The Effects of immersion in a Virtual Reality Game: Presence and Physical Activity**

Shengjie Yao, Gyoung Kim, *United States*

**Development and Usability of a Low-Cost Kinect Game to Promote Movement Competence in Children with and without Intellectual Disability**

Toyin Ajisafe, Rahul Bethi, Scott King, Ajay Kantangur, *United States*

**Affective Video Games: A systematic mapping study**

Christian Delgado, Diego Lopez, Carolina Rico-Olarte, *Colombia*

**Video Game Playing Enhances Young Children's Inhibitory Control**

Xiaocen Liu, Mengying Liao, Donghui Dou, *P.R. China*

**HCI-CPT S063**
**Cybersecurity and user behavior**

Chair(s): Giuseppe Desolda, *Italy*

Room: **OCEANIC 6**

**From Cyber-Security Deception To Manipulation and Gratification Through Gamification**

Xavier Bellekens, Gayan Jayasekera, Hanan Hindy, *United Kingdom*; Miroslav Bureš, *Czech Republic*; David Brosset, *France*; Christos Tachtatzis, Robert Atkinson, *United Kingdom*

**Alerting Users about Phishing Attacks**

Giuseppe Desolda, Francesco Di Nocera, Lauren Ferro, Rosa Lanzilotti, Piero Maggi, Andrea Marrella, *Italy*

**Gamification Techniques for Raising Cyber Security Awareness**

Sam Scholefield, Lynsay A. Shepherd, *United Kingdom*

**Understanding Perceptions: User Responses to Browser Warning Messages**

Heather Molyneaux, Irina Kondratova, Elizabeth Stobert, *Canada*

**Revolutionizing the Visual Design of Capture the Flag (CTF) Competitions**

Rukman Senanayake, Phillip Porras, Jason Kaehler, *United States*

**Privacy and Power Implications of Web Location of Personal Data Authenticators**

Kirsten E. Richards, *United States*

**ITAP S062**
**Everyday Life Information Behavior and Practice of older adults**

Chair(s): Yuxiang Zhao, *P.R. China*

Room: **OCEANIC 1**

**Factors Influencing Proxy Internet Health Information Seeking among the Elderly in Rural China: A Grounded Theory Study**

Xiaokang Song, Shijie Song, Si Chen, Yuxiang Zhao, Qinghua Zhu, *P.R. China*

**Mobile Experience Sampling Method: Capturing the Daily Life of Elders**

Rong Hu, Xiaozhao Deng, Xiaoning Sun, Yuxiang Zhao, Qinghua Zhu, *P.R. China*

**Attraction and Addiction Factors of Online Games on Older Adults: A Qualitative Study**

Xiaolun Wang, Xinlin Yao, Jie Gu, *P.R. China*

**A Qualitative Investigation on Miscommunication of Everyday Health Information between Older Parents and Adult Children**

Xinlin Yao, Xiaolun Wang, Jie Gu, Yuxiang Zhao, *P.R. China*

**Older Adults' Credibility Judgement on Online Health Misinformation: The Role of Health Literacy**

Shijie Song, Yuxiang Zhao, *P.R. China*

**Exploring the Blocking Behavior between Young Adults and Parents on WeChat Moments**

Wenting Han, Yuxiang Zhao, Qinghua Zhu, *P.R. China*

**Health information literacy of the older adults and their intention to share health rumors: An analysis from the perspective of socioemotional selectivity theory**

Mengqing Yang, *P.R. China*

**LCT S061**
**Interactive learning ecosystems - III**

Chair(s): Francisco José García-Peñalvo, David Fonseca, *Spain*

Room: **SOUTHERN V**

**Measuring students' acceptance to AI-driven assessment in eLearning: proposing a first TAM-based research model**

Juan Cruz-Benito, *United States*; José Carlos Sánchez-Prieto, Roberto Therón, Francisco José García-Peñalvo, *Spain*

**An app to support yoga teachers to implement a yoga-based approach to promote wellbeing among young people: usability study**

Alicia García-Holgado, Tñaki Tajés-Reiris, *Spain*; Nick Kearney, Charlotta Martinus, *United Kingdom*; Francisco José García-Peñalvo, *Spain*

**Case Studies of Applications to Encourage Students In Cyber-physical Environment**

Yuko Hiramatsu, Atsushi Ito, Miki Kakui, Yasuo Kakui, Kazutaka Ueda, Rina Hayashi, *Japan*

**Learn Chinese in Sindhi: App Development and Evaluation**

Zahid Hussain, *Pakistan*; Meiyu Lu, Xiangang Qin, *P.R. China*; Muhammad Faheem, *Pakistan*

**Design thinking and Gamification: user centered methodologies**

Eva Villegas, Emiliano Labrador, David Fonseca, Sara Fernández-Guinea, *Spain*; Fernando Moreira, *Portugal*

**The neuro-subject: A living entity with learnability**

Ángel Fidalgo-Blanco, María Luisa Sein-Echaluce, Francisco José García-Peñalvo, *Spain*

**MobiTAS S065**

**Mobility and User Experience**

Chair(s): Xiaowei Yuan, *P.R. China*

Room: **EUROPE 3**

**User Journey with Intelligent Public Transportation System in Shanghai**

Yuqian Ni, Fan Yi, Shaolin Ma, Yanjuan Sun, *P.R. China*

**Investigating Users' Responses to Context-Aware Presentations on Large Displays in Public Transport**

Romina Kühn, Diana Lemme, Juliane Pfeffer, Thomas Schlegel, *Germany*

**Improving Mobility in University Communities using a Collaborative Prototype**

Erick López-Ornelas, *Mexico*

**Study on Evaluation of Subway Passenger Wayfinding Systems Based on SEM**

Chuanyu Zou, Guangxin Wang, Yongquan Chen, *P.R. China*

**Spatial Features and Elements Affecting Indoor Wayfinding—A Case Study in a Transit Hub**

Dadi An, Junnan Ye, Wei Ding, *P.R. China*

**AI S066**

**Application of Artificial Intelligence and Machine Learning techniques to Adaptive Instruction**

Chair(s): Jan Joris Roessingh, Joost Van Oijen, *Netherlands*

Room: **ASIA 4**

**Application of Artificial Intelligence to Adaptive Instruction - Combining the Concepts**

Jan Joris Roessingh, Gerald Poppinga, Joost Van Oijen, Armon Toubman, *Netherlands*

**Six Challenges for Human-AI Co-Learning**

Karel Van den Bosch, Tjeerd Schoonderwoerd, Romy Blankendaal, Mark Neerincx, *Netherlands*

**Learning Analytics of Playing Space Fortress with Reinforcement Learning**

Joost Van Oijen, Jan Joris Roessingh, Gerald Poppinga, *Netherlands*; Victor Garcia, *Spain*

**Validating Air Combat Behaviour Models for Adaptive Training of Teams**

Armon Toubman, *Netherlands*

**Developing an Adaptive Opponent for Tactical Training**

Jeremy Ludwig, Bart Presnell, *United States*

**NOTES**



**HCI S067**

**Benefits of Inconvenience in Human Machine Interaction - II**

Chair(s): Hiroshi Kawakami, *Japan*

Room: **NORTHERN A1**

**Analysis of a Programming Process Sharing the Card Type Programming Tool "Pro-Tan"**

Tatsuo Motoyoshi, Kei Sawai, Hiroyuki Masuta, Takumi Tamamoto, Ken'ichi Koyanagi, Toru Oshima, *Japan*

**Development of Privacy Protection Monitoring Systems Using Skeleton Models and Their Evaluation on the Viewpoint of FUBEN-EKI**

Hisashi Handa, Shingo Ando, Tatsuhiro Ichikawa, Riku Yamamoto, Miyu Otani, *Japan*

**Impact Analysis of Order of Presentation on Champion Book Selection in Bibliobattle**

Hirofumi Masui, Yumiko Kaigawa, Namiko Mitoma, Tadahiyo Taniguchi, *Japan*

**Methods for Designing Systems with Benefits of Inconvenience**

Hiroshi Kawakami, Toshihiro Hiraoka, *Japan*

**HIMI S070**

**Embodied Interaction and Communication**

Chair(s): Tomio Watanabe, *Japan*

Room: **OCEANIC 2**

**A Proposal of Video Evaluation Method Using Facial Expression for Video Recommendation System**

Masashi Okubo, Shun Tamura, *Japan*

**Development of a System for Analyzing Hand-Raising Communication by Using a VR Headset to Synthesize Human-CG Character Interaction**

Hayato Hirose, Ken Minamide, Satoshi Fukumori, Saizo Aoyagi, Michiya Yamamoto, *Japan*

**Corneal-Reflection-based Wide Range Gaze Tracking for a Car**

Takashi Nagamatsu, Mamoru Hiroe, Japan; Gerhard Rigoll, *Germany*

**Combination of local interaction with remote interaction in ARM-COMS communication**

Teruaki Ito, Hiroki Kimachi, Tomio Watanabe, *Japan*

**Caught in Eye Trackers' Blind Spots: Adapting Vision Studies to Ethnographic Field Research**

Larry S. McGrath, Lindsay A. Carrabine, Ranjan Nayyar, *United States*

**S071**

**Visualization Methods and Tools**

Chair(s): To be announced

Room: **OCEANIC 4**

**Visualization of Component-based Software Architectures: A Comparative Evaluation of the Usability in Virtual Reality and 2D**

Meike Schaller, Andreas Schreiber, *Germany*

**A Comparison of Effectiveness between 2-Dimensional and 3-Dimensional Data Visualization in Detecting Plant Architectural Characteristics**

Thanh Van Pham, Byung Cheol Lee, Scott King, *United States*

**A Coordinated Multi-Channel Information Presentation Framework for Data Exploration**

Zev Battad, Jeramey Tyler, Hui Su, Mei Si, *United States*

**Research on Layout Design of Main Interface of Stadium Monitoring System Based on Gestalt Psychology**

Biyang Li, Ying Cao, *P.R. China*

**Research on the Information Layout of HMDs based on Flight Missions and Visual Cognition**

Jiang Shao, Jun Yao, Kun Zhang, Ketong Yan, *P.R. China*

**Explorative Visualization of Food Data to Raise Awareness of Nutritional Value**

Anna Lunterova, Ondrej Spetko, Georgios Palamas, *Denmark*

**UAHCI S072**

**Education and Learning Processes**

Chair(s): Valdecir Becker, *Brazil*

Room: **ASIA 3**

**Analysis of Biofeedback through Heartbeat Obtained by Exposure to Phobia through Virtual Reality**

Edvaldo De Vasconcelos, Amaro Neto, Lillian Dos Santos, Paula Ribeiro, *Brazil*

**The Promotion of Empathy for The Experience of Users with Visual Impairment in The Game Design Education**

Isabel Cristina Siqueira da Silva, *Brazil*

**HCI methods and practices for audiovisual systems and their potential contribution to universal design for learning: a systematic literature review**

Rafael Toscano, Helder Bruno A.M. De Souza, Sandro G. Da Silva Filho, Jaqueline Donin Noleto, Valdecir Becker, *Brazil*

**Visualizing student interactions to support instructors in Virtual Learning Environments**

Andre Luiz De Brandão Damasceno, Dalai Dos Santos Ribeiro, Simone Diniz Junqueira Barbosa, *Brazil*

**Audiovisual Design for generative systems: A customized audiovisual experiment**

Valdecir Becker, Rafael Toscano, Helder Bruno A.M. De Souza, Edvaldo De Vasconcelos, *Brazil*


**UAHCI S073**
**Spatial Interaction for Universal Access**

Chair(s): Armando Barreto, *United States*

Room: **ASIA 2**

**Statistical Analysis of Novel and Traditional Orientation Estimates from an IMU-Instrumented Glove**

Nonnarit O-larnnithipong, Neeranut Ratchatanantakit, Sudarat Tangnimitchok, Francisco Ortega, Armando Barreto, Malek Adjouadi, *United States*

**Learning user preferences via Reinforcement Learning with Spatial Interface Valuing**

Miguel Alonso Jr., *United States*

**Using Digital Puppetry to Prepare Physicians to Address Non-Suicidal Self-Injury Among Teens**

Kathleen Ingraham, Charles Hughes, Lindsay Taliaferro, Nicholas Westers, Lisa Dieker, Michael Hynes, *United States*

**3D Interaction for Computer Science Educational VR Game**

Santiago Bolivar, Daniel Perez, Armando Carrasquillo, Adam Williams, Naphtali Rishe, Francisco Ortega, *United States*

**Quantifying Differences between Child and Adult Motion based on Gait Features**

Aishat Aloba, Annie Luc, Julia Woodward, Yuzhu Dong, Rong Zhang, Eakta Jain, Lisa Anthony, *United States*

**CCD S074**
**Design for social interaction and urban experience**

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

Room: **EUROPE 2**

**New Impression of Beijing Hutongs: A Microscale Urban Emotion Measurement Method**

Zhiyong Fu, *P.R. China*; LingChyi Chan, *Malaysia*

**City Change Maker: A Design Innovation Workshop on Social Impact**

Qing Xia, Zhiyong Fu, *P.R. China*

**"We are actively reaching out to different organizations and folks to come in": Collective Design of the Vancouver Tool Library Project**

Xiaolan Wang, *P.R. China*; Ron Wakkary, *Canada*

**Emo-View: Convey the Emotion of the Back-Seat Passenger with an Emoji in Rear-View Mirror to the Driver**

Chi-Ju Chao, Xue He, Zhiyong Fu, *P.R. China*

**Parallel Orientation Assistant, a Vehicle System based on Voice Interaction and Multi-Screen Interaction**

Nan Jiang, Zhiyong Fu, *P.R. China*

**Urban Interaction Design Supports Modular Design Practice for Urban Public Space**

Huan Wang, Ming Yan, Han Xie, Zhiyong Fu, *P.R. China*

**Mobility-as-a-Service: A Critical Review and the Generalized Multi-modal Transport Experience**

Yuanjun Li, Andrew May, Sharon Cook, *United Kingdom*

**SCSM S075**
**Misleading information in social media**

Chair(s): Marcelo Mendoza, *Chile*

Room: **EUROPE 5**

**Estimating ground shaking regions with social media propagation trees**

Marcelo Mendoza, Bárbara Poblete, Ignacio Valderrama, *Chile*

**Claim behavior over time in Twitter**

Fernanda Weiss, Ignacio Espinoza, Julio Hurtado, Marcelo Mendoza, *Chile*

**From belief in conspiracy theories to trust in others: Which factors influence exposure, believing and sharing fake news**

Daniel Halpern, Sebastián Valenzuela, *Chile*; James Katz, *United States*; Juan Pablo Miranda, *Chile*

**An Empirical Analysis of Rumor Detection on Microblogs with Recurrent Neural Networks**

Margarita Bugueño, Gabriel Sepúlveda, Marcelo Mendoza, *Chile*

**Detection of Bots and Cyborgs in Twitter: A study on the Chilean Presidential Election in 2017**

Samara Castillo, Héctor Allende-Cid, Wenceslao Palma, Rodrigo Alfaro, *Chile*; Heitor S. Ramos, *Brazil*; Cristian Gonzalez, Claudio Elortegui, Pedro Santander, *Chile*

**Beware of the Fakes – Overview of Fake Detection Methods for Online Product Reviews**

Simon André Scherr, Svenja Polst, Frank Elberzhager, *Germany*

**AC S076**
**The Psychoinformatics of Mixed Reality and Biomimicry**

Chair(s): Suraj Sood, *United States*

Room: **EUROPE 1**

**Holarchic Psychoinformatics: A Mathematical Ontology for General and Psychological Realities**

Suraj Sood, Corinne Lee, Garri Hovhannisyan, Shannon Lee, Garrett Rozier, Antoinette Hadgis, Kristy Sproul, Tyler Higgins, Anna Henson, Michael Shrider, Monte Hancock, *United States*

**Biomimicry and Machine Learning in the Context of Healthcare Digitization**

Corinne Lee, Suraj Sood, Monte Hancock, Tyler Higgins, Kristy Sproul, Antoinette Hadgis, Stefan Joe Yen, *United States*

**Enacting Virtual Reality: The Philosophy and Cognitive Science of Optimal Virtual Experience**

Garri Hovhannisyan, Anna Henson, Suraj Sood, *United States*

**Demonstrably Safe Self-Replicating Manufacturing Systems: Banishing the Halting Problem—Organizational and Finite State Machine Control Paradigms**

Eli Rabani, Lesley Perg, *United States*

**Facilitating Cluster Counting in Multi-dimensional Feature Space by Intermediate Information Grouping**

Chloe Chun-Wing Lo, *Hong Kong*; Jishnu Chowdhury, *United States*; Markus Hollander, *Germany*; Alexis-Walid Ahmed, *France*; Suraj Sood, Kristy Sproul, Antoinette Hadgis, *United States*

**Computing with Words: A Framework for Human-Computer Interaction**

Dan Tamir, Shai Neumann, Naphtali Rishe, Abe Kandel, Lotfi Zadeh, *United States*

Cross-Cultural Design

Social Computing and Social Media

Augmented Cognition

**DHM S077****Creative Processes and Cognitive Science Cooperation in Art, Architecture and Design for Education, Health and Well Being**

Chair(s): Rachel Zuanon, Brazil

Room: **OCEANIC 8****Edgard, the Chatbot: Questioning Ethics in the Usage of Artificial Intelligence through Interaction Design and Electronic Literature**Fernando Fogliano, Fernando Fabbrini, Andre Souza, Guilherme Fidélio, Juliana Pereira Machado, Rachel L. Sarra, *Brazil***Architecture in mind: Elderly's affective memories and spatial perceptions of a downtown area**Evandro Ziggiatti Monteiro, Claudio Lima Ferreira, Rachel Zuanon, Melissa Ramos da Silva Oliveira, Sidney Piocchi Bernardini, *Brazil***Memories and Brain Maps: representations of fear, risk and insecurity in downtown areas**Rachel Zuanon, Melissa Ramos da Silva Oliveira, Claudio Lima Ferreira, Evandro Ziggiatti Monteiro, Haroldo Gallo, *Brazil***Cooperation between Design and Neuroscience: contributions to current project methodologies applied to Automotive Design**Carolina Vieira Liberatti Rosa, Rachel Zuanon, *Brazil***The Neuroeducational Principles of the SEE BEYOND Method Applied on the Materialization of a Fashion Collection Designed by Visually Impaired Fashion Designers**Geraldo Coelho Lima, Rachel Zuanon, *Brazil***Architecture-Neuroscience Cooperation: Project Recommendations to Therapeutic Gardens Design for the non-Pharmacological Treatment of Individuals with Alzheimer's Disease**Barbara Alves Cardoso De Faria, Rachel Zuanon, *Brazil***Thermoregulating and Hydrating Microcapsules: Contributions of Textile Technology in the Design of Wearable Products for Wheelchair Dependents**Veridianna Cristina Teodoro Ferreira, Agda Carvalho, *Brazil***DUXU S078****DUXU for Smart Living, Working, Learning, Commuting, and Playing**Chair(s): Wei Liu, *P.R. China*Room: **SOUTHERN II****Research on Interactive Strategy for Boosting Novice Drivers' Confidence Based on Internet of Vehicles**Yan-cong Zhu, Di Zhu, *P.R. China***Why and Why Not Use My Face?----A Case Study of Face Recognition Solutions in the Workplace**Sinan He, Yi Zhang, Jingya Zhang, Xiaofan Li, Zhun Wu, Jun Niu, Daisong Guan, *P.R. China***Reflection on Museum Service Design based on a UX Foundation Course**Di Zhu, Wei Liu, Yaru Lv, *P.R. China***A Literature Review of the Research on Take-Over Situation in Autonomous Driving**Xin Xin, Min Zhao, Moli Zhou, Siyao Lu, Yishan Liu, Daisong Guan, Qianyi Wang, Yuezhou Zhang, *P.R. China***A Literature Review of the Research on Interaction Mode of Self-Driving Cars**Zhongshi Hu, Xin Xin, *P.R. China*; Wanting Xu, *Algeria*; Yuwei Sun, Zhenyu Jiang, Xiangyu Wang, Yishan Liu, Siyao Lu, Min Zhao, *P.R. China***S079****Psychological considerations in designing and using online and digital communication**Chair(s): Maria Uther, Chris Fullwood, *United Kingdom*Room: **SOUTHERN III****"Thanks for Writing, but I'm not interested": A Qualitative Analysis of Men's Experiences of Online Dating**Chris Fullwood, Emma Boultonwood, Darren Chadwick, *United Kingdom***The role of gamer identity on digital gaming outcomes**Linda Kaye, *United Kingdom***Digital vs. hard copy? A preliminary study of reading style in children using touch screen and paper books**Maria Uther, Kirsty Ross, Jordan Randell, *United Kingdom*; Rachel Pye, *Malaysia***Identifying Psychophysiological Pain Points in the Online User Journey: The Case of Online Grocery**Caroline Giroux-Huppe, Sylvain Senecal, Marc Fredette, Shang Lin Chen, Bertrand Demolin, Pierre-Majorique Léger, *Canada***An Approach to Analysis of Physiological Responses to Stimulus: From Electrodermal Activity to Combined Physiological Responses**Reza Tasooji, Nicole Buckingham, Denis Gracanin, R. Benjamin Knapp, *United States***User experience and social influence: a new perspective for UX theory**Jan Van der Linden, *Belgium*; Franck Amadieu, Emilie Vayre, France; Cécile Van de Leemput, *Belgium***S080****Artificial Intelligence+Big Data+Internet of Everything+Grand Interaction Design**Chair(s): Jingyan Qin, *P.R. China*Room: **NORTHERN A2****Research on multiple tactile induction of human-computer interaction**Yangshuo Zheng, Shi Chao He, *P.R. China***Interaction Design of the Family Agent Based on the CMR-FBS Model**Jingyan Qin, Wenhao Zhang, Zhibo Chen, Daisong Guan, Moli Zhou, Shiyang Li, *P.R. China***Research on Robot Interaction Design Based on Embodied and Disembodied Interaction Grammars**Jingyan Qin, Xinghui Lu, Yanlin An, Zeyu Hao, Daisong Guan, Moli Zhou, Shiyang Li, *P.R. China***Research on Active Interaction Design for Smart Speakers Agent of Home Service Robot**Jingyan Qin, Zhibo Chen, Wenhao Zhang, Daisong Guan, Zhun Wu, Min Zhao, *P.R. China***Development of a Heuristic Evaluation Tool for Voice User Interfaces**Martin Maguire, *United Kingdom*

**DUXU S081****Information Design & UX**Chair(s): Carla G. Spinillo, *Brazil*Room: **NORTHERN A3****Exploring the Dynamic Aesthetics of Interaction Design**Patricia Search, *United States***Interaction testing on using an e-book authoring tool: A case study of the SaiteBooker (UNA-SUS/UFMA, Brazil)**Carla G. Spinillo, Edilson T.S. Reis, Ana Emilia F. De Oliveira, Dilson Rabelo Junior, Camila Santos de Castro e Lima, Katherine M. De Assis, *Brazil***Challenges in Evaluating Efficacy of Scientific Visualization for Usability and Aesthetics**Julie Baca, Daniel W. Carruth, Alex Calhoun, Michael Stephens, Christopher Lewis, *United States***Three-Dimensional Representation in Visual Communication of Science**Marco Neves, Pedro Gonçalves, *Portugal***From hardware to software: evaluating the swipe gestures navigation feature on mobile phones**Lucia Satiko Nomiso, Eduardo Hideki Tanaka, Raquel Pignatelli Silva, *Brazil***Evaluating Citizen Scientists' User Experience and Engagement Using a Mobile Watershed Data Management App**Ann Fruhling, Shannon Bartelt-Hunt, Alan Kolok, *United States***S082****DUXU Case Studies**Chair(s): Meredith Carroll, *United States*Room: **SOUTHERN IV****Device Transition: Understanding Usability Issues in Shifting a Device during a Task**Ngoc Thi Nguyen, Hyowon Lee, *Singapore***Design of a Contextual Digital Wayfinding Environment**Isabel Morais, Manuel Condado, Ryan Quinn, Sahil Patel, Patricia Morreale, Ed Johnston, Elizabeth Hyde, *United States***A Study on the User Interaction Information System Design of a City Park Planning**Xuchao Wu, Qing Fang, *P.R. China***Head and Shoulders Gestures: Exploring User-Defined Gestures with Upper Body**Jean Vanderdonckt, Nathan Magrofuoco, Suzanne Kieffer, *Belgium*; Jorge Pérez, *Ecuador*; Ysabelle Rase, Paolo Roselli, Santiago Villarrel, *Belgium***Optimization of User Interfaces in the Digitization of Paper-Based Processes: A Case Study of a Mobile Aviation Application**Paige Sanchez, Meredith Carroll, *United States***HCIBGO S083****Service Design and Business Design**Chair(s): Yi-Cheng Ku, Chyi-Lun Chiou, *Taiwan*Room: **EUROPE 4****The Value of Bank Relationship: Evidence from China**Chyi-Lun Chiou, *Taiwan***An Incremental Clustering Approach to Personalized Tag Recommendations**Yen-Hsien Lee, Tsai-Hsin Chu, *Taiwan***Recommendation as a Service in Mergers and Acquisitions Transactions**Yu-Chen Yang, Yi-Syuan Ke, *Taiwan*; Weiwei Wu, *P.R. China*; Keng-Pei Lin, *Taiwan*; Yong Jin, *Hong Kong***A Medical Decision Support System Using Text Mining to Compare Electronic Medical Records**Pei-ju Lee, Yen-Hsien Lee, Yihuang Kang, Ching-Ping Chao, *Taiwan***Moderating Effect of Country of Origin to the Evaluation of Cellphones**Chih-Chin Liang, *Taiwan***The Effect of Internet Celebrity's Endorsement on Consumer Purchase Intention**Yi-Cheng Ku, Yie-Fang Kao, *Taiwan*; MingJiao Qin, *P.R. China***LCT S084****Interactive learning ecosystems - IV**Chair(s): Francisco José García-Peñalvo, David Fonseca, *Spain*Room: **SOUTHERN V****UX Aspects of Kinect-based Movement Schemes Inside Virtual Environments for Museum Installations**Viviana Barneche-Naya, Luis A. Hernández-Ibáñez, *Spain***An Experience Making use of Learning Analytics Techniques in Discussion Forums to Improve the Interaction in Learning Ecosystems**Luis Magdiel Oliva Córdova, Héctor Amado-Salvatierra, *Guatemala*; Klinge Orlando Villalba-Condori, *Peru***Systematic mapping study: use of design science in creation and evaluation of UX artifacts**Zlatko Stapic, Dijana Plantak Vukovac, *Croatia***Personal Data Broker: a Solution to Assure Data Privacy in EdTech**Daniel Amo, David Fonseca, Marc Alier, Francisco José García-Peñalvo, Maria Jose Casañ, Maria Alsina, *Spain***Adaptive Learning Case Studies Implementation at Architectural BIM Construction Courses**Jose Ferrandiz, *United Arab Emirates*; David Fonseca, *Spain*

HCI in Business, Government and Organizations

Learning and Collaboration Technologies

**ITAP S085****ICT for Care and Support of Elderly People in Hyper Aged Societies**Chair(s): Hirokazu Kato, *Japan*Room: **OCEANIC 1****Integration of Augmented Reality with Pressing Evaluation and Training System for Finger Force Training**Jayzon Ty, Naoki Inoue, Alexander Plopski, Sayaka Okahashi, Christian Sandor, *Japan*; Hsiu-Yun Hsu, Li-Chieh Kuo, Fong-Chin Su, *Taiwan*; Hirokazu Kato, *Japan***Digital Memorialization in Death-ridden Societies: How HCI Could Contribute to Death Rituals in Taiwan and Japan**Daisuke Uriu, *Japan*; Ju-Chun Ko, Bing-Yu Chen, *Taiwan*; Atsushi Hiyama, Masahiko Inami, *Japan***Augmented Walking Suit for Elderly Farmers in Agricultural Environment**Chetan Thakur, Yuichi Kurita, *Japan***Atmosphere Sharing with TV Chat Agents for Increase of User's Motivation for Conversation**Shogo Nishimura, Masayuki Kanbara, Norihiro Hagita, *Japan***A Cooking Support System for Seasoning with Smart Cruet**Yuta Kido, Teruhiro Mizumoto, Hirohiko Suwa, Yutaka Arakawa, Keiichi Yasumoto, *Japan***Design elements of pervasive games for elderly players: a social interaction study case**Luciano H. O. Santos, *Brazil*; Kazuya Okamoto, Shusuke Hiragi, Goshiro Yamamoto, Osamu Sugiyama, Tomoki Aoyama, Tomohiro Kuroda, *Japan***HCI-CPT S086****Novel approaches to authentication**

Chair(s): To be announced

Room: **NORTHERN A4****Identity Verification Using Face Recognition for Artificial-Intelligence Electronic Forms with Speech Interaction**Akitoshi Okumura, Shuji Komeiji, Motohiko Sakaguchi, Masahiro Tabuchi, Hiroaki Hattori, *Japan***Two-Factor Authentication using Leap Motion and Numeric Keypad**Tomoki Manabe, Hayato Yamana, *Japan***BREAKING: Password Entry is Fine**Catlin Pidel, Stephan Neuhaus, *Switzerland***Consonant-Vowel-Consonants for Error-Free Code Entry**Nikola Blanchard, Leila Gabasova, France; Ted Selker, *United States***Explore-a-Nation: Combining Graphical and Alphanumeric Authentication**Lauren N. Tiller, Catherine A. Angelini, Sarah C. Leibner, Jeremiah D. Still, *United States***Grid Authentication: A Memorability and User Sentiment Study**Paul Biocco, Mohd Anwar, *United States***MobiTAS S087****Mobility-as-a-Service - Digitization of Public Transport**Chair(s): Ulrike Stopka, *Germany*Room: **EUROPE 3****UBusiness and Billing Models for Mobile Services Using Secure Identities**Ulrike Stopka, Gertraud Schäfer, Andreas Kreisel, *Germany***Towards an Integrated Mobility Service Network**Cindy Mayas, Tobias Steinert, Heidi Krömker, *Germany***Challenges for local authorities in planning and implementing sustainable and user-oriented mobility measures and services**Sebastian Spundflasch, Heidi Krömker, *Germany***AIS S088****Adaptive Instruction System Standards**Chair(s): Keith Brawner, *United States*Room: **OCEANIC 6****Standards Needed: Competency Modeling and Recommender Systems**Keith Brawner, *United States***Measuring the Complexity of Learning Content to Enable Automated Comparison, Recommendation, and Generation**Jeremiah Folsom-Kovarik, Dar-Wei Chen, Behrooz Mostafavi, Keith Brawner, *United States***Exploring Methods to Promote Interoperability in Adaptive Instructional Systems**Robert A. Sottolare, *United States***Interoperability Standards for Adaptive Instructional Systems: Vertical and Horizontal Integrations**KP Thai, Richard Tong, *United States***Standardizing Unstructured Interaction Data In Adaptive Instructional Systems**Vasile Rus, Arthur C. Graesser, Xiangen Hu, Jody Cockroft, *United States*

**SPECIAL SESSION ON**

**"SEVEN HCI GRAND CHALLENGES"**

**Monday, 29 July 2019**

**16:00 - 18:00**

Chair(s): Constantine Stephanidis, University of Crete / Foundation for Research & Technology - Hellas (FORTH), *Greece*

Room: **ASIA 4**

- **Introduction**  
Gavriel Salvendy, University of Central Florida, *United States*
- **Human-Technology Symbiosis**  
Norbert Streitz, Smart Future Initiative, *Germany*
- **Human-Environment Interactions**  
Yinni Guo, Google, *United States*
- **Ethics, Privacy and Security**  
Fiona Fui-Hoon Nah, Missouri University of Science and Technology, *United States*
- **Well-being, Health and Eudaimonia**  
Pei-Luen Patrick Rau, Tsinghua University, *P.R. China*
- **Accessibility and Universal Access**  
Margherita Antona, Foundation for Research & Technology - Hellas (FORTH), *Greece*
- **Learning and Creativity**  
Xiaowen Fang, DePaul University, *United States*
- **Social Organization and Democracy**  
Masaaki Kurosu, The Open University of Japan, *Japan*
- **Conclusions**  
Constantine Stephanidis, University of Crete / Foundation for Research & Technology - Hellas (FORTH), *Greece*

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Stephanidis, C., Salvendy, G., et al. (2019). **Seven HCI Grand Challenges**. International Journal of Human-Computer Interaction, 35(14), 1229-1269. DOI: 10.1080/10447318.2019.1619259. Open Access article: <https://www.tandfonline.com/doi/full/10.1080/10447318.2019.1619259>

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**HCI S089**

**Elderly Kansei Issues of Interaction Design**

Chair(s): Kuohsiang Chen, *P.R. China*; Szu-Chi Chen, *Australia*

Room: **NORTHERN A3**

**A Usability Evaluation of Diabetes Mobile Applications**

Meng-Hsueh Hsieh, Yu-Ching Chen, Chun-Heng Ho, *Taiwan*

**Kansei Engineering for E-commerce Cantonese Porcelain Selection in China**

Yi Ji, Peng Tan, *P.R. China*; Szu-Chi Chen, Henry Been- Lirn Duh, *Australia*

**Emotional Design Evaluation Index and Appraisal A Study on Design Practice**

Kuo-Liang Huang, *Taiwan*; Szu-Chi Chen, *Australia*; Hsuan Lin, Yune-Yu Cheng, *Taiwan*

**A Study in Elderly Fashion and Zero Waste Clothing Design**

Feng Tzu Chiu, *P.R. China*

**Research on Kansei Engineering System Establishment for Elderly Product Design**

Min Shi, *P.R. China*

**Design Criteria for Kansei-oriented Elderly Products**

Kuohsiang Chen, *P.R. China*; Ching-Chien Liang, Ya-Hsueh Lee, Jia-Xuan Han, Yu-Chen Lu, *Taiwan*

**An Application of Somatosensory Interaction for 3D Virtual Experiments**

Si Chen, Chenqing Wang, Jianping Huang, *P.R. China*

**S090**

**Kansei Engineering and Emotion Research**

Chair(s): Masaaki Kurosu, *Japan*

Room: **NORTHERN A1**

**A Cross-Cultural Comparison of Perceptions of Cuteness and Kawaii between American and Japanese College Students**

David Berque, Hiroko Chiba, *United States*; Ayako Hashizume, Masaaki Kurosu, *Japan*

**Gender Difference in the Free Association for "Cute" and "Kawaii"**

Ayako Hashizume, Masaaki Kurosu, *Japan*

**Exploring Color-Universal Design Considering Kansei Differences: Color-Vision Types and Impressions of Color Images**

Takashi Sakamoto, Yasuyo Ichihara, *Japan*

**The Semiotics of Toilet Signs**

VJun Iio, *Japan*

**Can UX Over Time Be Reliably Evaluated? - Verifying the Reliability of ERM -**

Masaaki Kurosu, Ayako Hashizume, *Japan*

**S091**

**Usability and User Experience**

Chair(s): To be announced

Room: **NORTHERN A2**

**User experience and perceived usability of traditional and multimodal interfaces for scientific information seeking**

Patrik Pluchino, Luciano Gamberini, *Italy*; Giulio Jacucci, *Finland*

**The Relationship between Technology Self-Efficacy Beliefs and User Satisfaction – User Experience Perspective**

Hasna Agourram, Juliana Alvarez, Sylvain Senecal, Sylvie Lachize, Julie Gagné, Pierre-Majorique Léger, *Canada*

**Improve Cutting Skill According to Skill and Difficulty Level**

Takafumi Higashi, Hideaki Kanai, *Japan*

**Comparative Review of Research on Health Information Technology in Biomedical Informatics and Human-Computer Interaction**

Sunyoung Kim, *United States*

**Tool UTAUT applied to measure interaction experience with NAO Robot**

Adrián Vega, Kryscia Ramírez-Benavides, Luis Guerrero, *Costa Rica*

**Exploring Methods and Guidelines for Child-Computer Interaction Research with Refugee Children**

Rabail Tahir, Alf Inge Wang, *Norway*

**HIMI S092**

**Relationality Design and Relationality-oriented Systems - I**

Chair(s): Katsunori Shimohara, *Japan*

Room: **OCEANIC 4**

**Model-based Multi-Objective Reinforcement Learning with Unknown Weights**

Tomohiro Yamaguchi, Shota Nagahama, Yoshihiro Ichikawa, Keiki Takadama, *Japan*

**How to Design Adaptable Agents to Obtain a Consensus with Omoiyari**

Yoshimiki Maekawa, Fumito Uwano, Eiki Kitajima, Keiki Takadama, *Japan*

**Nursing Care Support System for Caregiver and Older Adults**

Madoka Takahara, Kakiha Nakamura, Fanwei Huang, Ivan Tanev, Katsunori Shimohara, *Japan*

**Distributed Constraint Satisfaction Among Android Devices**

Konatsu Tagawa, Sugru Ueda, *Japan*

**Estimating Timing of Head Movements Based on the Volume and Pitch of Speech**

Haruka Yanagi, Chika Oshima, Koichi Nakayama, *Japan*

**Relationship between difference of motivation and behavior change caused by visualization**

Yurika Shiozu, Koya Kimura, Ryo Shioya, Katsunori Shimohara, Katsuhiko Yonezaki, *Japan*



**EPCE S093**

**Human Factors and Ergonomics in Safety-critical Systems**

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

Room: **EUROPE 4**

**Modeling of Operator Performance for Human-in-the-loop Power Systems**

Wan-Lin Hu, Claudio Rivetta, Erin MacDonald, David P. Chassin, *United States*

**Spatial ability in military human-robot interaction: A state-of-the-art assessment**

Maartje Hidalgo, Lauren Reinerman-Jones, Daniel Barber, *United States*

**Analysis of Key Cognitive Factors in Space Teleoperation Task**

Junpeng Guo, Yuqing Liu, Xiangjie Kong, Shihua Zhou, Jin Yang, *P.R. China*

**UAHCI S094**

**Interaction techniques and technologies supporting user diversity**

Chair(s): Frode Eika Sandnes, *Norway*

Room: **ASIA 2**

**On Online Banking Authentication for all: A Comparison of BankID Login Efficiency using Smartphones versus Code Generators**

Ellen Opsahl Vinbæk, Frida Margrethe Borge Pettersen, Jonas Ege Carlsen, Karl Fremstad, Nikolai Edvinsen, Frode Eika Sandnes, *Norway*

**A Fitts' Law Evaluation of Hands-free and Hands-on Input on a Laptop Computer**

Mehedi Hassan, Canada; John Magee, *United States*; I. Scott MacKenzie, *Canada*

**From UX to Engagement: Connecting Theory and Practice, Addressing Ethics and Diversity**

Ole Goethe, *Norway*; Kavous Salehzadeh Niksirat, *Switzerland*; Ilyena Hirschy-Douglas, *Finland*; Huatong Sun, *United States*; Effie Law, *United Kingdom*; Xiangshi Ren, *Japan*

**Information Technology based Usable Ballot Interface Design for Persons with Visual Impairment in Sri Lanka**

Madhuka De Silva, Thushani Weerasinghe, Kapila Dias, *Sri Lanka*

**Feel Autism VR – Adding Tactile Feedback to a VR Experience**

Foad Haddad, Alexiei Dingli, Luca Bondin, *Malta*

**VAMR S095**

**User experience in VAMR**

Chair(s): To be announced

Room: **SOUTHERN V**

**Quality of Experience Comparison between Binocular and Monocular Augmented Reality Display under Various Occlusion Conditions for Manipulation Tasks with Virtual Instructions**

Ming Qian, John Nicholson, Erin Wang, *United States*

**The Effect of Onomatopoeia to Enhancing User Experience in Virtual Reality**

Jiwon Oh, Gerard J. Kim, *Korea*

**Explorations in AR: Finding Its Value**

Mauricio Gomes De Sá Ribeiro, Isabel Lafuente Mazuecos, Fabiano Marinho, Alice Neves Gomes dos Santos, *Brazil*

**A New Practice Method based on KNN Model to Improve User Experience for an AR Piano Learning System**

Hong Zeng, Xingxi He, Honghu Pan, *P.R. China*

**Presence, Immersion and Usability of Mobile Augmented Reality**

Hyeonah Choi, Youngwon Ryan Kim, Gerard J. Kim, *Korea*

**Human-Robot Interaction During Virtual Reality Mediated Teleoperation: How Environment Information Affects Spatial Task Performance and Operator Situation Awareness**

David B. Van de Merwe, Leendert Van Maanen, Frank B. Ter Haar, Roelof J.E. Van Dijk, Nirul Hoeba, Nanda Van der Stap, *Netherlands*

**S096**

**PANEL: Real-Time Facial and Body Tracking**

Chair(s): Tamara Griffith, *United States*

Room: **SOUTHERN IV**

**Introduction to the Panel on Real-Time Avatar Control (Puppeteering)**

Tamara Griffith, *United States*

**Further progress in real-time motion capture on a budget**

Tabitha Dwyer, *United States*

**Inhabiting AI-driven avatars to enhance social effectiveness**

Arjun Nagendran, *United States*

**In the mind of the beholder: The effect of beliefs about agency on responses to avatars**

Gale Lucas, *United States*

**Developing a training simulation for cyber at the tactical level using VBS, Puppeteering, & GiFT**

James Ness, *United States*

**Exploring the utility of virtual simulation and body tracking for the training of DoD Equal opportunity professionals**

Christopher D. Rodeheffer, *United States*



CCD S097

**User Behavior Research**

Chair(s): Hsiu-Ping Yueh, *Taiwan*

Room: **ASIA 5**

**The Classification of Different Situations in a Lecture Based on Students' Observed Postures**

Yuki Kotakehara, Koh Kakusho, Satoshi Nishiguchi, Masaaki Iiyama, Masayuki Murakami, *Japan*

**Collaborate or Compete? How Will Multiplayers' Interaction Affect Their Learning Performance in Serious Games**

Jui-Ying Wang, Weijane Lin, Hsiu-Ping Yueh, *Taiwan*

**How Learners with Different Cognitive Styles Read Learning Materials with Text and Pictures: A Gaze Analysis**

Koh Kakusho, Fumiaki Takase, Masayuki Murakami, *Japan*; Weijane Lin, Hsiu-Ping Yueh, *Taiwan*

**Inferring Human Feelings & Desires for Human-Robot Trust Promotion**

Xingzhi Guo, Yu-Cian Huang, Edwinn Gamborino, Shih-Huan Tseng, Li-Chen Fu, Su-Ling Yeh, *Taiwan*

**Xingzhi Guo, Yu-Cian Huang, Edwinn Gamborino, Shih-Huan Tseng, Li-Chen Fu, Su-Ling Yeh, Taiwan**

Huang Zhang, *P.R. China*; Li Zhang, *United States*

SCSM S098

**Customer eXperience and Behavior**

Chair(s): Cristian Rusu, Silvana Roncagliolo, *Chile*

Room: **ASIA 4**

**On-line Travel Agencies' Usability: Evaluator eXperience**

Virginica Rusu, Cristian Rusu, Daniela Quiñones, *Chile*; Federico Botella, *Spain*; Silvana Roncagliolo, Virginia Zaraza Rusu, *Chile*

**How "Friendly" Integrated Development Environments are?**

Jenny Morales, *Chile*; Federico Botella, *Spain*; Cristian Rusu, Daniela Quiñones, *Chile*

**Evaluating the McKinsey's Choices Framework: a Chilean Experiment of Online Customers**

Jaime Díaz, *Chile*; Angela Patricia Villareal-Freire, Andrés Felipe Aguirre, *Colombia*; Freddy Paz Espinoza, *Peru*

**Study Case of an Adaptive Educational Tool Oriented to University Students for an Object Orientation Course**

Ninozka Gonzalez, Claudio Cubillos, Silvana Roncagliolo, Rafael Mellado, *Chile*

**What Health Information are Consumers Seeking? A Comparison between two types of Online Q&A Sites**

Ashwag Alasmari, Lina Zhou, *United States*

AC S099

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

Chair(s): Christian Wagner, Ayong Suh, *Hong Kong*

Room: **EUROPE 1**

**Deriving Features for Designing Ambient Media**

Kota Gushima, Shuma Toyama, Yukiko Kinoshita, Tatsuo Nakajima, *Japan*

**A Study on the Development of The Psychological Assessment A Using Eye-tracking: Focused on Eye Gaze Processing of Literacy Text**

Joon Hyun Jeon, *Korea*; Gyoung Kim, *United States*; Jeong Ae Kim, *Korea*

**Towards Hybrid Multimodal Brain Computer Interface for Robotic Arm Command**

Cristian-Cezar Postelnicu, Florin Girbacia, Gheorghe-Daniel Voinea, Razvan Boboc, *Romania*

**Processing Racial Stereotypes in Virtual Reality: An Exploratory Study using Functional Near-Infrared Spectroscopy (fNIRS)**

Gyoung Kim, Noah Buntain, Leanne Hirshfield, Mark Costa, Makana Chock, *United States*

DHM S100

**Models for Human-Algorithm Interaction**

Chair(s): André Calero Valdez, *Germany*

Room: **OCEANIC 8**

**Bubble trouble: Strategies against filter bubbles in online social networks**

Laura Burbach, Patrick Halbach, Martina Zieffle, André Calero Valdez, *Germany*

**Follow Me: The impact of opinion majorities in social networks and the role of digital maturity**

Patrick Halbach, Laura Burbach, Martina Zieffle, André Calero Valdez, *Germany*

**Aiding Episodic Memory in Lifelog System Focusing on User Status**

Xin Ye, Jiro Tanaka, *Japan*

**Using Computer Simulation for Reducing the Appointment Lead-time in a Public Pediatric Outpatient Department**

Miguel Ortiz-Barrios, Genett Jimenez Delgado, *Colombia*; Sally McClean, *United Kingdom*; Giselle Polifroni-Avenida, *Colombia*

**Design and Validation of a Tremor Stabilizing Handle for Patients with Parkinson Disease and Essential Tremor**

Nandan Sarkar, Zhaobo Zheng, *United States*



**DUXU S101**

**User Experience and Usability Driven Design: Emerging Theory and Practice - I**

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

Room: **SOUTHERN III**

**Making Meaning: How Experience Design Supports Data Commercialization**

Manhai Li, Xiangyang Xin, Xiong Ding, *P.R. China*

**New Intelligent Information Technology-assisted Design Innovation Entrepreneurship Course Potential for User Experience Economy in China**

Zhen Liu, Zhichao Liu, Ruiqiu Zhang, Minfang Shen, *P.R. China*

**Analysis of One-person Households who is Young's Characteristics in Combination with Social Experience from the Perspectives of Interaction Process in Product Use, Social Situation and Public Space**

Tongtong Zhao, Zhen Liu, *P.R. China*

**Experience Design for University Students' Domestic Waste Management Based on Usability Analysis**

Qin Luo, Ruiqiu Zhang, Zhen Liu, *P.R. China*

**Investigation on the Current Status of Qingdao's Li House and Countermeasures for the Reconstruction of Li House Area for Service Design**

Wei Xiong, Yun Yang, Xiaoqing Yu, *P.R. China*

**S102**

**User experience of culture**

Chair(s): Francisco De Paula Barretto, *Brazil*

Room: **SOUTHERN II**

**Affective Computational Interfaces**

Suzete Venturelli, Artur Cabral Reis, Gabriela Mutti, Nycacia Delmondes Florindo, Prahada Hargreaves, Rodolfo Ward Oliveira, Tainá Luize Martins, *Brazil*

**From The Museum-Temple to The Museum-Interface: A Case Study Of The Virtual Museum Paço Das Artes**

Priscilla Arantes, *Brazil*

**Computational Evolutionary Art: Artificial Life and Effective Complexity**

Tiago Barros Pontes e Silva, *Brazil*

**Gamification in Local Intangible Cultural Heritage Museums for Children: A Case Design**

Yuchen Weng, Tao Shen, Sihuang Chen, Bing Xiao, *P.R. China*

**Design and Research of Museum Matching Digital Application Based on Exhibition Content and User Demand**

Dai Luo, XiangCheng Wei, Le Chang, *P.R. China*

**Multimedia Exhibition Design: Exploring Intersections Among Storytelling, Usability and User Experience on an Interactive Large Wall Screen**

Danielle Behrens, Erika Espinoza, Darby Siscoe, Jennifer Palilonis, *United States*

**DAPI S103**

**Computing with and for the Senses**

Chair(s): Yasmine Abbas, Felecia Davis, *United States*

Room: **EUROPE 5**

**Engaging with sense of smell through textile interactions**

Jyoti Kapur, *Sweden*

**MOVEMENT AWARENESS: an analysis of the GESTURES installation game**

Andrew Hieronymi, *United States*

**Design Techniques of Ambient Media Advertisements and Message Comprehension**

Yen Hsu, Chia-Jung Lee, Pei-Ying Yang, *Taiwan*

**Sensing creatures: tools for augmenting our sensory awareness of space**

Athina Papadopoulou, *United States*

**HCIBGO S104**

**Mixed Methods for Intelligent Data Analysis**

Chair(s): I-Chin Wu, Pei-Hsuan Hsieh, *Taiwan*

Room: **NORTHERN A4**

**An Improved Grey Multivariable Verhulst Model for Predicting CO2 Emissions in China**

Yi-Chung Hu, *Taiwan*; Hang Jiang, Peng Jiang, Peiyi Kong, *P.R. China*

**A Study of Models for Forecasting E-Commerce Sales During a Price War in the Medical Product Industry**

Pei-Hsuan Hsieh, *Taiwan*

**Upstream, Downstream or Competitor? Detecting Company Relations for Commercial Activities**

Yi-Pei Chen, Ting-Lun Hsu, Wen-Kai Chung, Shih-Chieh Dai, Lun-Wei Ku, *Taiwan*

**Key Success Factors Analysis of Integration of O2O into 7-Eleven Convenient Store**

Chung-Chi Kao, Che-Hung Liu, Yang-Ming Lu, Chia-Fen Hsien, *Taiwan*

**A Storm in a Teacup?: on the Necessity/Difficulty of Establishing a National Taiwanese Opera Troupe in Taiwan**

Shin-yi Lee, *Taiwan*

**Using Big Data Analytics and Visualization to Create IoT-enabled Science Park Smart Governance Platform**

Hsiao-Fang Yang, Chia-Hou Kay Chen, Kuei-Ling Belinda Chen, *Taiwan*



## LCT S105

### Wearable Technologies for Learning and Collaboration

Chair(s): Ilona Buchem, *Germany*

Room: **OCEANIC 2**

#### Immersive Community Analytics for Wearable Enhanced Learning

Ralf Klammer, Rizwan Ali, István Koren, *Germany*

#### Toward Improving Situation Awareness and Team Coordination in Emergency Response with Sensor and Video Data Streams

Samantha Dubrow, Brenda Bannan, *United States*

#### Wearable Technologies in Education: a Design Space

Vivian Genaro Motti, *United States*

#### Design Principles for Wearable Enhanced Embodied Learning of Movement

Ilona Buchem, *Germany*

#### Requirements for Wearable Technologies to Promote Adherence to Physical Activity Programs for Older Adults

Robert Klebbe, Anika Steinert, Ilona Buchem, Ursula Müller-Werdan, *Germany*

#### Designing a Multimodal Analytics System to Improve Emergency Response Training

Hemant Purohit, Samantha Dubrow, Brenda Bannan, *United States*

## ITAP S106

### Digital gaming among older populations

Chair(s): Eugene Loos, *Netherlands*; David Kaufman, *Canada*

Room: **OCEANIC 1**

#### Motivational Affordances for Older Adults' Physical Activity Technology: An Expert Evaluation

Dennis L. Kappen, Pejman Mirza-Babaei, Lennart E. Nacke, *Canada*

#### Older Adults' Perceptions of Video Game Training in the Intervention Comparative Effectiveness for Adult Cognitive Training (ICE-ACT) Clinical Trial: An Exploratory Analysis

Ronald Andringa, Erin Harell, Michael Dieciuc, Walter Boot, *United States*

#### Digital Gaming by Older Adults: Can it Enhance Social Connectedness?

David Kaufman, Louise Sauve, *Canada*

#### Age Stereotyping in the game context: Introducing the game-ageism and age-gameism phenomena

Liliana Vale Costa, Ana Isabel Veloso, *Portugal*; Eugene Loos, *Netherlands*

#### Older Adults' Perceptions about Commercially Available Xbox Kinect Exergames

Julija Jeremic, Fan Zhang, David Kaufman, *Canada*

#### "Pillow Fight" Board Game Design

Chor-Kheng Lim, *Taiwan*

## HCI-CPT S107

### Privacy issues and user awareness

Chair(s): Aarathi Prasad, *United States*

Room: **OCEANIC 6**

#### Privacy Preserving System for Real-time Enriched-Integrated Service with Feedback to Providers

Kaisei Kajita, Kazuto Ogawa, Go Ohtake, *Japan*

#### Reciprocities or Incentives? Understanding Privacy Intrusion Perspectives and Sharing Behaviors

Ala Sarah Alaqra, Erik Wästlund, *Sweden*

#### Understanding Parents' Concerns with Smart Device Usage in the Home

Aarathi Prasad, Ruben Ruiz, Timothy Stablein, *United States*

#### Privacy Preservation for Versatile Pay-TV Services

Kazuto Ogawa, Koji Nuida, *Japan*

#### The Automatic Detection of Sensitive Data in Smart Homes

Mahsa Keshavarz, Mohd Anwar, *United States*

## HCI-Games S108

### Playfull Experiences: Design and Impact

Chair(s): Daniel Riha, *Czech Republic*

Room: **EUROPE 2**

#### The Strategic Use of Smartphone Features to Create a Gaming Experience of Mystery: The Mind Alone Case

Vicente Martin Mastrocola, *Brazil*

#### "Who's texting?" – Playful Game Experiences for Learning to Cope with Online Risks

Tarja Susi, Niklas Torstensson, *Sweden*

#### How a Tangible User Interface Contributes to Desired Learning Outcomes of the Virtual River Serious Game

Robert-Jan Den Haan, Jelle Van Dijk, Fedor Baart, Mascha Van der Voort, Suzanne Hulscher, *Netherlands*

#### Fostering Interactivity through Analogue Principles Applicable to Design of Virtual Reality Games

Jaroslav Vancat, Daniel Riha, *Czech Republic*

#### To the Mun: Kerbal Space Program as playful, educational experience

Stephen Mallory, *United States*

#### Who is at the Center?: Designing Playful Experiences by Using Player-Centered Approach

Cenk Köknar, *United States*



**MobiTAS S109**

**Gender Equality and Smart Mobility**

Chair(s): Lena Levin, *Sweden*

Room: **EUROPE 3**

**Gender Issues in the Digitalized 'Smart' Mobility World – Conceptualization and Empirical Findings Applying a Mixed Methods Approach**

Barbara Lenz, Viktoriya Kolarova, Kerstin Stark, *Germany*

**User Centred Design of a Knowledge Repository to Support Gender Smart Mobility**

Cathleen Schöne, Sebastian Spundflasch, Heidi Krömker, *Germany*

**Smart Biking as Gendered Innovations? The case of Mobike in China**

Hilda Roemer Christensen, *Denmark*

**How to Integrate Gender Equality in the Future of "Smart" Mobility: A Matter for a Changing Planning Practice**

Lena Levin, *Sweden*

**AIS S110**

**Dialogue-based Adaptive Instructional Systems**

Chair(s): Xiangen Hu, *United States*

Room: **ASIA 3**

**A Conversation-based Intelligent Tutoring System Benefits Adult Readers with Low Literacy Skills**

Ying Fang, Anne Lippert, Zhiqiang Cai, Xiangen Hu, Arthur C. Graesser, *United States*

**Authoring Conversational Intelligent Tutoring Systems**

Zhiqiang Cai, Xiangen Hu, Arthur C. Graesser, *United States*

**Using learning analytics to explore the performance of Chinese mathematical intelligent tutoring system**

Bor-Chen Kuo, Chia-Hua Lin, Kai-Chih Pai, Shu-Chuan Shih, Chen-Huei Liao, *Taiwan*

**Conversational AIS as the Cornerstone of Hybrid Tutors**

Andrew J. Hampton, Lijia Wang, *United States*

**NOTES**



HCI

S111

**Writing Off the Page: Perspectives of E-lit, Interactive Fiction and Transmedia Storytelling**

Chair(s): Andréa Catropa da Silva, *Brazil*

Room: **NORTHERN A1**

**Desertesejo (2000/2014): notes on the restoration process**  
Gilberto Prado, Marcos Cuzziol, *Brazil*

**The Tension Experience - performance in alternate realities**

Dario Mesquita, Sergio Nesteriuk, Joao Carlos Massarolo, *Brazil*

**Typography in interactive poetry: Gestures and their contributions to reading multiplicities**

Karine Itao Palos, Gisela Belluzzo De Campos, Andréa Catropa da Silva, *Brazil*

S112

**Design Access in Ergonomics and Interaction**

Chair(s): Fong-Gong Wu, Chien-Hsu Chen, *Taiwan*

Room: **NORTHERN A2**

**ADAPT- The Approach to Accessible and Affordable Housing Solutions for People with Disability and Aging in Place**

Shu-Wen Tzeng, *United States*

**Enhancing Cultural Engagement: A Heuristic Evaluation of World Cultural Heritage Websites**

Yu-Hsiu Hung, Yun-Lun Huang, Chi-Wen Hsieh, *Taiwan*

**The clothing design for the elderly care**

Hsiu Ching Lu, Fong-Gong Wu, Wen-Yu Yang, *Taiwan*; Adam Book, *United States*

**Investigation of the Effect of Letter Labeling Positions on Consecutive Typing on Mobile Devices**

Hsi-Jen Chen, Chia-Ming Kuo, *Taiwan*

**PiChat: Smartphone Application to Expand the Social Network for the Elderly**

Ting-Hui Wu, Bing-Cheng Zhu, *Taiwan*; Elizabeth Wianto, *Indonesia*; Shan-Wen Shih, Yang-Cheng Lin, Chien-Hsu Chen, *Taiwan*

**Using an Eye Tracker to Investigate the Effect of Sticker on LINE APP for Older Adults**

Cheih Ying Chen, *Taiwan*

S113

**HCI in Industry**

Chair(s): To be announced

Room: **NORTHERN A3**

**Participatory Design of System Messages in Petroleum Fields Management Software**

Pedro Alan T. Ramos, Julio Cesar Dos Reis, Antonio Alberto De Souza dos Santos, Denis José Schiozer, *Brazil*

**A Digital Twin-Based Multi-Modal UI Adaptation Framework for Assistance Systems in Industry 4.0**

Klementina Josifovska, Enes Yigitbas, Gregor Engels, *Germany*

**End User Designing of Complex Task Models for Complex control-command systems**

Olga Goubali, Patrick Girard, Laurent Guittet, Alain Bignon, Djamel Kesraoui, Soraya Kesraoui-Mesli, Pascal Berruet, Benjamin Morio, Laurianne Boulhic, *France*

**Applying Co-Creation Principles to Requirement Elicitation in Manufacturing**

Manuel Oliveira, *United Kingdom*; Andrea Bettoni, *Switzerland*; Eva Coscia, *Italy*; Hans Torvatn, *Norway*

**Human-Centered Manufacturing Challenges Affecting European Industry 4.0 Enabling Technologies**

Manuel Oliveira, *United Kingdom*; Emrah Arica, *Norway*; Marta Pinzone, Paola Fantini, Marco Taisch, *Italy*

HIMI

S114

**Relationality Design and Relationality-oriented Systems - II**

Chair(s): Katsunori Shimohara, *Japan*

Room: **OCEANIC 4**

**An investigation of placement of textual and graphical information using human performance and eye tracking data**

Chao Shi, *United States*; Ayala Cohen, *Israel*; Ling Rothrock, *United States*; Tatiana Umansky, *Israel*

**Research of Human-machine Interface Evaluation Based on CogTool**

Lu Wang, Qing Xue, Jia Hao, Hongyan Yu, *P.R. China*

**On the Relationality Assets and Gift-and-Circulation model in Community Problem**

Katsuhiko Yonezaki, Kosuke Ogita, Koya Kimura, Yurika Shiozu, Ryo Shioya, Katsunori Shimohara, *Japan*

**The Creative Power of Collaborative Pairs in Divergent Idea-Generation Task**

Risa Muraya, Noriko Suzuki, Mamiko Sakata, Michiya Yamamoto, *Japan*

**Relationship between Rage Tendency and Body Conditions**

Tetsuya Maeshiro, Miharuru Ino, *Japan*

**Designing Doctor-Patient-Machine System of Systems for Personalized Medicine**

Tetsuya Maeshiro, Yuri Ozawa, *Japan*; Midori Maeshiro, *Brazil*

**EPCE S115**

**Harmonized Interaction with Complex Systems**

Chair(s): Shan Fu, *P.R. China*.

Room: **EUROPE 4**

**Human Operator Authentication Using Limited Voice Data: A Power Grid Dispatcher Instance**

Zheng Wang, Zhen Wang, Yanyu Lu, Shan Fu, *P.R. China*

**Research on Workload-based Prediction and Evaluation Model in Power System**

CaiFang Peng, Zhen Wang, Yanyu Lu, Shan Fu, *P.R. China*

**Study of NASA-TLX and eye blink rates both in flight simulator and flight test**

Yiyuan Zheng, Yuwen Jie, *P.R. China*

**Airworthiness Compliance Criteria in Ergonomic Design of Cursor Control Device for Civil Aircraft**

Lei Wu, Jian Xu, *P.R. China*

**Conceptual modeling of Risk Interactions for Flight Crew Errors in Unmanned Aerial System Operation**

Yi Lu, Huayan Huangfu, Shuguang Zhang, Shan Fu, *P.R. China*

**A Visual Cognition Test-Based Study on the Choice Blindness Persistence: Impacts of Positive Emotion and Picture Similarity**

Huayan Huangfu, Yi Lu, Shan Fu, *P.R. China*

**UAHCI S116**

**Technology-Based Accessibility (TBA) - Access Technologies for Inclusion and Participation**

Chair(s): Jorge Martín-Gutiérrez, *Spain*

Room: **ASIA 2**

**Guideline Definition for the Evaluation of Citizen Experience Using Urban interfaces**

Luis Carlos Aceves Gutiérrez, *Mexico*; Jorge Martín-Gutiérrez, *Spain*; Marta Sylvia Del Rio Guerrez, *Mexico*

**Initiation to Reverse Engineering by using Activities based on Photogrammetry as new Teaching Method in University Technical Studies**

Dolores Parras Burgos, Daniel G. Fernández-Pacheco, Francisco Cavas-Martínez, José Nieto, Francisco J. F. Cañavate, *Spain*

**Preliminary Findings from a Study of an Arabic Accessibility Tool Checker**

Mona Alnahari, Joyram Chakraborty, *United States*  
**Accessibility or Usability of the user interfaces for visually impaired users? A comparative study**  
Kamran Khowaja, Dena Al-Thani, Aboubakr Aqle, Bilikis Banire, *Qatar*

**Gaming Background Influence on VR Performance and Comfort: a Study using Different Navigation Metaphors**

José L. Soler-Domínguez, Carla De-Juan-Ripoll, *Spain*; Jorge D. Camba, *United States*; Manuel Contero, Mariano Alcañiz, *Spain*

**VAMR S117**

**Navigation and teleporting in VAMR**

Chair(s): To be announced

Room: **NORTHERN A4**

**Visual Effects of Turning Point and Travel Direction for Outdoor Navigation using Head-Mounted Display**

Yuji Makimura, Aya Shiraiwa, Masashi Nishiyama, Yoshio Iwai, *Japan*

**Oculus Rift versus HTC Vive: Usability Assessment from a Teleportation Task**

Crystal S. Maraj, Jonathan Hurter, Schuyler Ferrante, Lauren Horde, Jasmine Carter, Sean Murphy, *United States*

**A New Traversal Method for Virtual Reality: Overcoming the Drawbacks of Commonly Accepted Methods**

Karl Smink, Edward Swan II, Daniel W. Carruth, Eli Davis, *United States*

**Scaling Gain and Eyeheight While Locomoting in a Large VE**

Betsy Williams-Sanders, Tom Carr, Gayathri Narasimham, Tim McNamara, John Rieser, Bobby Bodenheimer, *United States*

**Augmented Reality Based Actuated Monitor Manipulation from Dual Point of View**

Ying Ren, Jiro Tanaka, *Japan*

**Augmented Reality for Product Validation: Supporting the Configuration of AR-Based Validation Environments**

Albert Albers, Jonas Reinemann, Joshua Fahl, Tobias Hirschter, *Germany*

**CCD S118**

**Uncovering Research and Design for People of All Ages**

Chair(s): Pei-Lee Teh, *Malaysia*

Room: **ASIA 5**

**Elderly-oriented Design for the Instrument Panel and Central Console of Intelligent Passengercars**

Hao Yang, Ying Zhao, Sida Hou, *P.R. China*

**Integrating Multimodal Learning Analytics and Inclusive Learning Support Systems for People of All Ages**

Kaori Tamura, Min Lu, Shin'ichi Konomi, Kohei Hatano, Miyuki Inaba, Misato Oi, Tsuyoshi Okamoto, Fumiya Okubo, Atsushi Shimada, Jingyun Wang, Masanori Yamada, Yuki Yamada, *Japan*

**User Experience in Older Adults using Tablets for Neuropsychological Tests in Mexico City**

Erika Hernández-Rubio, Amilcar Meneses Viveros, Laura Muñoz-Salazar, *Mexico*

**What Do Users Like About Smart Bottle? Insights for Designers**

Zhuo Poh, Chun Yong Chong, Pei-Lee Teh, Saramma Joseph, Shaun Lee Wen Huey, Narayanan Ramakrishnan, Rajendran Parthiban, *Malaysia*

**User requirements gathering in mHealth: Perspective from Ghanaian end users**

Eric Owusu, Joyram Chakraborty, *United States*

**A study on the auditory-visual fatigue classification validation based on the working memory task**

Xin Wang, Zhen Liao, Jin Liang, Zhiqiang Tian, Tuoyang Zhou, Shuang Liu, Lei Liu, Chi Zhang, Zhanshuo Zhang, *P.R. China*



**SCSM S119**

**HCI in MIS**

Chair(s): Scott McCoy, Eleanor Loiacono, *United States*

Room: **ASIA 4**

**Information Technology Adoption and Governance: A Focus on Small and Medium Sized Firms in Cuba**

José Díaz, *Cuba*; Scott McCoy, *United States*

**The State of the Awareness of Web Accessibility Guidelines of Student Website and App Developers**

Shiya Cao, Eleanor Loiacono, *United States*

**Netflix, who is watching now?**

Cristóbal Fernandez-Robin, *Chile*; Scott McCoy, *United States*; Diego Yáñez, Rodrigo Hernandez-Sarpi, *Chile*

**To GIF or Not to GIF, That is the Question: A Cultural Approach to Non-Textual Communication**

Brian Jones, Nathan Johnson, *United States*

**From the Street to the Tweet: Applying Task Technology Fit to Examine the Information Technology Role in Revolutionizing Social Movements**

Fadi Almazyad, Eleanor Loiacono, *United States*

**AC S120**

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

Chair(s): Christian Wagner, Ayoung Suh, *Hong Kong*

Room: **EUROPE 1**

**The Impact of Game Peripherals on the Gamer Experience and Performance**

Xiaobo Ke, *P.R. China*; Christian Wagner, *Hong Kong*

**Cognitive Profiles and Education of Female Cyber Defence Operators**

Ricardo Lugo, *Norway*; Andrea Firth-Clark, *United Kingdom*; Benjamin Knox, Øyvind Jøsok, Kirsi Helkala, Stefan Sütterlin, *Norway*

**Holographic and Related Technologies for Medical Simulation**

Christine Allen, Sasha Willis, Claudia Hernandez, Andrew Wismer, Brian Goldiez, Grace Teo, Lauren Reinerman-Jones, Mark Mazzeo, Matthew Hackett, *United States*

**FUNii : The Physio-Behavioural Adaptive Video Game**

Alexis Fortin-Côté, Nicolas Beaudoin-Gagnon, Cindy Chamberland, Frédéric Desbiens, Ludovic Lefebvre, Jérémy Bergeron, Alexandre Campeau-Lecours, Sébastien Tremblay, Philip Jackson, *Canada*

**DHM S121**

**Human modeling for nursing and medical art**

Chair(s): Akihiko Goto, *Japan*

Room: **OCEANIC 8**

**"Memes" UX-Design methodology based on cognitive science regarding Instrumental Activities of Daily Living**

Hiroyuki Nishimoto, Tomoyoshi Koyanagi, Makoto Sarata, Ayae Kinoshita, Mitsukazu Okuda, *Japan*

**Effect of Selective Training Device in the Mono-Articular Muscle of Lower Limbs**

Takashi Yoshikawa, Ryuga Sadaoka, Tadashi Akehi, Tomonori Inoue, Yuichi Suzuki, Takamasa Omori, *Japan*

**Evaluation of the advising doctor for operating of medical student by laparoscopic surgery simulator**

Kazuaki Yamashiro, Koichiro Murakami, Hisanori Shiomi, Akihiko Goto, *Japan*

**Design Method of 3D-Printable Ergonomically Personalized Stabilizer**

Ryota Kawamura, Kazuki Takazawa, Kenta Yamamoto, Yoichi Ochiai, *Japan*

**DUXU S122**

**New Approaches of Research on User Experience Design**

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

Room: **SOUTHERN V**

**A Study of Emotional Communication of Emoticon Based on Russell's Circumplex Model of Affect**

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

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

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

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

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

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

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

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

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

**DUXU S123**

**DUXU practice in organizations**

Chair(s): To be announced

Room: **SOUTHERN II**

**The Purpose Quadrant: A Collaborative Workshop Method to Brand UX Teams and Raise their Reputation in Organizations**

Alexandra Matz, Anja Laufer, Germany

**Overcoming Organizational Barriers to the Integration of UX Methods in Software Development: a Case Study**

Vincent Kervyn de Meerendré, Luka Rukonić, Suzanne Kieffer, Belgium

**Measuring UX Capability and Maturity in Organizations**

Luka Rukonić, Vincent Kervyn de Meerendré, Suzanne Kieffer, Belgium

**A User Study to Examine the Different Approaches in the Computer-aided Design Process**

Chen Guo, Yingjie Victor Chen, Zhenyu Cheryl Qian, United States

**Interacting with Intelligent Digital Twins**

Alexiei Dingli, Foad Haddod, Malta

**S124**

**User experience and user behavior**

Chair(s): To be announced

Room: **SOUTHERN IV**

**Investigating the Relationship between Connection, Agency and Autonomy for Controlling a Robot Arm for Remote Social Physical Interaction**

Ryuya Sato, Japan; Don Kimber, United States; Yanxia Zhang, P.R. China

**Evaluating the User Experience: A Study on Children's interaction with Socio-enactive Artifacts in a Hospital Context**

Camilla V.L.T. Brennand, Celso A.R.L. Brennand, Vanessa Regina Margareth Lima Maieke, José Vanderlei Da Silva, M. Cecilia C. Baranauskas, Brazil

**The Application of "Emotion Retrospection" in the Design of Museum Cultural Creative Products**

Liu Yang, Wei Yu, Sijia Jiang, Siyu Jia, P.R. China

**S125**

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

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

Room: **SOUTHERN III**

**Creating Enhanced User Experience Through Persona and Interactive Design: A Case of Designing A Motion Sensing Game**

Gui Zhang, P.R. China

**The Potential Impact of Depression User Spatial Experience on Emotional Management: A Case of High School in Greater Bay Area, China**

Chang Yang, Zhen Liu, P.R. China

**Usability Experiment of Waste Materials in Pulp Design**

Yan Wang, Xuanxuan Zhou, Zhenan Li, Feiran Zhu, P.R. China

**A Study of Usability Design of Baren Products**

Ke Zhang, Xiaoli Dong, P.R. China

**Research on Design Model of Human-Machine Interface of Automatic Driving Takeover System Based on User Experience**

Lijun Jiang, P.R. China; Xiu Wang, Hong Kong; Zhelin Li, Yu Zhang, P.R. China

**DAPI S126**

**Social IoT and digital media**

Chair(s): Jun Hu, Netherlands

Room: **EUROPE 5**

**AquaBot: An Interactive System for Digital Water Play**

Lijuan Liu, Cheng Yao, Yuyu Lin, Yang Chen, Ziyu Liu, Fangtian Ying, P.R. China

**Take a photo for my story: social connectedness for the elderly**

Xu Lin, Xuechen Liu, Matthias Rauterberg, Jun Hu, Netherlands

**Supporting Weight Loss through Digitally-augmented Social Expression**

Nan Yang, Gerbrand Van Hout, Loe Feijs, Netherlands; Wei Chen, P.R. China; Jun Hu, Netherlands

Distributed, Ambient and Pervasive Interactions

TUESDAY 10:30 - 12:30



**HCIBGO S127**

**E-Commerce**

Chair(s): Andrea Mueller, *Germany*

Room: **ASIA 3**

**Presenting Your Products in Virtual Reality: Do Not Underestimate Cybersickness**

Kai Israel, Christopher Zerres, Dieter Tscheulin, Lea Buchweitz, Oliver Korn, *Germany*

**Avoiding Mistakes in Medical High-Tech Treatments and E-Commerce Applications – a Salutary UX-Research Innovation**

Christina Miclau, Oliver Gast, Julius Hertel, Anja Wittmann, Achim Hornecker, Andrea Mueller, *Germany*

**Hidden Champions: A Study on Recruiting Top-Level Staff in Rural Areas**

Andrea Mueller, Alexander Feldberger, Christina Miclau, Philipp Koch, Lena Walter, Sarah Feige, Nicolas Schmidt, Moritz Neth, Oliver Korn, *Germany*

**Next Level Service Performance - Intelligent Order Assistants in Automotive After Market**

Joachim Reiter, Andrea Mueller, Uwe Hartmann, Michael Daniel Schatz, Larissa Greschuchna, *Germany*

**Exploring Relationships between e-Tailing Website Quality and Purchase Intention**

Hibah Khalil, Karthikeyan Umapathy, Lakshmi C. Goel, Sandeep Reddivari, *United States*

**LCT S128**

**Human-centered Aspects Of Digital Learning Environments**

Chair(s): Nicholas H. Müller, *Germany*

Room: **OCEANIC 2**

**Where the user does look when reading phishing mails – An eye-tracking study**

Kevin Pfeffel, Philipp Ulsamer, Nicholas H. Müller, *Germany*

**How E-Learning can Facilitate Information Security Awareness**

Andreas Schütz, Tobias Fertig, Kristin Weber, Nicholas H. Müller, *Germany*

**Measuring the Impact of E-Learning Platforms on Information Security Awareness**

Tobias Fertig, Andreas Schütz, Kristin Weber, Nicholas H. Müller, *Germany*

**Cognitive load levels while learning with or without a pedagogical agent**

Madlen Müller-Wuttke, Nicholas H. Müller, *Germany*

**Indoor Navigation through Storytelling in Virtual Reality**

Philipp Ulsamer, Kevin Pfeffel, Nicholas H. Müller, *Germany*

**User-centered Research and Design of a K-5 Digital Literacy Curriculum**

Jennifer Palilonis, *United States*

**ITAP S129**

**New media use in the everyday life of older people**

Chair(s): Eugene Loos, *Netherlands*; Elizabeth Nichols, *United States*

Room: **OCEANIC 1**

**Capturing the adoption intention and interest in InOvUS an Intelligent Oven: Segmenting senior users to evaluate the technology**

Bessam Abdulrazak, Susan E. Reid, Monica Alas, *Canada*

**An App for Who? An exploration of the use and adoption of mobile ordering applications among aging populations**

Christopher Chagnon, Ryan LaMarche, Soussan Djamasbi, *United States*

**Optimal Designs of Text Input Fields in Mobile Web Surveys for Older Adults**

Elizabeth Nichols, Erica Olmsted-Hawala, Lin Wang, *United States*

**Reappraising the Intellectual Debate on Ageing in a Digital Environment**

Lilia Raycheva, Neli Velinova, *Bulgaria*

**Older People are the Future of Consumption: Great Expectations and Small Starts for Brands and New Media. The French Example**

Karine Berthelot-Guiet, *France*

**HCI-Games S130**

**Games and Cultural Identities**

Chair(s): Daniel Riha, *Czech Republic*

Room: **EUROPE 2**

**Analysis of motivation model using real user data from social games for smartphones extended to social factors based on Maslow's hierarchy of needs**

Masanari Himeno, Shunichi Tano, *Japan*

**Social Spending: An Empirical Study on Peer Pressure and Player Spending in Games**

William Wang, Loutfouz Zaman, *Canada*

**An Innovative Employment of Virtual Humans to Explore the Chess Personalities of Garry Kasparov and Other Class-A Players**

Khaldoon Dhou, *United States*

**Conceptualizing Fidelity for HCI in Applied Gaming**

Heide Lukosch, Stephan Lukosch, *Netherlands*; Simon Hoermann, Robert W. Lindeman, *New Zealand*

**MobiTAS S131**

**Mobility Research - New Methods, Tools and Tactics**

Chair(s): Angelika C. Bullinger, Andre Dettmann, *Germany*

Room: **EUROPE 3**

**User Experience in Real Test Drives with a Camera Based Mirror – Influence of New Technologies on Equipping Rate for Future Vehicles**

Corinna Seidler, Seda Aydogdu, Bernhard Schick, *Germany*

**Trust is Good, Control is Better? – The influence of Head-Up Display on Customer Experience of Automated Lateral Vehicle Control**

Seda Aydogdu, Corinna Seidler, Bernhard Schick, *Germany*

**Do you shift or not? Influence of trajectory behaviour on perceived safety during automated driving on rural roads**

Patrick Rossner, Angelika C. Bullinger, *Germany*

**Monitoring Road Surface Conditions for Bicycles –using Mobile Device Sensor Data from Crowd Sourcing**

Waldemar Titov, Thomas Schlegel, *Germany*

**Understanding the Usefulness and Acceptance of Adaptivity in Smart Public Transport**

Christine Keller, Susann Struwe, Waldemar Titov, Thomas Schlegel, *Germany*

**A Comprehensive Persona Template to Understand Citizens' Mobility Needs**

Svenja Polst, Phil Stüpfert, *Germany*

**AIS S132**

**Diagnostics for AIS Learner Modeling**

Chair(s): Jessica Schwarz, *Germany*

Room: **OCEANIC 6**

**Diagnostic Requirements for Efficient, Adaptive Robotic Surgery Training**

Thomas Witte, *Germany*; Martin Schmettow, Marleen Groenier, *Netherlands*

**Evaluation of Diagnostic Rules for Real-Time Assessment of Mental Workload within a Dynamic Adaptation Framework**

Anna Bruder, Jessica Schwarz, *Germany*

**Eye Blinks Describing the State of the Learner under Uncertainty**

Johanna Renker, Magali Kreutzfeldt, Gerhard Rinkenauer, *Germany*

**The Influence of Gait on Cognitive Functions: Promising Factor for Adapting Systems to the Worker's Need in a Picking Context**

Magali Kreutzfeldt, Johanna Renker, Gerhard Rinkenauer, *Germany*

**Model for Analysis of Personality Traits in Support of Team Recommendation**

Guilherme Oliveira, Rafael Dos Santos Braz, Daniela De Freitas Guilhermino Trindade, Jislaine De Fátima Guilhermino, José Reinaldo Merlin, Ederson Marcos Sgarbi, Carlos Eduardo Ribeiro, Thiago Fernandes De Oliveira, *Brazil*

**NOTES**



**HCI S133**

**Communication Enhancement**

Chair(s): Tomohito Yamamoto, Michiya Yamamoto, *Japan*

Room: **NORTHERN A1**

**Influence of Presence of Operator of Humanoid Robot on Personal Space**

Akihiro Tatsumi, Masashi Okubo, *Japan*

**Development of an Embodied Group Entrainment Response System to Express Interaction-Activated Communication**

Yutaka Ishii, Tomio Watanabe, *Japan*

**Application of Classification Method of Emotional Expression Type Based on Laban Movement Analysis to Design Creation**

Yuki Ono, Saizo Aoyagi, Masashi Sugimoto, Yoichi Yamazaki, Michiya Yamamoto, Noriko Nagata, *Japan*

**Body Movements for Communication in Group Work Classified by Deep Learning**

Hiroaki Sakon, Tomohito Yamamoto, *Japan*

**Experimental Study on Estimation of Opportune Moments for Proactive Voice Information Service Based on Activity Transition for People Living Alone**

Mitsuki Komori, Yuichiro Fujimoto, Jianfeng Xu, Kazuyuki Tasaka, Hiromasa Yanagihara, Kinya Fujita, *Japan*

**Proposal of Using Digital Mirror Signage and AR Pictogram for Follow Me Evacuation Guidance**

Takayoshi Kitamura, Kazumi Yasui, Yoshio Nakatani, *Japan*

**S134**

**Motivation and Persuasion**

Chair(s): To be announced

Room: **NORTHERN A2**

**Emotion and Movement with AppIHC: Promoting Interaction and Socialization among Participants of Scientific Events via Mobile Application**

Aline Tramontin, Ricardo Sohn, Bruna De Oliveira, Roberto Pereira, Isabela Gasparini, *Brazil*

**Redefining Audience Role in Live Performances**

Victor Vasconcelos, Mauro Amazonas, Thais Castro, Rosiane Rodrigues, Hugo Fuks, *Brazil*; Katia Vega, *United States*; Bruno Gadelha, *Brazil*

**Directing a Target Person among Multiple Users using the Motion Effects of an Image-based Avatar**

Tsubasa Miyauchi, Masashi Nishiyama, Yoshio Iwai, *Japan*

**Design of Human-Computer Interaction Products for the user with "Mood Disorder"**

Tingyu Yang, Qian Ji, *P.R. China*

**Gameful Design Heuristics: A Gamification Inspection Tool**

Gustavo Tondello, Dennis L. Kappen, Marim Ganaba, Lennart E. Nacke, *Canada*

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

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

**HIMI S135**

**Improvement in Learning and Educational Environments using ICT**

Chair(s): Takahito Tomoto, Yusuke Kometani, Takako Akakura, *Japan*

Room: **ASIA 4**

**A Facial Authentication Method Robust to Postural Changes in e-Testing**

Masashi Komatsu, Takako Akakura, *Japan*

**Learning support system adapting to multidimensionality of knowledge acquisition process of intellectual property law of engineering students**

Takako Akakura, Takahito Tomoto, Koichiro Kato, *Japan*

**Development of a Promotion System for Home-Based Squat Training for Elderly People**

Yuki Hirasawa, Takuya Ishioka, Naka Gotoda, Kosuke Hirata, Ryota Akagi, *Japan*

**Construction of a Prediction Model for Pharmaceutical Patentability Using Nonlinear SVM**

Kei Miyaoka, Takako Akakura, *Japan*

**Development of "Aruite Mi Mai," a Walking Application for Crime Prevention for Safe and Secure City Development**

Yusuke Kometani, Tomoaki Isono, Tomoki Yabe, Tomoo Okubo, Yuya Takeshita, Rihito Yaegashi, *Japan*

**A Support System for Viewing Lecture Contents Adapted Students Understanding - Study on Question Behavior to Grasp Learner's Understanding Situation -**

Tomoki Yabe, Teruhiko Onoki, Takayuki Kunieda, Yusuke Kometani, Naka Gotoda, Ken'ichi Fujimoto, Toshihiro Hayashi, Rihito Yaegashi, *Japan*

**S136**

**Visual and haptic interactions in Immersive environment**

Chair(s): Kentaro Kotani, *Japan*

Room: **OCEANIC 4**

**Analysis of Differences in the Manner to Move Objects in a Real and Virtual Space**

Yuki Tasaka, Hikaru Ichimaru, Sakae Yamamoto, Makoto Sato, Takehiko Yamaguchi, Tetsuya Harada, *Japan*

**Implementation of Two-Point Control System in SPIDAR-HS for the Rod Tracking Task in Virtual Reality Environment**

Hiroya Suzuki, Ryuki Tsukikawa, Daiji Kobayashi, Makoto Sato, Takehiko Yamaguchi, Tetsuya Harada, *Japan*

**Effect of artificial haptic characteristics on virtual reality performance**

Daiji Kobayashi, Machika Ueda, Koki Hiraoka, Hiroya Suzuki, Ryuki Tsukikawa, Takehiko Yamaguchi, Tetsuya Harada, *Japan*

**Proposal of Redirected Walking Using a Slope Parallel Component of the Slope Gravity**

Takehiko Yamaguchi, Shota Abe, Yukiko Watabe, Sou Shiohara, Hiroya Suzuki, Tetsuya Harada, *Japan*

**Performance evaluation of head motion input used for AR-based communication supporting system during endoscopic surgery**

Takeru Kobayashi, Kentaro Kotani, Satoshi Suzuki, Takafumi Asao, Kazutaka Obama, Atsuhiko Sumii, Tatsuto Nishigori, *Japan*

**Preliminary Investigation of Mechanical Impedance Characteristics during Lane Change Maneuver**

Ryutaro Yasui, Kohei Yamaguchi, Takafumi Asao, Kentaro Kotani, Satoshi Suzuki, *Japan*

**UAHCI S137**

**Urban Life in Smart Cities, Learning Cities, and Future Cities**

Chair(s): H. Patricia McKenna, *Canada*

Room: **ASIA 2**

**Getting Smarter About Data and Access in Smart Cities**

H. Patricia McKenna, *Canada*

**A Place to Discover, Imagine, and Change: Smart Learning with Local Places**

Dalit Levy, Yuval Shafirri, Yael Alef, *Israel*

**A.I. Ethics in the City**

Marc Böhlen, *United States*

**@HOME: exploring the role of Ambient Computing for Older Adults**

Daria Loi, *United States*

**Research on Wearable Shopping Aid Device for Visually Impaired People**

Yu-Hsiu Hung, Chia Hui Feng, Chia-Tzu Lin, Chung-Jen Chen, *Taiwan*

**S138**

**Beyond-Usability: A Call to Action for Designers and Researchers in HCI**

Chair(s): Troy Abel, *United States*

Room: **ASIA 3**

**Teaching Empathy in Underserved Audiences through Game Based Learning**

John Gialanella, Kimberly Mitchell, *United States*

**Beyond Usability: Methodologies and Bias-Surveying the Surveys**

Troy Abel, *United States*

**Disrupting Higher Education: Engaging Design Students in UX Processes to Enhance Innovation in Higher Education**

Debra Satterfield, Tom Tredway, Wesley Woelfel, *United States*

**Resiliency and the Fourth Industrial Revolution Designer: Labor, Identity and Meaning**

Maria Miller, *United States*

**A Disability-oriented Analysis Procedure for Leisure Rehabilitation Product Design**

Ming-Chyuan Lin, Guo-Peng Qui, Xue Hua Zhou, Jing Chen, *P.R. China*

**Expectations and Concerns emerging from Experiences with Assistive Technology for ALS-patients**

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

**VAMR S139**

**Human perception and behavior in VAMR - I**

Chair(s): Jamie Sherman, *United States*

Room: **SOUTHERN V**

**A Face Validation Study for the Investigation of Proteus Effects Targeting Driving Behavior**

Corinna A. Faust-Christmann, René Reinhard, Alexandra Hoffmann, Thomas Lachmann, Gabriele Bleser, *Germany*

**Spatial Perception of Size in a Virtual World**

Pritam Banik, Debarshi Das, *India*; Si Jung Kim, *United States*

**The Effects of Embodiment in Virtual Reality on Implicit Gender Bias**

Stephanie Schulze, Toni Pence, Ned Irvine, Curry Guinn, *United States*

**Virtual Nature: a Psychologically Beneficial Experience**

Laura Herman, Jamie Sherman, *United States*

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

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

**Examination of Presence in Virtual Reality Through Haptic-Delivered Thermal Stimuli**

Tyler Walters, Amanda Rickert, *United States*

**CCD S140**

**Interaction and Experience Design of Smart Product in Different Cultures**

Chair(s): Hao Tan, *P.R. China*

Room: **ASIA 5**

**Scenario-based User Experience Differences of Human-Device Interaction at Different Levels of Proactivity**

Hao Tan, Min Zhu, *P.R. China*

**Advanced Designing Assistant System for Smart Design Based on Product Image Dataset**

Yi Li, Yong Dai, Li-Jun Liu, Hao Tan, *P.R. China*

**A Study on Integrated Design Process of Software and Hardware Interfaces for Automotive Human-Machine Interaction**

Qingshu Zeng, Qijun Duan, *P.R. China*

**A Study on Productive Preservation and Design Innovation of Taoyuan Wood Carving**

Mingxiang Shi, Simin Ren, *P.R. China*

**Research and Extraction on Intelligent Generation Rules of Posters in Graphic Design**

Hao Tan, Biwen Xu, Aiqi Liu, *P.R. China*



**SCSM S141**

**Consumer Behavior from the Viewpoint of Marketing - I**

Chair(s): Kohei Otake, Takashi Namatame, *Japan*

Room: **EUROPE 5**

**Purchase and its sign analysis from customer behaviors using deep convolutional neural networks**

Shintaro Saito, Kohei Otake, Takashi Namatame, *Japan*

**Construction of Support System for Demand Driven Design of Cocktail Recipes by Deep Learning**

Soichiro Ota, Kohei Otake, Takashi Namatame, *Japan*

**Study on the Relationship between Loyalty Program and Consumer Behavior on EC Site**

Yusuke Nakasatomi, Takashi Namatame, Kohei Otake, *Japan*

**Analysis of the Characteristic Behavior of Loyal Customers on a Golf EC Site**

Yue Su, *P.R. China*; Kohei Otake, Takashi Namatame, *Japan*

**Customer Preference and Latent Needs Analysis using Data of TV Viewing and Web Browsing**

An Guo, *P.R. China*; Kohei Otake, Takashi Namatame, *Japan*

**Blockchain Technologies in E-commerce: Social Shopping and Loyalty Program Applications**

Yi Han Lim, Halimin Hashim, Nigel Poo, Danny Chiang Choon Poo, Hoang D. Nguyen, *Singapore*

**AC S142**

**Biomimetic Intelligence: Mathematical Analogies of Animal and Machine Cognition**

Chair(s): Monte Hancock, *United States*

Room: **EUROPE 1**

**A Hierarchical Characterization of Knowledge for Cognition**

Monte Hancock, Jared Stiers, Tyler Higgins, Fiona Swarr, Michael Shrider, Suraj Sood, *United States*

**Geometrically Intuitive Rendering of High-Dimensional Data**

Monte Hancock, Kristy Sproul, Jared Stiers, Benjamin Bowles, Fiona Swarr, Jason Privette, Michael Shrider, Antoinette Hadgis, *United States*

**Visualizing Parameter Spaces of Deep-Learning Machines**

Monte Hancock, Antoinette Hadgis, Benjamin Bowles, Payton Brown, Alexis Wahlid Ahmed, Tyler Higgins, *United States*; Nikki Bernobić, *Croatia*

**Cognitive Dissonance in a Multi-mind Automated Decision System**

Monte Hancock, Antoinette Hadgis, Katy Hancock, Benjamin Bowles, Payton Brown, Tyler Higgins, *United States*

**DHM S143**

**Advanced Applications of Intelligent Systems**

Chair(s): Renran Tian, *United States*

Room: **OCEANIC 8**

**Ambient Intelligence Model for Monitoring, Alerting and Adaptively Recommending Patient's Health-Care Agenda based on User Profile**

Manuel F.J. Patiño, Demetrio A. Ovalle, *Colombia*

**Highway End-of-Queue Alerting System Based on Probe Vehicle Data**

Keyu Ruan, Zahra Yarmand, Renran Tian, Lingxi Li, Yaobin Chen, Feng Li, Jim Sturdevant, *United States*

**Modeling Vehicle-Pedestrian Encountering Risks in the Natural Driving Environment using Machine Learning Algorithms**

Priyanka Gandhi, Xiao Luo, Renran Tian, *United States*

**ECG identification based on PCA and Adaboost algorithm**

Qi Liu, Yujuan Si, Liangliang Li, Di Wang, *P.R. China*

**Homologous Mesh Extraction via Monocular Systems**

Mohamed Fateh Karoui, Thorsten Kuebler, *United States*

**DUXU S144**

**New Requirements of User Experience for Modern Design**

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

Room: **SOUTHERN IV**

**Design for Teaching Surroundings Based on Human-Computer Interaction Techniques**

Feng Wei, *P.R. China*

**Application Experience of Human-Computer Interaction in Educational Management at Colleges and Universities**

Tongtong Li, *P.R. China*

**Human-Computer Interaction Design in Animation Industry**

Xueying Niu, *P.R. China*

**Research on Automatic Fault Diagnosis Technology of IT Equipment Based on Big Data**

Xiaomei Liu, *P.R. China*

**Research on Multimedia Teaching in Universities Under Human-Computer Interaction Environment**

Xiaoyan Niu, *P.R. China*

**The Vision of Human-Computer Interactive Game Platform for the Future of Brain Development and Interaction**

Tingwei Zhao, *Canada*

**Interface design aesthetics in interaction design**

Yan Liu, Qiong Zhang, *P.R. China*

**DUXU S145**

**UX design for AI and Education - I**

Chair(s): Yang Meng, *P.R. China*

Room: **SOUTHERN II**

**How the Cognitive Styles Affect the Immersive Experience: A Study of Video-Watching Experience in VR**

Wei Li, Xiaobo Lu, Yishen Zhang, Huiya Zhao, *P.R. China*

**Designing an Artificial Intelligence Platform to Assist Undergraduate in Art and Design to Develop a Personal Learning Plans**

DanDan Yu, MuRong Ding, WenJing Li, Limin Wang, Bin Liang, *P.R. China*

**The Application of Student Participation in the Design of Virtual Reality Educational Products**

Ziyang Li, Xiandong Cheng, Limin Wang, Hao He, Bin Liang, *P.R. China*

**Gamified Participatory Museum Experience for Future Museums**

Hao He, Ziyang Li, Xiandong Cheng, Jianjun Wu, *P.R. China*

**S146**

**User Experience and Usability Driven Design: Emerging Theory and Practice - III**

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

Room: **SOUTHERN III**

**Study on the usability of residential buildings in traditional villages in southern China from the perspective of human settlements**

Yali Chen, Jiongjiang Yuan, Qi Lu, *P.R. China*

**Design and Application of University Intelligent Learning Environment Centered on Improving User Experience**

Guang Liu, Zejiang Liu, Fang Lu, Qinmei Ye, Zhen Liu, *P.R. China*

**Based on Usability Experience-enhanced Potential Community Transportation Design Study in China: A Case of Kindergarten Bus Stop Design**

Zhen Liu, Wang Kin Ng, *P.R. China*

**A Study of Lingnan Garden's Adaptability to Hot and Humid Climate**

Mingjie Liang, Li Li, *P.R. China*

**Design Research for disability: a case of airport service design**

Yi Liu, Ya Lei Li, *P.R. China*

**HCIBGO S147**

**User Experience and Analytics**

Chair(s): Langtao Chen, *United States*

Room: **EUROPE 4**

**Ad Click Prediction: Learning from Cognitive Style**

Tingting Cha, Shaohua Lian, Chenghong Zhang, *P.R. China*

**Who Borrows Money from Microloan Platform? - Evidence from Campus E-card**

Chenghong Zhang, Shuaiyong Xiao, *P.R. China*; Tian Lu, *United States*; Xianghua Lu, *P.R. China*

**Exploring Errors in Reading a Visualization via Eye Tracking Models using Stochastic Geometry**

Michael Hilgers, Aaron Burke, *United States*

**Soccer Competitiveness using Shots on Target: Data Mining Approach**

Neetu Singh, Apoorva Kanthwal, Prashant Bidhuri, *United States*

**A Classification Framework for Online Social Support Using Deep Learning**

Langtao Chen, *United States*

**Simple Mouse Attribute Analysis**

Jennifer Matthiesen, Michael B. Holte, *Denmark*

HCI in Business, Government and Organizations

**LCT S148**

**Mobile learning and Ubiquitous Technologies for Learning**

Chair(s): Fisnik Dalipi, *Norway*; Katriina Heljakka, *Finland*

Room: **NORTHERN A4**

**Supporting the Teaching and Learning for Subject of Computer Sciences**

Ana Ktona, Anila Papparisto, Alda Kika, Verina Cuka, Denada Çollaku(Xhaja), Jezaina Koroveshi, *Albania*

**Recommender Systems for an Enhanced Mobile e-Learning**

Oswaldo Velez-Langs, Isaac Caicedo-Castro, *Colombia*

**Ready, Steady, Move! Coding Toys, Preschoolers, and Mobile Playful Learning**

Katriina Heljakka, Pirita Ihämäki, *Finland*

**An Analysis of ProjectEdu: A Mobile Learning Application for Software Project Management Education**

Maria Lydia Fioravanti, Raul Donaire Gonçalves Oliveira, Gustavo Martins Nunes Avellar, Camila Dias de Oliveira, Ellen Francine Barbosa, *Brazil*

Learning and Collaboration Technologies



**ITAP S149**

**Research and Practice in Human Factors and Design**

Chair(s): Wang-Chin Tsai, *Taiwan*

Room: **OCEANIC 1**

**Investigating Users' Intention to Use Personal Health Management Services: An Empirical Study in Taiwan**

Wen-Tsung Ku, Pi-Jung Hsieh, *Taiwan*

**Study on Baby Toy Design — from the Perspective of Audio-Visual Human Factors**

Kuo-Liang Huang, Wei Lin, Chia-Chen Lu, *Taiwan*; Yong-Sheng Pi, *P.R. China*

**From "cane" to "sugar": Empowering Taisugar history of digital design with "Interactive Visual Storytelling"**

Yang-Chin Lin, Jui-Yang Kao, Wang-Chin Tsai, *Taiwan*

**Making Packaging Waste Sorting More Intuitive In Fast Food Restaurant**

Yu-Chen Hsieh, Yi-Jui Chen, Wang-Chin Tsai, *Taiwan*

**Objective Approaches on Urban Soundscape Perception in Night Market Pedestrian Street**

Wei Lin, Yi-Ming Wu, Hsuan Lin, Kuo-Liang Huang, *Taiwan*

**S150**

**Activity tracking and exergaming for the elderly**

Chair(s): Toyin Ajisafe, *United States*

Room: **OCEANIC 2**

**The Effect of Familiarity on Older Adults' Engagement in Exergames**

Hao Zhang, Chunyan Miao, Qiong Wu, *Singapore*; Xuehong Tao, *Australia*; Zhiqi Shen, *Singapore*

**The Gamer Types of Seniors and Gamification Strategies toward Physical Activity**

Chia-Ming Kuo, Hsi-Jen Chen, *Taiwan*

**Exergames in Augmented Reality for Older Adults with Hypertension: A Qualitative Study Exploring User Requirements**

Oskar Stamm, Susan Vorweg, Ursula Müller-Werdan, *Germany*

**Predicting Daily Physical Activity Level for Older Adults using Wearable Activity Trackers**

Yaqian Zheng, Junfei Xie, Tri Van Thanh Vo, Byung Cheol Lee, Toyin Ajisafe, *United States*

**A Fingerprinting Trilateration Method FTM for Indoor Positioning and its Performance**

Makio Ishihara, Ryo Kawashima, *Japan*

**HCI-CPT S151**

**Trust and Behavior**

Chair(s): Abbas Moallem, *United States*

Room: **OCEANIC 6**

**An Identification Method of Untrusted Interactive Behavior in ERP System Based on Markov Chain**

Mengyao Xu, Qian Yi, Shuping Yi, Shiquan Xiong, *P.R. China*

**Measuring network user trust via mouse behavior characteristics under different emotions**

Biao Wang, Shiquan Xiong, Shuping Yi, Qian Yi, Fangfei Yan, *P.R. China*

**Trust in Automated Software Repair - The Effects of Repair Source, Transparency, and Programmer Experience on Perceived Trustworthiness and Trust**

Tyler Ryan, Gene Alarcon, Charles Walter, Rose Gamble, Sarah Jessup, August Capiola, Marc Pfahler, *United States*

**Trust in Autonomous Technologies - A contextual comparison of influencing user factors**

Teresa Brell, Hannah Biermann, Ralf Philipsen, Martina Ziefle, *Germany*

**Feasibility Assessment of Cloud SaaS Enabled Collaboration and Information Confidentiality for the Public Accounting Industry**

Lior Baron, Tzipora Halevi, *United States*

**HCI-Games S152**

**Applied Design-Focused Games User Research**

Chair(s): Kevin Keeker, *United States*

Room: **EUROPE 2**

**From Funnel to Megaphone: Three Lessons Learned for Strategic Impact in Applied Research**

Tom Lorusso, *United States*

**Systematic Mixed Methods Approach to Games User Research**

Ahmed Ghoneim, *Canada*

**Leveraging Surveys in Large Playtests**

Elizabeth Schmidlin, *United States*

**Applied Games Usability Research**

John Gekeler, *United States*

**Applied Game Analytics Research**

Peter Sharp, *Canada*

**MobiTAS S153**

**Interacting with Autonomous Vehicles**

Chair(s): Arnd Engeln, *Germany*

Room: **EUROPE 3**

**The Hexagonal Spindle Model for Human Situation Awareness while Autonomous Driving**

Daehee Park, Wanchul Yoon, *Korea*

**Do Drivers Prefer Female Voice for Guidance?**

**An Interaction Design about Information Type and Speaker Gender for Autonomous Driving Car**

Wang Ji, Ruijie Liu, *P.R. China*;  
SeungHee Lee, *Japan*

**Turmoil behind the Automated Wheel - An Embodied Perspective on Current HMI Developments in Partially Automated Vehicles**

Anika Boelhauwer, Jelle Van Dijk,  
Marieke H. Martens, *Netherlands*

**Multimodal Understanding of Passenger-Vehicle Conversations in Autonomous Vehicles**

Eda Okur Kavil, Shachi H Kumar,  
Saurav Sahay, Lama Nachman,  
*United States*

**AIS S154**

**Fundamentals of Adaptive Instructional Systems**

Chair(s): Brandt Dargue, *United States*

Room: **NORTHERN A3**

**Fundamentals, Flavors, and Foibles of Adaptive Instructional Systems**

Paula Durlach, *United States*

**Supporting Human Inspection of Adaptive Instructional Systems**

Diego Zapata-Rivera, *United States*

**Evolving Training Scenarios with Measurable Variance in Learning Effects**

Brandt Dargue, Jeremiah Folsom-Kovarik, John Sanders, *United States*

**Change Your Mind: Game Based AIS can Reform Cognitive Behavior**

Dov Jacobson, Brandt Dargue,  
*United States*

**Leveraging the Science of Teams: Guidance in Building Adaptive Instructions Systems for Teams**

Shawn Burke, *United States*

**Intelligent Tutoring Design Alternatives in a Serious Game**

Elizabeth Whitaker, Ethan Trewwhitt,  
Elizabeth Veinott, *United States*

**NOTES**



HCI	S155
<b>HCI: Theory and History</b>	
Chair(s): Joon Suk Lee, <i>United States</i>	
Room: <b>NORTHERN A2</b>	
<b>Do Humans STILL Have a Monopoly on Creativity or is Creativity Overrated?</b>	
Gregory Cowart, Dane Williamson, Naha Farhat, Joon Suk Lee, <i>United States</i>	
<b>Towards the Ontology of Becoming in Self-Tracking Research</b>	
Harley Bergroth, Jukka Vuorinen, <i>Finland</i>	
<b>A Data-driven Strategic Model of Common Sense in Machine Ethics of Cares</b>	
Wonchul Kim, Keeheon Lee, <i>Korea</i>	
<b>Monetize This? Marketized-Commons Platforms, New Opportunities and Challenges for Collective Action</b>	
Denise Wilkins, Bashar Nuseibeh, Mark Levine, <i>United Kingdom</i>	
<b>Trends and Changes in the field of HCI The Last Decade from the Perspective of HCII Conference</b>	
André Calero Valdez, Martina Ziefle, <i>Germany</i>	

S156
<b>Mobile Interaction</b>
Chair(s): Toshimitsu Tanaka, <i>Japan</i>
Room: <b>NORTHERN A3</b>
<b>G-Menu: A Keyword-by-Gesture based Dynamic Menu Interface for Smartphones</b>
Jean Vanderdonckt, Belgium; Eric Petit, <i>France</i>
<b>The Effect of Progress Indicator Speeds on Users' Time Perceptions and Experience of a Smartphone User Interface</b>
Shasha Li, Chien-Hsiung Chen, <i>Taiwan</i>
<b>Micro Touch Board Specially Designed for SLIT that is the Japanese Character Input Method for Smartwatches</b>
Toshimitsu Tanaka, Koutaro Saka, Kohei Akita, Yuji Sagawa, <i>Japan</i>
<b>Towards a set of design guidelines for multi-device experience</b>
Luis Martín Sánchez Adame, Sonia Mendoza, Amílcar Meneses Viveros, José Rodríguez, <i>Mexico</i>
<b>A Set of Usability Heuristics for Mobile Applications</b>
Ruyther Parente da Costa, Edna Dias Canedo, <i>Brazil</i>

S157
<b>Hand- and Eye-based Gesture Interaction</b>
Chair(s): Munehiro Takimoto, <i>Japan</i>
Room: <b>NORTHERN A1</b>
<b>Eliminating the Pupillary Light Response from Pupil Diameter Measurements using an RGB camera</b>
Sudarat Tangnimitchok, Nonnarit O-larnnithipong, Neeranut Ratchatanantakit, Armando Barreto, <i>United States</i>
<b>Evaluation of Orientation Correction Algorithms in Real-Time Hand Motion Tracking for Computer Interaction</b>
Nonnarit O-larnnithipong, Neeranut Ratchatanantakit, Armando Barreto, Sudarat Tangnimitchok, <i>United States</i>
<b>The Study of Teleoperation Technology Based on Hand Gesture Recognition</b>
Wanhong Lin, Yu Zou, Jin Yang, Jiangang Chao, Ying Xiong, <i>P.R. China</i>
<b>Consistency Study of 3D Magnetic Vectors in an Office Environment for IMU-based Hand Tracking Input Development</b>
Neeranut Ratchatanantakit, Nonnarit O-larnnithipong, Armando Barreto, Sudarat Tangnimitchok, <i>United States</i>
<b>Study on Spatiotemporal Characteristics of Gaze Gesture Input</b>
Wen-jun Hou, Si-qi Wu, Xiao-lin Chen, Kai-xiang Chen, <i>P.R. China</i>
<b>Virtual Space Pointing Based on Vergence</b>
Yuki Hirata, Hiroki Soma, Munehiro Takimoto, Yasushi Kambayashi, <i>Japan</i>

HIMI	S159
<b>Data, semantics and interaction</b>	
Chair(s): Yumi Asahi, <i>Japan</i>	
Room: <b>ASIA 4</b>	
<b>Meals to Make a Healthy Diet Successful</b>	
Hayato Kohama, Yumi Asahi, <i>Japan</i>	
<b>High sensitivity layer feature analysis in food market</b>	
Yoshio Matsuyama, Yumi Asahi, <i>Japan</i>	
<b>New habits to increase 5 times the annual chocolate consumption of Japan</b>	
Kaori Kawasaki, Yumi Asahi, <i>Japan</i>	
<b>Usability evaluation of a co-created big data analytics platform for health policy-making</b>	
Brian Cleland, Jonathan Wallace, Raymond Bond, <i>United Kingdom</i> ; Salla Muuraiskangas, Juha Pajula, Finland; Gorka Epelde, Mónica Arrúe, Roberto Álvarez, <i>Spain</i> ; Michaela Black, Maurice Mulvenna, Deborah Rankin, Paul Carlin, <i>United Kingdom</i>	
<b>User Experience and Map Design for Wayfinding in a Virtual Environment</b>	
Meng-Xi Chen, Chien-Hsiung Chen, <i>Taiwan</i>	



**HIMI S160**

**Information Visualization in Support of Human Cognition and Decision Making**

Chair(s): Laura Matzen, Mallory Stites, *United States*

Room: **OCEANIC 4**

**The Impact of Information Presentation on Visual Inspection Performance in the International Nuclear Safeguards Domain**

Laura Matzen, Mallory Stites, Heidi Smartt, Zoe Gastelum, *United States*

**Effects of Note-Taking Method on Knowledge Transfer in Inspection Tasks**

Mallory Stites, Laura Matzen, Heidi Smartt, Zoe Gastelum, *United States*

**Creating a User-centric Data Flow Visualization: A Case Study**

Karin Butler, Michelle Leger, Denis Bueno, Christopher Cuellar, Michael Haass, Timothy Loffredo, Geoffrey Reedy, Julian Tuminaro, *United States*

**Human Factors Guidance for Building a Computer-Based Procedures System: How to Give the Users Something they Actually Want**

Walter Gilmore, *United States*

**Interface Information Visualization of Intelligent Control System based on Visual Cognitive Behavior**

Weiwei Zhang, Xiaoli Wu, Linlin Wang, Yiyao Zou, Hui Zheng, P.R. China

**Optimal Range of Information Quantity for Decision Making**

Wenzhe Tang, Shanguang Chen, Chengqi Xue, Bo Li, Bingzheng Shi, Yafeng Niu, *P.R. China*

**UAHCI S161**

**Usability and Accessibility of ICT in Emergency and Disaster Management**

Chair(s): Terje Gjøsæter, Jaziar Radianti, Weiqin Chen, *Norway*

Room: **ASIA 2**

**Applying Universal Design Principles in Emergency Situations. An exploratory analysis on the need for change in emergency management**

Cristina Paupini, Italy; George A. Giannoumis, *Norway*

**Digital Volunteers in Disaster Response: Accessibility Challenges**

Jaziar Radianti, Terje Gjøsæter, *Norway*

**Perceivability of Map Information for Disaster Situations for People with Low Vision**

Siv Tunold, Jaziar Radianti, Terje Gjøsæter, Weiqin Chen, *Norway*

**Editor of O & M Virtual Environments for the training of people with visual impairment**

Agebson Rocha Facanha, Windson Viana, *Brazil*; Jaime Sánchez, *Chile*

**S162**

**Universal Access in new interactive technologies**

Chair(s): Rodrigo Bonacin, Julio Cesar Dos Reis, Tania Cristina Lima, *Brazil*

Room: **ASIA 3**

**Design and Evaluation of a User-Interface for Authoring Sentences of American Sign Language Animation**

Abhishek Kannekanti, Sedeeq Al-khazraji, Matt Huenerfauth, *United States*

**A Survey of the Constraints Encountered in Dynamic Vision-based Sign Language Hand Gesture Recognition**

Ruth Wario, Casam Nyaga, *South Africa*

**An Investigation of Figure Recognition with Electrostatic Tactile Display**

Hirobumi Tomita, Shotaro Agatsuma, Ruiyun Wang, Shin Takahashi, Satoshi Saga, Hiroyuki Kajimoto, *Japan*

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

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

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

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

**VAMR S163**

continues...

**Human Factors in Technologies Enabling All Weather Operations for Aviation**

Chair(s): Daniela Kratchounova, *United States*

Room: **SOUTHERN IV**

**Exploring Applications of Storm-Scale Probabilistic Warn-on-Forecast Guidance in Weather Forecasting**

Katie Wilson, Jessica Choate, Adam Clark, Burkely Gallo, Pamela Heinselman, Kent Knopfmeier, Brett Roberts, Patrick Skinner, Nusrat Yussouf, *United States*

**Assessing the Effect of Sensor Limitations in Enhanced Flight Vision Systems on Pilot Performance**

Ramanathan Annamalai, Michael Dorneich, Güliz Tokadlı, *United States*

**Aviation Weather Products in General Aviation: Interpretability and Usability Research Trends**

Jacqueline McSorley, Jayde King, Elizabeth Blickensderfer, *United States*

**Use of an Enhanced Flight Vision System (EFVS) for Taxiing in Low-visibility Environments**

Dennis Beringer, Andrea Sparko, Joseph Jaworski, *United States*

**NTSB Investigation of Weather-Related Aviation Incidents and Accidents**

Sathya Silva, Paul Suffern, *United States*

**Examining error likelihood when using enhanced vision systems for approach and landing**

Steven J. Landry, Denys Bulikhov, Zixu Zhang, Carlos F. Miñana, *United States*

Universal Access in Human-Computer Interaction

Virtual, Augmented and Mixed Reality



**VAMR S164**

**Human perception and behavior in VAMR - II**

Chair(s): To be announced

Room: **SOUTHERN V**

**The Impact of Attention on User Experience in the Virtual Environments: The Mediating Role of Sense of Presence**

Ehsan Naderi, Bimal Balakrishnan, Zhaleh Khosravi, *United States*

**Towards a Framework to Model Intelligent Avatars in Immersive Virtual Environments for Studying Human Behavior in Building Fire Emergencies**

Jing Lin, Nan Li, *P.R. China*

**The Effect of Augmented Reality on The Perception of Money**

Nirit Gavish, Ziv Treiger, Bar Gabay, Eran Horesh, Elias Shamilov, *Israel*

**Empathy in VR: Experiencing a Virtual Environment from a Wheelchair User's Perspective**

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

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

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

**CCD S165**

Cross-Cultural Design

**Cross-Cultural Behavior and Attitude Studies**

Chair(s): Lin Wang, *Korea*

Room: **ASIA 5**

**Exploring Semantic Space for Kawaii Design**

Chien-Wen Tung, Nan Qie, Pei-Luen Patrick Rau, *P.R. China*

**What makes for successful game storytelling in different countries? A comparison between Japan, Korea and China**

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

**Comparative analysis comprehensibility of healthcare symbols between USA and China**

Chuanyu Zou, Guangxin Wang, *P.R. China*

**Virtual Simulation Based Intercultural Learning**

Guangwei Zhang, *P.R. China*

**S166**

**Cultural and intercultural experiences**

Chair(s): To be announced

Room: **EUROPE 2**

**Design for Korean Reunification: In Pursuit of 'Designerly Ways of' Contributing to the Peaceful Reunification between South and North Korea**

Sung Woo Kim, *Korea*

**The Display of Intangible Cultural Landscape Based on the Concept of Eco-museum**

Jiayi Liu, Ruiguang Tan, *P.R. China*

**Cross-Cultural Recycling and Design Methodology; to Prove the Effectiveness of the Three-Stage Design Method of Cross-Cultural Recycling "Why-What-How"**

Dong Yeong Lee, Jee Yeon Ha, *Korea*

**Luxury Industry's Chinese User Experience Design**

Wei Yu, Wenxue Zhai, *P.R. China*

**UsabEU: Online Platform for Translation, Validation and Native Use of Usability Questionnaires with Multilingual User Groups**

Bojan Blažica, Tome Eftimov, *Slovenia*

**Design for Urban Resilience: A Case of Community-led Placemaking Approach in Shanghai China**

Minqing Ni, *P.R. China*; Tiziano Cattaneo, *Italy*

**SCSM S167**

Social Computing and Social Media

**Consumer Behavior from the Viewpoint of Marketing - II**

Chair(s): Kohei Otake, Takashi Namatame, *Japan*

Room: **EUROPE 5**

**Analysis of the Characteristics of Customer Defection on a Hair Salon Considering Individual Differences**

Mana Iwata, Kohei Otake, Takashi Namatame, *Japan*

**Reciprocal customer transfer analysis at golf course reservation service and golf goods EC site**

Kento Hirota, Kohei Otake, Takashi Namatame, *Japan*

**Analysis of Review Text on a Golf Course Reservation Site**

Shin Miyake, Kohei Otake, Takashi Namatame, *Japan*

**Extraction of Product Features from Customer's Perspective Using User Review at the Golf EC Site**

Ryota Takahashi, Takashi Namatame, Kohei Otake, *Japan*

**Analysis of Characteristics of Golf Course Using User Review at Golf Portal Site**

Mizuki Izawa, Takashi Namatame, Kohei Otake, *Japan*



AC		S168	DHM	S169	S170	DUXU	S171	continues...
Augmented Cognition	<b>Modeling Cognitive Factors in Human Behavior</b> Chair(s): Katy Hancock, <i>United States</i>		<b>Occupational Safety and Health and Human-System-Interaction</b> Chair(s): Peter Nickel, <i>Germany</i>		<b>Safety and emergency</b> Chair(s): To be announced		<b>Designing behaviours, behaving design</b> Chair(s): Luisa Paraguai, Daniel Paz de Araujo, <i>Brazil</i>	
	Room: <b>EUROPE 1</b>		Room: <b>OCEANIC 8</b>		Room: <b>OCEANIC 6</b>		Room: <b>SOUTHERN III</b>	
	<b>Automating Crime Informatics to Inform Public Policy</b> Katy Hancock, Monte Hancock, <i>United States</i>		<b>Human-Robot Interaction in Health Care Automation</b> Sumona Sen, Lisanne Kremer, Hans Buxbaum, <i>Germany</i>		<b>A framework to quantitatively assess safety performance for civil aviation organization</b> Mingliang Chen, Min Luo, Yuan Zhang, Yanqiu Chen, <i>P.R. China</i>		<b>Point of view when designing around behavior</b> Julieta Aguilera, <i>United States</i>	
	<b>The Nature and History of Biomimetic Design for Augmented Cognition</b> Monte Hancock, Michael Shrider, Tyler Higgins, Kristy Sproul, <i>United States</i>		<b>Level of Robot Autonomy and Information Aids in Human-Robot Interaction affect Human Mental Workload – an Investigation in Virtual Reality</b> Mara Kaufeld, Peter Nickel, <i>Germany</i>		<b>Applying Multi-phase DES Approach for Modelling the Patient Journey through Accident and Emergency Departments</b> Miguel Ortíz-Barrios, <i>Colombia</i> ; Pablo Pancardo, Mexico; Genett Jiménez-Delgado, Jeferson De Ávila-Villalobos, <i>Colombia</i>		<b>Designing the Way We Move: From Navigating the Users to Users of Navigation Devices</b> Carlos Alberto Barbosa, <i>Brazil</i>	
	<b>Creating Affording Situations with Animate Objects</b> Christopher Baber, Sara Al Tunaib, Ahmed Khattab, <i>United Kingdom</i>		<b>Innovative and Comprehensive Support System for Training People Working in Dangerous Conditions</b> Andrzej Grabowski, <i>Poland</i>		<b>Development and Evaluation of a Tablet-Control for a Surgical Workstation in the Open Integrated Operating Room</b> Johanna Hemmeke, Philipp Krumholz, Armin Janß, Klaus Radermacher, <i>Germany</i>		<b>Gameotics: a game analysis method based on Semiotics</b> Daniel Paz de Araujo, Hermes Renato Hildebrand, <i>Brazil</i>	
Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management	<b>The Artificial Facilitator: Guiding Participants in Developing Causal Maps using Voice-activated Technologies</b> Thrishma Reddy, Canada; Philippe J. Giabbanelli, United States; Vijay K. Mago, <i>Canada</i>		<b>Capture of stability and coordination indicators in virtual training scenarios for the prevention of slip, trip, and fall (STF) accidents</b> Anika Weber, Peter Nickel, Ulrich Hartmann, Daniel Friemert, Kiro Karamanidis, <i>Germany</i>		<b>A Review of the Gaps and Opportunities of Nudity and Skin Detection Algorithmic Research for the Purpose of Combating Adolescent Sexting Behaviors</b> Muhammad Uzair Tariq, Afsaneh Razi, Karla Badillo-Urquiola, Pamela Wisniewski, <i>United States</i>		<b>Research on Factors Affecting Behavior of Taking Selfies in China Based on Logistic Regression Analysis</b> Si-qi Wu, Wen-jun Hou, Meng-yun Yue, <i>P.R. China</i>	
			<b>First impressions and acceptance of order pickers towards using data glasses at a simulated workstation</b> Daniel Friemert, Mirko Kaufmann, Ulrich Hartmann, Rolf Ellegast, <i>Germany</i>					
			<b>When to Take a Break? Exploring the Role of Peers on Sedentary Office Workers’ Resting Behaviors</b> Ling Qin, Xu Sun, Bingjian Liu, <i>P.R. China</i> ; Luis Moreno Leyva, <i>Mexico</i>					
Design, User Experience, and Usability								

TUESDAY 16:00 - 18:00



**DUXU S172**

**UX design for AI and Education - II**

Chair(s): Yang Meng, *P.R. China*

Room: **SOUTHERN II**

**Information and Experience Visualization: An Analysis Approach and Decision-making Tool for the Usability Research**

Xi Lyu, Yang Wang, *P.R. China*

**An Interaction Design Approach of Fitness APP**

Jun-QI Wang, Jing-chen Cong, Zhi-yuan Zheng, Yang Meng, Chao Liu, *P.R. China*

**Enhancing the Usability of Long-Term Rental Applications in Chinese Market: An interaction Design Approach**

Jing-chen Cong, *P.R. China*; Chun-Hsien Chen, *Singapore*; Chao Liu, Yang Meng, Zhi-yuan Zheng, *P.R. China*

**HCIBGO S173**

**HCI and Management in Business and Organizations**

Chair(s): Yani Shi, Jiaqi Yan, *P.R. China*

Room: **EUROPE 4**

**Deal Communication Through Microblogging**

Yi Liu, *France*

**How does Social Tie Influence the User Information Sharing Behavior in Social Commerce Sites**

Libo Liu, Yani Shi, *P.R. China*; Xuemei Tian, *Australia*; Jiaqi Yan, *P.R. China*

**Motivating User-Generated Content Contribution with Voluntary Donation to Content Creators**

Lili Liu, *P.R. China*

**An Investigation to the Impacts of Information Systems Flexibility on Information Systems Strategy Implementation**

Si Chen, Jiaqi Yan, Qing Ke, *P.R. China*

**Identifying Opinion Leaders in Virtual Travel Community Based on Social Network Analysis**

Jinbi Yang, Yukang Zhang, Libo Liu, *P.R. China*

**LCT S174**

**Novel technologies supporting new ways of learning**

Chair(s): To be announced

Room: **EUROPE 3**

**Application of Virtual Reality and Gamification in the Teaching of Art History**

Evelyn Marilyn Riveros Huaman, Roni Guillermo Apaza Aceituno, Olha Sharhorodska, *Peru*

**Interactive System for Collaborative Historical Analogy**

Ryo Yoshikawa, Ryohei Ikejiri, Yasunobu Sumikawa, *Japan*

**A Simple Web Utility for Automatic Speech Quantification in Dyadic Reading Interactions**

Michael Schmidt, Robert Walters, Bryce Ault, Khem Poudel, Adam Mischke, Stone Jones, Austin Sockhecke, Marcus Spears, Patrick Clarke, Rober Makram, Sam Meagher, Medha Sarkar, Joshua Wade, Nilanjan Sarkar, *United States*

**Learning with Trees: A Non-Linear E-Textbook Format for Deep Learning**

Eric Spero, Milica Stojmenovic, Ali Arya, Robert Biddle, *Canada*

**ITAP S175**

**Digital devices and services in an aging world**

Chair(s): Martina Ziefle, *Germany*

Room: **OCEANIC 1**

**Influence of age on trade-offs between benefits and barriers of AAL technology usage**

Julia Offermann-van Heek, Susanne Gohr, Simon Himmel, Martina Ziefle, *Germany*

**Older Users' Benefit and Barrier Perception of Using Ultrasonic Whistles in Home Care**

Hannah Biemann, Julia Offermann-van Heek, Martina Ziefle, *Germany*

**Privacy Concerns and the Acceptance of Technologies for Aging in Place**

Eva-Maria Schomakers, Martina Ziefle, *Germany*

**The Golden Age of Silver Workers? The Role of Age in the Perception of Increasing Digital Work Environments**

Johanna Kluge, Julian Hildebrandt, Martina Ziefle, *Germany*

**Work in progress – Barriers and Concerns of Elderly Workers towards the Digital Transformation of Work**

Julian Hildebrandt, Johanna Kluge, Martina Ziefle, *Germany*

**Development of an Age-Appropriate Style Guide within the Historytelling project**

Torben Volkmann, Amelie Unger, Michael Sengpiel, Nicole Jochems, *Germany*

HCI in Business, Government and Organizations

Learning and Collaboration Technologies

Human Aspects of IT for the Aged Population

ITAP S176

**Robots and assistive technologies in home care**

Chair(s): Emanuela Marchetti,  
Denmark

Room: **OCEANIC 2**

**Gifts and Parasites: Paro the Healthcare Robot and the Logics of Care**

Joni Jaakola, Jukka Vuorinen,  
Finland

**The Penguin – on the Boundary between Pet and Machine. An Ecological Perspective on the Design of Assistive Robots for Elderly Care**

Emanuela Marchetti, William Kristian Juel, Rosalyn Melissa Langedijk, Leon Bodenhausen, Norbert Krüger, Denmark

**A Study of the Needs and Attitudes of Elderly People and Their Caregivers with Regards to Assistive Technologies**

Rong Jiang, Zhinan Zhang, Xiaoxuan Xi, P.R. China

**Combining Mixed Reality and Internet of Things: An Interaction Design Research on Developing Assistive Technologies for Elderly People**

Ryan Anthony J. De Belen, Dennis Del Favero, Tomasz Bednarz, Australia

**Interaction Design in the Active and Assistive Living Field of Practice**

Miroslav Sili, Johannes Kropf, Sten Hanke, Austria

**Interactive Drinking Gadget for the Elderly and Alzheimer Patients**

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

MENTORING SESSION

**Mentoring Session for PhD students offered by Professor Gavriel Salvendy at HCII2019 (closed session)**

**Tuesday, 30 July 2019  
16:00 - 18:00**

Gavriel Salvendy has cordially accepted the conference invitation to hold a Mentoring Session for PhD students with important topics. The Mentoring Session will take place on Tuesday 30 July, 16:00 - 18:00 and will be addressing the following topics:

- Development of a high impact PhD Dissertation and its effective dissemination.
- Transition from a PhD student to industry professional.
- Transition from a PhD student to successful Faculty.

Professor Gavriel Salvendy has been Major Professor to 67 PhD students.



**HCI S177**

**Design Case Studies**

Chair(s): Ahmed Sabbir Arif, *United States*

Room: **NORTHERN A1**

**Emotional Design for Children's Electronic Picture Book**

Yaohua Bu, Jia Jia, Xiang Li, Xiaobo Lu, *P.R. China*

**Design Patterns to Support Personal Data Transparency Visualization in Mobile Applications**

Thiago A. Coleti, Marcelo Morandini, Lucia Vilela Leite Filgueiras, Pedro Luiz Pizzigatti Correa, Igor Goulart De Oliveira, Cinthyan Renata S. C. Barbosa, *Brazil*

**Keep System Status Visible: Impact of Notifications on the Perception of Personal Data Transparency**

Lucia Vilela Leite Filgueiras, Adriano Da Silva Ferreira Leal, Thiago A. Coleti, Marcelo Morandini, Pedro Luiz Pizzigatti Correa, Solange N. Alves-Souza, *Brazil*

**Supporting Life History Research with Interactive Visualizations**

Tamara Babaian, Miriam Boeri, Gita Ligure, *United States*

**Text Entry in Virtual Reality: A Comprehensive Review of the Literature**

Tafadzwa Joseph Dube, Ahmed Sabbir Arif, *United States*

**Applicability Study of Eye Movement Menu based on Analytic Hierarchy Process**

Wen-jun Hou, Bo Zhang, Si-qi Wu, Zhi-yang Jiang, *P.R. China*

**HIMI S178**

**UX Based Interaction Design**

Chair(s): Hirohiko Mori, *Japan*

Room: **OCEANIC 4**

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

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

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

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

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

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

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

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

**Optimizing exploratory workflows for embedded platform trace analysis and its application to mobile devices**

Jonathan Ah Sue, Peter Brand, Joachim Falk, Ralph Hasholzner, Jürgen Teich, *Germany*

**EPCE S179**

**Cognition and Design - I**

Chair(s): Helmut Degen, *United States*

Room: **EUROPE 4**

**Goals – Assumption – Interaction Steps (GAIS): A Practical Method to Determine a Quantitative Efficiency Benchmark for UX Interaction Design Concepts**

Helmut Degen, *United States*

**Towards a Mixed Reality platform for Applied Cognitive Load Evaluation**

Maurice Van Beurden, Linsey Roijendijk, *Netherlands*

**Semi-automatic Aggregation of Multiple Models of Visual Attention for Model-based User Interface Evaluation**

Dennis Knoop, Bertram Wortelen, Marcus Behrendt, *Germany*

**Research on Aesthetics Degree Optimization Model of Product Form**

Ming Li, Jie Zhang, Yiping Hou, *P.R. China*

**UAHCI S180**

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

Chair(s): Federica Pallavicini, *Italy*

Room: **ASIA 3**

**Taking Neuropsychological Test to the Next Level: Commercial Virtual Reality Video Games for the Assessment of Executive Functions**

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

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

Laura Levy, Maribeth Gandy, *United States*

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

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

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

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



UAHCI S181	VAMR S182	CCD S183	SCSM S184	continues...
<p><b>ICT in Health and in Active Ageing</b> Chair(s): João Barroso, <i>Portugal</i>; Leontios Hadjileontiadis, <i>Greece</i></p> <p>Room: <b>ASIA 2</b></p> <p><b>Classification of Physical Exercise Intensity Based on Facial Expression using Deep Neural Network</b> Salik Ram Khanal, <i>Nepal</i>; Jaime Sampaio, João Barroso, Vítor Filipe, <i>Portugal</i></p> <p><b>EEG Systems for Educational Neuroscience</b> Angeliki Tsiara, Tassos Anastasios Mikropoulos, Panagiota Chalki, <i>Greece</i></p> <p><b>A Delphi Study on the Design of Digital Educational Games</b> Panagiota Chalki, Tassos Anastasios Mikropoulos, Angeliki Tsiara, <i>Greece</i></p> <p><b>"Express your feelings": An interactive application for autistic patients</b> Prabin Sharma, <i>Portugal</i>; Mala Deep Upadhyaya, Amrit Twanabasu, <i>Nepal</i>; João Barroso, Salik Ram Khanal, Hugo Paredes, <i>Portugal</i></p> <p><b>Designing and Evaluating Technology for the Dependent Elderly in their Homes</b> Maria João Monteiro, Isabel Barroso, Vítor Rodrigues, Salviano Soares, João Barroso, Arsénio Reis, <i>Portugal</i></p> <p><b>Creating Weather Narratives</b> Arsénio Reis, Margarida Liberato, Hugo Paredes, Paulo Martins, João Barroso, <i>Portugal</i></p>	<p><b>Health and ergonomic issues in VR</b> Chair(s): Eileen Smith, <i>United States</i></p> <p>Room: <b>NORTHERN A4</b></p> <p><b>Design Implications from Cybersickness and Technical Interactions in Virtual Reality</b> Patricia S. Bockelman, Sharlin Milliard, Matin Salemirad, Jonathan Valderrama, Eileen Smith, <i>United States</i></p> <p><b>Cybersickness and Postural Sway using HMD Orientation</b> Lisa Rebenitsch, Breanna Quinby, <i>United States</i></p> <p><b>The impact of motion on individual simulator sickness in a moving base VR simulator with Head-Mounted Display (HMD)</b> Mara Kaufeld, Thomas Alexander, <i>Germany</i></p> <p><b>Effects of Weight and Balance of Head Mounted Display on Physical Load</b> Kodai Ito, Mitsunori Tada, Hiroyasu Ujike, Keiichiro Hyodo, <i>Japan</i></p>	<p><b>Interacting with Emerging Technologies</b> Chair(s): Pei-Luen Patrick Rau, <i>P.R. China</i></p> <p>Room: <b>ASIA 5</b></p> <p><b>Effect of Vibrotactile Feedback on Simulator Sickness, Performance, and User Satisfaction with Virtual Reality Glasses</b> Bingcheng Wang, Pei-Luen Patrick Rau, <i>P.R. China</i></p> <p><b>Can Virtual Reality Satisfy Entertainment Needs of the Elderly? The application of a VR Headset in Elderly Care</b> Xiaojun Lai, Xin Lei, Xuanwei Chen, Pei-Luen Patrick Rau, <i>P.R. China</i></p> <p><b>Anthropometric Characteristics on the Perceived Comfort of VR and AR Devices</b> Jihee Kim, Sungwook Jung, Seonghwan Bang, Haseung Song, Juhyun Son, Kangmin Lee, Jinyoung Kim, Hyewon Shin, Sangwoo Bahn, <i>Korea</i></p> <p><b>Effect of Layout on User Performance and Subjective Evaluation in an Augmented-Reality Environment</b> Xin Lei, Yueh-Lin Tsai, Pei-Luen Patrick Rau, <i>P.R. China</i></p> <p><b>Does Heat Matter in Phone Usage? Antecedents and Consequences of Mobile Thermal Satisfaction</b> Andong Zhang, Pei-Luen Patrick Rau, Zhaoyi Ma, Qin Gao, Lili Dong, <i>P.R. China</i></p> <p><b>Attempts to Leverage Interaction Design to Mimic Emotional Care and Empathy-based Feedback on Smart Speakers</b> Yanyan Sun, Ting Wang, Xiang Ge, Jianping Qi, Min Zhao, Liming Zou, Dan Li, Shiyan Li, Daisong Guan, <i>P.R. China</i></p> <p><b>Is SERVQUAL reliable and valid? A review from the perspective of dimensions in different typical service industries</b> Quan Yuan, Qin Gao, <i>P.R. China</i></p>	<p><b>Data based Social Signal Processing</b> Chair(s): Hung-Hsuan Huang, Shogo Okada, Ryo Ishii, <i>Japan</i></p> <p>Room: <b>ASIA 4</b></p> <p><b>Gaze from and toward the Silent Third Participant in a Triadic Conversation</b> Ichiro Umata, Koki Ijuin, Tsuneo Kato, Seiichi Yamamoto, <i>Japan</i></p> <p><b>Multimodal BigFive Personality Trait Analysis using Communication Skill Indices and Multiple Discussion Types Dataset</b> Candy Olivia Mawalim, Shogo Okada, Yukiko I. Nakano, Masashi Unoki, <i>Japan</i></p> <p><b>Estimating interpersonal reactivity scores using gaze behavior and dialogue act during turn-changing</b> Ryo Ishii, Kazuhiro Otsuka, Shiro Kumano, Ryuichiro Higashinaka, Junji Tomita, <i>Japan</i></p> <p><b>Toward RNN based Micro Non-verbal Behavior Generation for Virtual Listener Agents</b> Hung-Hsuan Huang, Masato Fukuda, Toyoaki Nishida, <i>Japan</i></p> <p><b>Infer Creative Analogous Relationships from Wikidata</b> Mei Si, <i>United States</i></p> <p><b>From social media to expert reports: the impact of source selection on automatically validating complex conceptual models of obesity</b> Mannila Sandhu, Canada; Philippe J. Giabbanelli, <i>United States</i>; Vijay K. Mago, <i>Canada</i></p>	<p>WEDNESDAY 8:00 - 10:00</p>



## SCSM S185

### Experiences in Social Media

Chair(s): Daniela Quinones, Silvana Roncagliolo, *Chile*; Isabelle Dorsch, *Germany*

Room: **EUROPE 3**

### A Set of Usability and User eXperience Heuristics for Social Networks

María-Josée Saavedra, Cristian Rusu, Daniela Quiñones, Silvana Roncagliolo, *Chile*

### Methodologies and Trends in Multimedia Systems: A Systematic Literature Review

Carlos Alberto Pelaez, Andrés Solano, *Colombia*; Toni Granollers, *Spain*; César A. Collazos, *Colombia*

### Using a Gamification Tool to Support the Teaching-Learning Process in Computer Science Program

Pamela Hermosilla, Katherine Valencia, Erick Jamet, *Chile*

### EduGit: Toward a Platform for Publishing and Adopting Course Content

Michael Stewart, Jason Forsyth, Zamua Nasrawt, *United States*

### Product placements by micro and macro influencers on Instagram

Rachidatou Alassani, Julia Göretz, *Germany*

### Gender-specific Tagging of Images on Instagram

Julia Philipps, Isabelle Dorsch, *Germany*

## AC S186

### Neuroscience and brain interfaces

Chair(s): Ramaswamy Palaniappan, *United Kingdom*

Room: **EUROPE 1**

### An Immersive Brain Painting: The Effects of Brain Painting in a Virtual Reality Environment

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

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

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

### An Enactive Perspective on Emotion: a Case Study on Monitoring Brainwaves

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

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

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

### Interpolation, a Model for Sound Representation based on BCI

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

## DHM S187

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

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

Room: **OCEANIC 8**

### HCI in Standardisation - A Unions perspective on OSH-relevant aspects

Michael Bretschneider-Hagemes, *Germany*

### OSH and the Future of Work: Benefits & Risks of Artificial Intelligence tools in workplaces

Phoebe Moore, *United Kingdom*

### Standardisation in Human-System Interaction also requires addressing Human Factors and Ergonomics in Machinery Safety

Peter Nickel, *Germany*

### The relevance of cybersecurity for functional safety and HCI

Sebastian Korfmacher, *Germany*

### An Integrated Approach of Multiple Correspondences Analysis (MCA) and Fuzzy AHP method for Occupational Health and Safety Performance Evaluation in the Land Cargo Transportation

Genett Jimenez Delgado, Nidia Balmaceda Castro, Hugo Hernandez-Palma, Emiro De La Hoz-Franco, Jesus García-Guiliani, Jairo Martinez-Ventura, *Colombia*

### A Method of Designing Outdoor Safety Way Guidance Sign Layout Information Based on Human Factors Engineering

Jiliang Zhang, Yongquan Chen, Jingquan Liu, *P.R. China*

## DUXU S188

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

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

Room: **SOUTHERN III**

### Elderly users and their main challenges usability with mobile applications: A Systematic Review

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

### Mind Maps in Requirements Engineering: A systematic Mapping

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

### Game Design Model for Educational History Videogames

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

### Exploring the relationship between web presence and web usability in Peruvian universities

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

### Gamification of a Stress Management App: Results of a User Study

Alexandra Hoffmann, Corinna A. Faust-Christmann, Gregor Zolynski, Gabriele Bleser, *Germany*

### A Value-Centered Approach for Unique and Novel Software Applications

Björn Senft, Florian Rittmeier, Holger Fischer, Simon Oberthür, *Germany*

Augmented Cognition

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

Design, User Experience, and Usability



DUXU S189	DAPI S190	HCIBGO S191	ITAP S192	continues...
<b>HCI Innovation in the Field of AI: Autonomous Vehicles, Intelligent Recommendation, Robotics, and Smart Home</b> Chair(s): Moli Zhou, <i>P.R. China</i>  Room: <b>SOUTHERN II</b>  <b>Evaluating Response Delay of Multimodal Interface in Smart Device</b> Xiantao Chen, Moli Zhou, Renzhen Wang, Yalin Pan, Jiaqi Mi, Hui Tong, Daisong Guan, <i>P.R. China</i>  <b>Exploration of Ideal Interaction Scheme on Smart TV: Based on User Experience Research of Far-field Speech and Mid-air Gesture Interaction</b> Xuan Li, Daisong Guan, Jingya Zhang, XingTong Liu, Siqi Li, Hui Tong, <i>P.R. China</i>  <b>Transition to Automated: The Interaction of Activating the In-vehicle Automated Driving System</b> Weiyei Ning, Xuning Wang, Yingzhu Qian, <i>P.R. China</i>  <b>Stepped Warm-up--The Progressive Interaction Approach for Human-Robot Interaction in Public</b> Min Zhao, Dan Li, Zhun Wu, Shiyuan Li, Xiaonan Zhang, Lu Ye, Guangfu Zhou, Daisong Guan, <i>P.R. China</i>  <b>A Method to Automatic Measuring Riding Comfort of Autonomous Vehicles: Based on Passenger Subjective Rating and Vehicle Parameters</b> Ya Wang, Qiuyu Zhang, Lizhi Zhang, Yunyan Hu, <i>P.R. China</i>  <b>Improving Mobile News Reading Experience for Chinese Users: An User Interview and Eye Tracking Study</b> Chenyi He, Nan Chen, Minjuan Zhou, Hui Li, Kecheng Chen, Daisong Guan, <i>P.R. China</i>  <b>Do Smart Speakers Respond to Their Errors Properly? A Study on Human-computer Dialogue Strategy</b> Xiang Ge, Dan Li, Daisong Guan, Shihui Xu, Yanyan Sun, Moli Zhou, <i>P.R. China</i>	<b>Designing intelligent interactive environments - I</b> Chair(s): To be announced  Room: <b>EUROPE 5</b>  <b>Multi-modal Sensor based Localization and control method for Human-following Outdoor Security Mobile Robot</b> Taeyoung Uhm, Ji-Hyun Park, Gi-Deok Bae, Young-Ho Choi, <i>Korea</i>  <b>A Mirror That Reflects, Augments and Learns</b> Sheng Kai Tang, United States; June Hao Hou, <i>Taiwan</i>  <b>Spatial Perception and Humanistic Innovation in Smart Cities:A Systematic Review</b> Tongwen Wang, Zhou Wuzhong, <i>P.R. China</i>  <b>Emotion-Aware Ambient Intelligence: Changing Smart Environment Interaction Paradigms through Affective Computing</b> Alex Altieri, Silvia Ceccacci, Maura Mengoni, <i>Italy</i>  <b>Security in Smart Toys: a Systematic Review of Literature</b> Lara Pontes, Gustavo Coutinho, <i>Brazil</i> ; Patrick C.K. Hung, Benjamin Yankson, <i>Canada</i>  <b>Affective Sleeve: Wearable Materials with Haptic Action for Promoting Calmness</b> Athina Papadopoulou, Jaclyn Berry, Terry Knight, Rosalind Picard, <i>United States</i>	<b>Mobile Finance and Privacy</b> Chair(s): Norman Shaw, <i>Canada</i>  Room: <b>NORTHERN A2</b>  <b>The Role of Mobile Money in Somalia's Remittance System</b> Mohamed Elmi, Ojelanki Ngwenyama, <i>Canada</i>  <b>Modifying E-service Quality for Automotive Repair Shops</b> Canveet Randhawa, Norman Shaw, <i>Canada</i>  <b>Adding 'Social' to Commerce to Influence Purchasing Behaviour</b> Zainab Mehdi Hussain Khan, Norman Shaw, <i>Canada</i>  <b>Do Development Strategies Influence the Performance of Mobile Apps? Market Status Matters</b> Bei Luo, Xiaoke Zhang, Lele Kang, <i>P.R. China</i> ; Qiqi Jiang, <i>Denmark</i>  <b>Blockchain and Trust: A Practice-Based Inquiry</b> Michael Heidt, Arne Berger, Andreas Bischof, <i>Germany</i>  <b>Interactional Aesthetics of Blockchain Technology</b> Michael Heidt, Andreas Bischof, Arne Berger, <i>Germany</i>	<b>Aging and Technology Acceptance</b> Chair(s): Jia Zhou, <i>P.R. China</i>  Room: <b>OCEANIC 2</b>  <b>Is the Eye Movement Pattern the Same? The Difference between Automated Driving and Manual Driving</b> Qiuyang Tang, Gang Guo, <i>P.R. China</i>  <b>What Do Your Eyes Say about Your Conformity? An Observation on the Number of Sales during Online Shopping</b> Weibin Wang, Jia Zhou, Guangji Liao, <i>P.R. China</i>  <b>Trends in the Decline in Gait and Motor Ability of Older Adults: A Case Study Based on SHARE Data</b> Ruoyu Chen, Jia Zhou, <i>P.R. China</i>  <b>Ontology Construction for Eldercare Services with an Agglomerative Hierarchical Clustering Method</b> Peng Han, Yulong Li, Yue Yin, Ning An, <i>P.R. China</i>  <b>The Effect of Product Aesthetics on Older Consumers</b> Tyan-Yu Wu, <i>Taiwan</i>	continues...

Distributed, Ambient and Pervasive Interactions

HCI in Business, Government and Organizations

Human Aspects of IT for the Aged Population

WEDNESDAY 8:00 - 10:00



## ITAP S193

### Older adults in the web ecology experiences

Chair(s): Ana Isabel Veloso, Portugal

Room: **OCEANIC 1**

### Methods and Strategies for Involving Older Adults in Branding an Online Community: the miOne Case Study

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

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

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

### Older adults in ICT contexts: recommendations for developing tutorials

Sonia Ferreira, Ana Isabel Veloso, Portugal

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

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

### Research on Interaction of Shopping Websites for Elderly People based on User Experience

Mingyi Wang, Delai Men, P.R. China

## HCI-CPT S194

### Novel approaches to cybersecurity

Chair(s): To be announced

Room: **OCEANIC 6**

### Behind the façade: Paradigms of Ubiquitous Cryptography

Aaron MacSween, Yann Flory, France

### A Framework of Information Security Integrated with Human Factors

Ahmed Al-Darwish, Pilsung Choe, Qatar

### Making Sense of Darknet Markets: Automatic Inference of Semantic Classifications from Unconventional Multimedia Datasets

Alexander Berman, Celeste Lyn Paul, United States

### Interdependencies, Conflicts and Trade-offs between Security and Usability: Why and how should we Engineer Them?

Bilal Naqvi, Finland; Ahmed Seffah, France

### Investigating Visualisation Techniques for Rapid Triage of Digital Forensic Evidence

Gavin Hales, Ethan Bayne, United Kingdom

### A Robust and Real-time Face Anti-spoofing Method based on Texture Feature Analysis

Aasim Khurshid, Sergio Cleger Tamayo, Everlandio Fernandes, Mikhail R. Gadelha, Mauro Teofilo, Brazil

## HCI-Games S195

### Transformative Playground

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

Room: **EUROPE 2**

### Unfathomed Voyager: The design of real-life cooperation game

Boyi Liu, Matthew Bofenkamp, United States

### Encourage Self-exploration Through an Interactive Chinese Scroll Painting Design

Nan Wang, Jiayin Li, Qingyuan Shi, Danqing Shi, Haipeng Mi, P.R. China

### Benevolent Deception in Exergame Design

Xiuping Li, Danqing Shi, Sheng Wang, P.R. China

### Yuri Game: Romance and Characterization in Gameplay

Yueqian Liu, P.R. China

### "Naughty AlphaGo": Transforming the Game of Computer Go into an Emotional Tangible Playground

Shuchang Xu, P.R. China; Yilin Zhu, Chunhui Yang, United States; Danqing Shi, P.R. China

## AIS S196

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

Chair(s): Benjamin Bell, United States

Room: **SOUTHERN IV**

### Adaptation Vectors for Instructional Agents

Benjamin Bell, Robert A. Sottolare, United States

### Wrong in the Right Way: Balancing Realism against other Constraints in Simulation-Based Training

Walter Warwick, Stuart Rodgers, United States

### Cognitive Agents for Adaptive Training in Cyber Operations

Randolph Jones, Ryan O'Grady, Fernando Maymi, Alex Nickels, United States

### Adaptive Training: Designing Training for the Way People Work and Learn

Lara Bove, United States

### Adaptive Agents for Adaptive Tactical Training: The State of the Art and Emerging Requirements

Jared Freeman, Eric Watz, Winston Bennett, United States

HCI for Cybersecurity, Privacy and Trust

HCI in Games

Adaptive Instructional Systems



**HIMI S197**

**Tactile displays: Issues and user experience**

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

Room: **OCEANIC 4**

**Stereohaptics Toolkit for Dynamic Tactile Experiences**

Ali Israr, Siyan Zhao, Zachary Schwemler, Adam Fritz, *United States*

**The Design of the Body: Suit:Score, a Full-Body Vibrotactile Musical Score**

Travis West, Alexandra Bachmayer, Sandeep Bhagwati, Joanna Berzowska, Marcelo Wanderley, *Canada*

**Design Approach for Investigating Multimodal Communication in Cordon and Search**

Daniel Barber, Rhyse Bendell, *United States*

**In-vehicle Tactile Displays to Enhance Crew Situation Awareness and Understanding of Agents in a Simulated Driving Environment**

David Chhan, Timothy White, Brandon Perelman, *United States*

**Design Challenges and Recommendations for the Development of Adaptive Multimodal Displays**

Sara Riggs, *United States*

**Getting in Touch with Users - the Challenges of Implementing Effective Tactile Displays**

Bruce Mortimer, *United States*

**Tactile Applications in Aviation: A Historical Perspective**

Angus Rupert, *United States*

**EPCE S198**

**Cognition and Design - II**

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

Room: **EUROPE 4**

**Measurement of Human Sitting Posture Dimensions Using Human Pressure Distribution**

Chen Yue, Linghua Ran, Hua Qin, *P.R. China*

**How Fire Risk Perception Impacts Evacuation Behavior: A Review of the Literature**

Hua Qin, Xiaotong Gao, *P.R. China*

**Research on Evaluation of Product Image Design Elements Based on Eye Movement Signal**

Wenjin Yang, Jianning Su, Kai Qiu, Xinxin Zhang, Shutao Zhang, *P.R. China*

**Music Valance and Genre Influence Group Creativity**

Hosseini Sarinasadat, Yuki Hattori, Yoshihiro Miyake, Takayuki Nozawa, *Japan*

**Impacts of emotional ambient sounds on face detection sensitivity**

Liu Dong, Pei-Luen Patrick Rau, *P.R. China*

**UAHCI S199**

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

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

Room: **ASIA 2**

**MilkyWay: A Toolbox for Prototyping Collaborative Mobile-Based Interaction Techniques**

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

**AR Contents Superimposition on Walls and Persons**

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

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

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

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

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

**S200**

**Innovative Product Design and Development**

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

Room: **ASIA 3**

**An Investigation on Sharing Economy Mobile Service Adoption: How Perceived Risk, Value, and Price Interact?**

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

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

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

**A Feasibility Study of Designing a Family-Caregiver-Centred Dementia Care Handbook in Taiwan: A Single Case Study**

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

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

Jacob Jewell, Tony Morelli, *United States*

**Employing a voice-based emotion-recognition function in a social chatbot to foster social and emotional learning among preschoolers**

Tsai-Hsuan Tsai, Hsien-Tsung Chang, Shin-Da Liao, Hui-Fang Chiu, Ko-Chun Hung, Chun-Yi Kuo, Chih-Wei Yang, *Taiwan*



**VAMR S201**

**Applications of VAMR**

Chair(s): Patricia Morreale, *United States*

Room: **NORTHERN A4**

**Integrating Historical Content with Augmented Reality in an Open Environment**

Manuel Condado, Isabel Morais, Ryan Quinn, Sahil Patel, Patricia Morreale, Ed Johnston, Elizabeth Hyde, *United States*

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

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

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

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

**Towards a Mixed Reality Assistance System for the Inspection after Final Car Assembly**

Marco Pattke, Manuel Martin, Michael Voit, *Germany*

**AR Assistive System In Domestic Environment Using HMDs: Comparing Visual and Aural Instructions**

Shuang He, Yanhong Jia, Zhe Sun, Chenxin Yu, Xin Yi, YuanChun Shi, Yingqing Xu, *P.R. China*

**Interaction Paradigms for Air Traffic Control & Management in Mixed Reality**

Syed Hammad Hussain Shah, *Pakistan*; Kyungjin Han, Jong Weon Lee, *Korea*

**S202**

**Designing Virtual Environments**

Chair(s): To be announced

Room: **NORTHERN A3**

**Information Design for XR Immersive Environments: Challenges and Opportunities**

Elaine M. Raybourn, William Stubblefield, Michael Trumbo, Aaron Jones, Jon Whetzel, Nathan Fabian, *United States*

**Spherical Layout with Proximity-based Multimodal Feedback for Eyes-free Target Acquisition in Virtual Reality**

BoYu Gao, Yujun Lu, *P.R. China*; HyungSeok Kim, *Korea*; Byungmoon Kim, *United States*; Jinyi Long, *P.R. China*

**Human-Computer Interaction for Space Situational Awareness (SSA): Towards the SSA Integrated Sensor Viewer (ISV)**

Mitchell Kirshner, David Gross, *United States*

**Through the Realities of Augmented Reality**

Thitirat Siriborvornratanakul, *Thailand*

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

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

**A Study on the Development of a Mixed Reality System Applied to the Practice of Socially Interactive Behaviors of Children with Autism Spectrum Disorder**

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

**CCD S203**

**Affective Engineering: Strengthening User Experience**

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

Room: **ASIA 5**

**Using psychophysiological techniques to evaluate user experience of touchscreen protectors**

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

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

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

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

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

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

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

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

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

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

Luis Miguel Garrido Possauner, Jorge Maya, *Colombia*

**SCSM S204**

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

Chair(s): Simona Vasilache, *Japan*

Room: **ASIA 4**

**A Computational Model of Dynamic Group Formation on Social Media**

Nick Flor, Erin Maestas, *United States*

**The Olympic Games as a Multicultural Environment and Their Relationship with Social Media**

Devena Haggis, Simona Vasilache, *Japan*

**The Use of Social Media as Part of a Transmedia Storytelling Strategy in WWE's Professional Wrestling**

Eliseo Sciarretta, *Italy*

**Examining Reply Bias and Effectiveness of Online Community for Suicide Prevention: A Case Study of /r/SuicideWatch**

Hsiao-Ying Huang, *United States*

**Bridging between Jewish Ultra-Orthodox and the Start-up Nation: A Case Study**

Dalit Levy, *Israel*

**DHM S205**

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

Chair(s): Sergio Nesteriuk, *Brazil*

Room: **OCEANIC 8**

**Exergames: Game Prototype Using Maker Movement Assets**

Bruno S. Oliveira, Vania Teofilo, Juliana Miranda, Sergio Nesteriuk, *Brazil*

**Literature Review: the Use of Games as a Treatment for Obsessive Compulsive Disorder**

Juliana Miranda, Vania Teofilo, Anthony Lins, Bruno S. Oliveira, Fábio Campos, Sergio Nesteriuk, *Brazil*

**Health Games in Brazil**

Marcelo Simão De Vasconcellos, Cynthia Macedo Dias, Flávia Garcia De Carvalho, Rafael Kanitz Braga, Guilherme Xavier, *Brazil*

**Gamification and learning: a comparative study of design frameworks**

Priscilla Garone, Sergio Nesteriuk, *Brazil*

**Exploring Rhetoric Theory in Persuasive Design: A Mobile Web Application for Obesity Prevention**

G. Mauricio Mejia, Sauman Chu, *United States*

**DUXU S206**

**Trans-inclusive design**

Chair(s): Josh Halstead, *United States*

Room: **SOUTHERN II**

**Cyborg Maintenance: Design, Breakdown, and Inclusion**

Joushua Earle, *United States*

**Technoableism**

Ashley Shew, *United States*

**Designing a Model of Disability?**

Elizabeth Guffey, *United States*

**Cyber-belonging: Crip identity in the construction of cyberspace**

Josh Halstead, *United States*

**DAPI S207**

**Designing intelligent interactive environments - II**

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

Room: **EUROPE 5**

**Presentation of Information Uncertainty from IoBT for Military Decision Making**

Adrienne Raglin, *United States*

**The OTC (Object To Camera) Approach to Visualize Behind Stories of Museum Exhibits**

SJ Kim, Alexis Sanchez, Francis Palispis, John Hanifzai, Keitaro Nishimura, *United States*

**Optimization of a WiFi Wireless Network that Maximizes the Level of Satisfaction of Users and Allows the Use of New Technological Trends in Higher Education Institutions**

Leonel Hernandez, Nidia Balmaceda Castro, Hugo Hernandez-Palma, Carlos Vargas, Emiro De La Hoz-Franco, Nataly Orellano, Emilse Vasquez, *Colombia*; Carlos Eduardo Uc-Rios, *Mexico*

**HCIBGO S208**

**HCI in Business and Organizations**

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

Room: **NORTHERN A2**

**Consciousness of Cyber Defense: Boundary Objects for Expansive Learning through Creation of Contradictions**

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

**The Privacy Paradox in HCI: Calculus Behavior in Disclosing PII Online**

Cheryl Booth, Shuyuan Mary Ho, *United States*

**Identifying Essential Factors for Deriving Value from Big Data Analytics in Healthcare**

Brenda Eschenbrenner, *United States*

**Understanding User Engagement Mechanisms on a Live Streaming Platform**

Xinwei Wang, New Zealand; Dezhi Wu, *United States*

**Creating Value with Proto-Research Persona Development**

Prateek Jain, Soussan Djamasbi, John Wyatt, *United States*

**Skill and the Art of Tax Filing Excellence: Comparison of Two Cultures**

Craig Claybaugh, Peter Haried, *United States*; Linjia Tang, *P.R. China*



HCI in Games

LCT

S209

## Language learning technologies

Chair(s): Joshua Wade, *United States*

Room: **SOUTHERN V**

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

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

### An Immersive Virtual Reality Experience for Learning Spanish

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

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

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

ITAP

S210

## Emerging technologies in an aging society

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

Room: **OCEANIC 2**

### Mapping the Future of Hearables: Lessons from Online and the "Oldest Old" Consumers

Taylor R. Patskanick, Julie Miller, Lisa D'Ambrosio, Chaiwoo Lee, Joseph Coughlin, *United States*

### The oldest olds' perceptions of social robots

Chaiwoo Lee, Maryam FakhrHosseini, Julie Miller, Taylor R. Patskanick, Joseph Coughlin, *United States*

### Smarter homes for older adults: Building a framework around types and levels of autonomy

Maryam FakhrHosseini, Chaiwoo Lee, Joseph Coughlin, *United States*

### Understanding Long-term Adoption and Usability of Wearable Activity Trackers among Active Older Adults

Byung Cheol Lee, Toyin Ajisafe, Tri Van Thanh Vo, Junfei Xie, *United States*

### Usability Study of Electronic Sphygmomanometers Based on Perceived Ease of Use and Affordance

Chao Li, Mei-yu Zhou, Xiang-yu Liu, Tian-xiong Wang, *P.R. China*

S211

## Senior Cloud and Active Aging

Chair(s): Masatomo Kobayashi, *Japan*

Room: **OCEANIC 1**

### The Innovative Reminder in Senior-focused Technology (THIRST) – Evaluation of Serious Games and Gadgets for Alzheimer Patients

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

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

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

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

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

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

Elenia Carrasco Almao, Fatemeh Golpayegani, *Ireland*

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

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

HCI-Games S213

## Gaming Experiences

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

Room: **EUROPE 2**

### Developing Entrepreneurship Skills with a Serious Game

Carlos Vaz de Carvalho, Ricardo Costa, Pedro Bessa, *Portugal*; Leire Monterrubio, Jaione Santos, *Spain*

### Increasing Motivation for Playing Blockchain Games Using Proof-of-Achievement Algorithm

Kosuke Komiya, Tatsuo Nakajima, *Japan*

### Playful-Consumption Experience and Consumer Videogame Engagement in the lens of S-R model: An Empirical Study

Amir Zaib Abbasi, *Pakistan*; Ding Hooi Ting, *Malaysia*; Helmut Hlavacs, *Austria*; Muhammad Shahzeb Fayyaz, *Pakistan*; Bradley Wilson, *Colombia*

### The relationship between game elements and player emotions by comparing game frameworks

Junyao Hu, *P.R. China*

Learning and Collaboration Technologies

Human Aspects of IT for the Aged Population

WEDNESDAY 10:30 - 12:30

**AIS S214**

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

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

Room: **SOUTHERN IV**

**Adaptive Remediation with Multi-modal Content**

Yuwei Tu, Christopher Brinton, Andrew Lan, Mung Chiang, *United States*

**Consideration of a Bayesian Hierarchical Model for Assessment and Adaptive Instructions**

Jong Kim, Frank Ritter, *United States*

**Adaptive Instructional Systems: The Evolution of Hybrid Cognitive Tools and Tutoring Systems**

Jeanine DeFalco, Anne Sinatra, *United States*

**Ibigkas! 2.0: Directions for the Design of an Adaptive Mobile-Assisted Language Learning App**

Ma. Mercedes Rodrigo, *Philippines*; Jaclyn Ocumpaugh, *United States*; Dominique Marie Antonette Manahan, Jonathan Casano, *Philippines*

**S215**

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

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

Room: **SOUTHERN III**

**Missing Pieces: Infrastructure Requirements for Adaptive Instructional Systems**

Avron Barr, Robby Robson, *United States*

**Examining Elements of an Adaptive Instructional System (AIS) Conceptual Model**

Robert A. Sottolare, Brian Stensrud, Andrew J. Hampton, *United States*

**Capturing AIS Behavior using xAPI-like Statements**

Xiangen Hu, Zhiqiang Cai, Andrew J. Hampton, Jody Cockcroft, Arthur C. Graesser, Cameron Copland, Jeremiah Folsom-Kovarik, *United States*

**Lessons from Building Diverse Adaptive Instructional Systems (AIS)**

Eric Domeshek, Sowmya Ramachandran, Randy Jensen, Jeremy Ludwig, James Ong, Dick Stottler, *United States*

**Adaptive Instructional Systems and Digital Tutoring**

John Dexter Fletcher, *United States*

**SEMINAR**

**CYBERSECURITY AWARENESS OF COLLEGE STUDENTS AND FACULTY**

**Wednesday, 31 July 2019,  
10:30 - 12:30,  
Room: Oceanic 6**

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 of all sorts is growing exponentially, coming from a variety of sources such as criminals, spying agencies, competitors and so on and for different reasons: financial gain, political influence, intellectual property, trade secrets, etc.

To implement an action plan for defense against hacking, it is essential to measure the cyber security knowledge of people and see how much they can protect themselves in cyberspace. However, establishing a knowledge measurement at a global level is challenging due to the diversity of communities in factors such as age, level of education, geographical location, standard of living, and technology usage. This seminar will review the results of an extensive investigation of cyber security awareness, knowledge and actions among college students and faculty. Students and faculty represent the most dynamic and knowledgeable population in any society. The investigation was also run in a geographic area with one of the highest levels of technology usage, prosperity and diversity in the world: in Silicon Valley, California USA. As such, the results represent the high bar of such knowledge and serve as a good indicator to extrapolate for the rest of the population.

The main objective of this seminar is to discuss the cyber security awareness of people and how they protect themselves against cyber-attacks, show trends and discuss possible solutions.

**Content and Benefits:** The first part of this seminar will review the main results of the surveys administered in 2018 among students and faculty. In the second part, we will discuss what needs to be done to improve awareness of the general population to protect themselves in cyberspace.

**Potential beneficiaries of this course may be:** Academics, Professional and Practitioners, Cyber Security professionals



**HCI S216**

**Facial Expressions and Emotions - I**

Chair(s): Jinhui Chao, *Japan*

Room: **NORTHERN A2**

**Transform Facial Expression Space to Euclidean Space Using Riemann Normal Coordinates and Its Applications**

Runa Sumiya, Jinhui Chao, *Japan*

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

Yuya Kuroono, Peeraya Sripan, Feng Chen, Midori Sugaya, *Japan*

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

Masashi Shinto, Jinhui Chao, *Japan*

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

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

**S217**

**UI Design and Development**

Chair(s): To be announced

Room: **NORTHERN A1**

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

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

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

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

**A New Method of Banner Color Design**

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

**Walking in the Head: Methods of Sonic Augmented Reality Navigation**

Andreas Kratky, *United States*

**Modeling Drone Crossing Movement with Fitts' Law**

Kaito Yamada, Hiroki Usuba, Homei Miyashita, *Japan*

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

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

**EPCE S218**

**Mental Workload and Productivity**

Chair(s): Shane T. Mueller, *United States*

Room: **EUROPE 4**

**Effect of Mental Fatigue on Visual Selective Attention**

Qianxiang Zhou, Jiaxuan Li, Zhongqi Liu, *P.R. China*

**Comparing eye-gaze metrics of mental workload in monitoring process plants**

Wenyan Huang, Yunshu Xu, *United States*; Michael Hildebrandt, *Norway*; Nathan Lau, *United States*

**Work Fragmentation, Task Management Practices and Productivity in Individual Knowledge Work**

Heljä Franssila, *Finland*

**Development of a quantitative evaluation tool of cognitive workload in field studies through eye tracking**

Giovanni Pignoni, Sashidharan Komandur, *Norway*

**Development and Evaluation of a Model of Human Comfort and Cognitive Ability for Moderate Differences in Thermal Environment**

Shane T. Mueller, Yin-Yin (Sarah) Tan, Isaac Flint, *United States*

**UAHCI S219**

**Technologies for ASD - I**

Chair(s): To be announced

Room: **ASIA 2**

**Learning about Autism using VR**

Vanessa Camilleri, Alexiei Dingli, Foad Haddod, *Malta*

**Attention Assessment: Evaluation of Facial Expressions with Children with Autism Spectrum Disorder**

Bilikis Banire, Dena Al Thani, Mustapha Makki, Marwa Qaraqe, Kruthika Anand, Olcay Connor, Kamran Khawaja, Bilal Mansoor, *Qatar*

**Design of an Intelligent and Immersive System to Facilitate the Social Interaction between Caregivers and Young Children with Autism**

Guangtao Nie, Akshith Ullal, Amy R. Swanson, Amy Weitlauf, Zachary Warren, Nilanjan Sarkar, *United States*

**Which Virtual Piano Keyboard for Children with Autism? A Pilot Study**

Maria Claudia Buzzi, Marina Buzzi, Marco Maugeri, Gabriella Paolini, Maria Teresa Paratore, Alessandra Sbragia, Caterina Senette, Amaury Trujillo, *Italy*

Human-Computer Interaction

Engineering Psychology and Cognitive Ergonomics

Universal Access in Human-Computer Interaction

**UAHCI S220**

**Universal Access to Learning**

Chair(s): John Magee, *United States*

Room: **ASIA 3**

**Understanding how ADHD affects Visual Information Processing**

Yahya Alqahtani, Michael McGuire, Joyram Chakraborty, Jinjuan Heidi Feng, *United States*

**Breaking Down the Wall of Text"- Software tool to address complex assignments for students with attention disorders**

Breanna Desrochers, Ella Tuson, Asad Rizvi, John Magee, *United States*

**Evaluation of User-Interface Designs for Educational Feedback Software for ASL Students**

Utsav Shah, Matthew Seita, Matt Huenerfauth, *United States*

**VAMR S221**

**Alternative Control for Interaction**

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

Room: **NORTHERN A3**

**Xavier Electromyographic Wheelchair Control and Virtual Training**

Albert Manero, Bjorn Oskarsson, John Sparkman, Peter A. Smith, Matt Dombrowski, Mrudula Peddinti, Angel Rodriguez, Juan Vila, Brendan Jones, *United States*

**Designing Inclusive Virtual Reality Experiences**

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

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

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

**S222**

**Developing virtual environments**

Chair(s): To be announced

Room: **NORTHERN A4**

**Virtual Dome System using HMDs: An Alternative to the Expensive and Less Accessible Physical Domes**

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

**Surface Prediction for Spatial Augmented Reality Using Cubature Kalman Filtering**

Keegan Fernandes, Adam Gomes, Cong Yue, Yousef Sawires, David Wang, *Canada*

**GVRf and Blender: a Path for Android Apps and Games Development**

Bruno Oliveira, Diego Azulay, Paulo Carvalho, *Brazil*

**User Guidance for Interactive Camera Calibration**

Pavel Rojtberg, *Germany*

**Marker Concealment Using Print Color Correction and Its Application**

Kang Hoon Lee, Kyudong Sim, Jong-Il Park, *Korea*

**A Review of Augmented Reality-based Human-Computer Interaction Applications of Gesture-based Interaction**

Chutisant Kerdvibulvech, *Thailand*

**CCD S223**

**Next Generation Natural UI**

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

Room: **ASIA 5**

**Business Practice of Service Design in New Retail Era in China**

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

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

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

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

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

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

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

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

Hongbo Zhang, *United States*

Augmented Cognition	AC S224	DHM S225	S226	DUXU S227
	Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management			Design, User Experience, and Usability
	<p><b>Human-Machine Teaming: What makes a good teammate?</b> Chair(s): Leslie Blaha, Corey Fallon, United States</p> <p>Room: <b>EUROPE 1</b></p> <p><b>Common Ground and Autonomy: Two Critical Dimensions of a Machine Teammate</b> Corey Fallon, Leslie Blaha, Kris Cook, Todd Billow, United States</p> <p><b>Considerations for Human-Machine Teaming in Cyber Security</b> Steven Gomez, Vincent Mancuso, Diane Staheli, United States</p> <p><b>Do We Need "Teaming" to Team with a Machine?</b> Craig Haimson, Celeste Lyn Paul, Sarah Joseph, Randall Rohrer, Bohdan Nebesh, United States</p> <p><b>A Cross Functional Management Approach to Human Machine Teaming for the Warfighter</b> Shadya Maldonado Rosado, United States</p>	<p><b>Modelling human motion, abilities and skills</b> Chair(s): Dugan Um, United States</p> <p>Room: <b>OCEANIC 8</b></p> <p><b>A Training System for Swallowing Ability by Visualizing the Throat Position</b> Nagisa Matsumoto, Chihiro Suzuki, Koji Fujita, Yuta Sugiura, Japan</p> <p><b>Exploring the Feasibility of Classifying Fundamental Locomotor Skills Using an Instrumented Insole and Machine Learning Techniques</b> Toyin Ajisafe, Dugan Um, United States</p> <p><b>Continuous measurement of muscle fatigue using wearable sensors during light manual operations</b> Jiawei Fu, Liang Ma, Liuxing Tsao, Zhanwu Zhang, P.R. China</p> <p><b>Classifying Non-elementary Movements In Vietnamese Mo Dances</b> Mustapha Bourahla, Abdelmoutia Telli, Algeria; Salem Benferhat, France; Ma Thi Chau, Viet Nam</p>	<p><b>Quality in care - I</b> Chair(s): To be announced</p> <p>Room: <b>OCEANIC 6</b></p> <p><b>Uncovering User Affect towards AI in Cancer Diagnostics</b> Stephanie Tom Tong, Pradeep Sopory, United States</p> <p><b>A Lightweight and Affordable Sleep Quality Monitoring and Visualization System with a GSR Sensor for Users in Rural Areas to Facilitate Tele-Health</b> Yang Du, Qiming Sun, Kou Wang, Tiffany Tang, P.R. China</p> <p><b>Using CFD technology to simulate a model of human thermoregulation in the stable temperature environment</b> Hongjun Xue, Sina Dang, P.R. China</p>	<p><b>Virtual Reality and Game Design</b> Chair(s): Feng Ye, P.R. China</p> <p>Room: <b>SOUTHERN II</b></p> <p><b>Narrative Controllability in Visual Reality Interactive Image</b> Jinning Wang, Feng Ye, P.R. China</p> <p><b>Exploration of the Interactive Narrative Modes and Application Form of AR Animations</b> Shen Yongliang, P.R. China; Niu Bosi, Chad</p> <p><b>Study on Visual Guidance on Scene Art Design of Immersive Video</b> Songheng Wang, Zhimin Wang, P.R. China</p> <p><b>Interactive Storytelling in V.R.: Coming Soon?</b> Andy Deck, United States</p> <p><b>Storytelling Research of Virtual Image Based on User Experience</b> Jing Li, Ling Zou, P.R. China</p>

**DUXU S228**

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

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

Room: **SOUTHERN III**

**Analysis the Impacting of "User Experience" for Chinese Mobile Phone's Brands Market Changing**

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

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

Yanlin Liu, *P.R. China*

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

Yu Chen, *P.R. China*

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

Ming He, *P.R. China*

**Research on Production Form Attractiveness Factors based on Users' Emotional Needs**

Tian-xiong Wang, Mei-yu Zhou, *P.R. China*

**Mobile Web Design: The Effect of Education on the Influence of Classical and Expressive Aesthetics on Perceived Credibility**

Kiemute Oyibo, Ifeoma Adaji, Julita Vassileva, *Canada*

**S229**

**User experience evaluation methods and tools**

Chair(s): Dania Bilal, *United States*

Room: **SOUTHERN IV**

**User-Centered Survey Design: Considering Group Membership Effects on Survey Responses**

Kelly Roth, Dania Bilal, *United States*

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

Stefano Filippi, Daniela Barattin, *Italy*

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

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

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

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

**Seeing Potential Is More Important Than Usability: Revisiting Technology Acceptance**

Brian Pickering, *United Kingdom*; Mariet Nouri Janian, *Italy*; Borja López Moreno, *Spain*; Andrea Micheletti, Alberto Sanna, *Italy*; Mike Surridge, *United Kingdom*

**The Potential Role of Digital Nudging in the Digital Transformation of the Healthcare Industry**

Christian Meske, Ireti Amojó, Akira-Sebastian Poncette, Felix Balzer, *Germany*

**DAPI S230**

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

Chair(s): Ashir Ahmed, *Bangladesh*

Room: **EUROPE 5**

**Development of Mobile Based In-Home Patient Monitoring System for the Management of Chronic Disease of Indigenous Communities in a Developing Country**

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

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

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

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

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

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

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

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

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

**HCIBGO S231**

**HCI in Social Computing and Service Innovation**

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

Room: **EUROPE 2**

**Transforming User Experience of Nutrition Facts Label - An Exploratory Service Innovation Study**

Prateek Jain, Soussan Djamasbi, *United States*

**Humanoid Robots as Interviewers for Automated Credibility Assessment**

Aaron Elkins, Amit Gupte, Lance Cameron, *United States*

**User Experiences of Incident Reporting Software in Fire Services: An Integrative Review and Meta-Analysis**

Aimee Kendall Roundtree, *United States*

**Effects of Conscientiousness on Users' Eye-Movement Behaviour with Recommender Interfaces**

Lin Zhang, Heshan Liu, *P.R. China*

**Interactive Systems in the Student-Bank Relationship: a Research on the Views of the University of Bucharest Students on the Utility and Adaptability of HCI Technologies**

Valentin Mihai Leoveanu, Mihaela Cornelia Sandu, Adela Coman, *Romania*

Distributed, Ambient and Pervasive Interactions

HCI in Business, Government and Organizations



**HCI S235**

**Facial Expressions and Emotions - II**

Chair(s): Zhi Zheng, *United States*

Room: **ASIA 3**

**Deep Convolutional Neural Networks for Feature Extraction in Speech Emotion Recognition**

Panikos Heracleous, Yasser Mohammad, Akio Yoneyama, *Japan*

**Facial Expression Recognition for Children: Can Existing Methods Tuned for Adults be Adopted for Children?**

Zhi Zheng, Xingliang Li, Jaclyn Barnes, Chung Hyuk Park, Myoungsoon Jeon, *United States*

**Influence of EQ on the Difference of Biometric Emotion and Self-evaluated Emotion**

Reiji Yoshida, Midori Sugaya, *Japan*

**Preliminary Evaluation between Conscious Feeling and Unconscious Emotion Estimated by Bio-Signals Applied to CMC Comparison**

Feng Chen, Midori Sugaya, *Japan*

**The Effects of Robot Voice and Gesture Types on the Perceived Robot Personalities**

Xiao Dou, Chih-Fu Wu, Kai-Chieh Lin, Tzu-Min Tseng, *Taiwan*

Human-Computer Interaction

**HIMI S236**

**Science / technology and society**

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

Room: **OCEANIC 4**

**Extraction of new guideline items from the view point of ELSI (Ethics, Legal, Social Issues) for service utilized AI –focus on healthcare area**

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

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

Hiroshi Ujita, Hiroshi Sakuda, *Japan*

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

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

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

Sebastian Schmitz, Daniel Schilberg, *Germany*

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

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

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

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

Human Interface and the Management of Information

**UAHCI S237**

**Technologies for ASD - II**

Chair(s): Patrick M. Langdon, *United Kingdom*

Room: **ASIA 2**

**An Augmented Reality-based Word-Learning Mobile Application for Children with Autism to Support Learning Anywhere and Anytime: Object Recognition based on Deep Learning**

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

**The PTC and Boston Children's Hospital Collaborative AR Experience for Children with Autism Spectrum Disorder**

David Juhlin, Chris Morris, Peter Schmaltz, Howard Shane, Ralf Schlosser, Amanda O'Brien, Christina Yu, Drew Mancini, Anna Allen, Jennifer Abramson, *United States*

**Improving Usability of a Mobile Application for Children with Autism Spectrum Disorder Using Heuristic Evaluation**

Murilo C. Camargo, Tathia C.P. Carvalho, Rodolfo M. Barros, Vanessa T.O. Barros, Matheus Santana, *Brazil*

**Usability Enhancement and Functional Extension of a Digital Tool for Rapid Assessment of Risk for Autism Spectrum Disorders in Toddlers based on Pilot Test and Interview Data**

Deeksha Adiani, Michael Schmidt, Joshua Wade, Amy R. Swanson, Amy Weitlauf, Zachary Warren, Nilanjan Sarkar, *United States*

Universal Access in Human-Computer Interaction

**VAMR S238**

**VAMR in training**

Chair(s): Rafael Radkowski, *United States*

Room: **EUROPE 4**

**Physically Extended Virtual Reality (PEVR) as a New Concept in Railway Driver Training**

Małgorzata Ćwil, Witold Bartnik, *Poland*

**Cicero VR - Public Speaking Training Tool and an Attempt to Create Positive Social VR Experience**

Michał Jakubowski, Marcin Wardaszkowski, Anna Winniczuk, Blazej Podgorski, Małgorzata Ćwil, *Poland*

**A Multi-Procedural Virtual Reality Simulator for Orthopaedic Training**

Gino De Luca, Nusrat Choudhury, Catherine Pagiatakis, Denis Laroche, *Canada*

**Impact of Foveated Rendering on Procedural Task Training**

Rafael Radkowski, Supriya Raul, *United States*

**Designing Educational Virtual Environments for Construction Safety: A Case Study in Contextualizing Incident Reports and Engaging Learners**

Alyssa M. Pena, Eric D. Ragan, Julian Kang, *United States*

**Augmented Reality (AR) Assisted Laryngoscopy for Endotracheal Intubation Training**

Ming Qian, John Nicholson, David Tanaka, Patricia Dias, Erin Wang, *United States*; Litao Qiu, *P.R. China*

Virtual, Augmented and Mixed Reality



AC

S239

## Field Studies of Human Performance and Training Assessment

Chair(s): Kurtulus Izzetoglu, *United States*

Room: **EUROPE 1**

## Construction of Air Traffic Controller's Decision Network Using Error-related Potential

Sim Kuan Goh, Ngoc Phu Tran, Duc-Thinh Pham, Sameer Alam, *Singapore*; Kurtulus Izzetoglu, *United States*; Vu Duong, *Singapore*

## UAS Operator Workload Assessment During Search and Surveillance Tasks Through Simulated Fluctuations in Environmental Visibility

Jaime Kerr, Pratusha Reddy, Shahar Kosti, Kurtulus Izzetoglu, *United States*

## Assessing Correlation between Virtual Reality Based Serious Gaming Performance and Cognitive Workload Changes via Functional Near Infrared Spectroscopy

Emin Aksoy, *Turkey*; Kurtulus Izzetoglu, Banu Onaral, *United States*; Dilek Kitapcioglu, Mehmet Erhan Sayali, Feray Guven, *Turkey*

## Designing an Interactive Device to Slow Progression of Alzheimer's Disease

Ting-Ya Huang, Hsi-Jen Chen, Fong-Gong Wu, *Taiwan*

## Calculating Cognitive Augmentation - A Case Study

Ron Fulbright, *United States*

DHM

S240

## Ergonomic applications

Chair(s): H. Onan Demirel, *United States*

Room: **OCEANIC 8**

## Design and Evaluation of the System Device for Mitigation of the Low Back Pain Among Veterinarians

Tzulien Chou, Hsi-Jen Chen, Fong-Gong Wu, *Taiwan*

## A Comparison between Virtual Reality and Digital Human Modeling for Proactive Ergonomic Design

Salman Ahmed, Lukman Irshad, H. Onan Demirel, Irem Y Tumer, *United States*

## Comparison of Digital Human Model -based Ergonomic Software using Eye-Tracking Methodology – Presenting Pilot Usability Tests

Mária Babicsné Horváth, Karoly Hercegi, *Hungary*; Tamás Fergencs, *Denmark*

## An integrated ergonomics evaluation method of HWDs

Hongjun Xue, Hua Zhao, Xiaoyan Zhang, *P.R. China*

S241

## Quality in care - II

Chair(s): Jung Hyup Kim, *United States*

Room: **OCEANIC 6**

## Mobile Phone-based Chatbot for Family Planning and Contraceptive Information

Syed Ali Hussain, Folu Ogundimu, Shirish Bhattarai, *United States*

## Experimental Web Service and Eye-Tracking Setup for Unilateral Spatial Neglect Assessment

Timothé Rossa, Pierre Pompidor, Nancy Rodriguez, Arnaud Salaberry, Pascal Poncelet, Marika Urbanski, Clémence Bourlon, Antoine Seilles, Guillaume Tallon, *France*

## Increasing Availability Control of Human Biological Samples Using a Mobile Management System

Leonardo Lima Marinho, Isabel Cristina P. Da Nóbrega, Nayat Sanchez Pi, Rosa Maria E. Moreira Costa, Vera Maria B. Werneck, *Brazil*

## Discrete-event Simulation for Performance Evaluation and Improvement of Gynecology Outpatient Departments: A Case Study in the Public Sector

Miguel Ortiz-Barrios, Pedro Lopez-Meza, *Colombia*; Sally McClean, *United Kingdom*; Giselle Polifroni-Avenidaño, *Colombia*

## Measuring Nursing Workload in an Intensive Care Unit using NGOMSL Model

Sivamanoj Sreeramakavacham, Jung Hyup Kim, Laurel Despina, *United States*

DUXU

S242

## User research and user involvement

Chair(s): To be announced

Room: **ASIA 4**

## The Construction and Practice of Risk Control Model in User Research

Yan Wang, Junnan Ye, *P.R. China*

## How to co-design with citizens for successful Living Lab?

Masayuki Ihara, Mizue Hayashi, Fumiya Akasaka, Atsunobu Kimura, Hiroshi Watanabe, *Japan*

## Effectiveness and Cost-benefit Ratio of Weekly User Group Sessions

Helmut Degen, Gustavo Guillen, Holger Schmidt, *United States*

## Sketch notes, a non-traditional way for user researchers to take notes

Maliheh Aghanasiri, Grace Phang, *United States*

## Design Thinking and Scrum in Software Requirements Elicitation: A Case Study

Rafael Dos Santos Braz, José Reinaldo Merlin, Daniela De Freitas Guilhermino Trindade, Carlos Eduardo Ribeiro, Ederson Marcos Sgarbi, Fabio de Sordi Junior, *Brazil*

## Design Thinking versus Design Sprint: A Comparative Study

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

Augmented Cognition

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

Design, User Experience, and Usability



**DAPI S243**

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

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

Room: **EUROPE 5**

**Managing Changes Initiated by Industrial Big Data Technologies: A Technochange Management Model**

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

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

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

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

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

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

Mostafa Alani, Arash Soleimani, United States

**LCT S244**

**Novel learning environments**

Chair(s): Tomaž Klobučar, Slovenia

Room: **EUROPE 2**

**Facilitating Access to Cross-border Learning Services and Environments with eIDAS**

Tomaž Klobučar, Slovenia

**Collaborative Meaning Construction in Socioenactive Systems: Study with the mBot**

Ricardo Caceffo, Eliana Alves Moreira, Rodrigo Bonacin, Julio Cesar Dos Reis, Marleny Luque Carbajal, João Vilhete V. D'Abreu, Camilla V.L.T. Brennand, Luma Lombello, José Armando Valente, M. Cecília C. Baranauskas, Brazil

**Evaluating the Usability of Pervasive Conversational User Interfaces for Virtual Mentoring**

Earl W. Huff, Naja A. Mack, Robert Cummings, Kevin Womack, Kinnis Gosha, Juan Gilbert, United States

**Proposing an Estimation Method of Mental Fatigue by Measuring Learner's Leg Movement**

Daigo Aikawa, Yasutaka Asai, Hironori Egi, Japan

**Pedagogical-Agent Learning Companions in a Virtual Reality Educational Experience**

David Novick, Mahdokht Afravi, Adriana Camacho, Aaron E. Rodriguez, Laura J. Hinojos, United States

**S245**

**Supporting collaboration and work**

Chair(s): To be announced

Room: **EUROPE 3**

**Towards Supportive Mechanisms for Crowd Collaboration – Design Guidelines for Platform Developers**

Navid Tavanapour, Eva A. C. Bittner, Germany

**Designing a System for Visualizing Speech Conditions during Collaborative Face-to-Face Discussions**

Hironori Egi, Taishi Okazawa, Naruaki Ishikawa, Japan

**A Study of Internship Satisfaction and Future Job Intention of Taiwanese Young Generation Z Students with Different Levels of Technology**

Yi-an Hou, Taiwan

**ITAP S246**

**Designing the elderly user experience - II**

Chair(s): Beenish Chaudhry, United States

Room: **OCEANIC 1**

**Teaching Tablet Technology to Older Adults**

Beenish Chaudhry, Dipanwita Dasgupta, Nitesh Chawla, United States

**Employing interdisciplinary approaches in designing with fragile older adults; Advancing ABLE for Arts-based rehabilitative play and complex learning**

Paula Gardner, Caitlin McArthur, Adekunle Akinyemi, Stephen Surlin, Rong Zheng, Alexandra Papaioannou, Yujiao Hao, Jason Xu, Canada

**Development and Comparison of Customized Voice-Assistant Systems for Independent Living Older Adults**

Shradha Shalini, Trevor Levins, Erin L. Robinson, Kari Lane, Geunhye Park, Marjorie Skubic, United States

**The Use of Interactive Tables in Promoting Well Being in Specific User Groups**

Alice Good, Omobolanle Omisade, Claire Ancient, Elisavet Andrikopoulou, United Kingdom

- **Affordable Rideshare Service for Female Urban Corporates in Developing Countries: A Case Study in Dhaka, Bangladesh**  
Nuren Abedin, Kenji Hisazumi, *Japan*; Ashir Ahmed, *Bangladesh*
- **Guidelines on Context Integration: developing technological solutions communication for education professionals**  
Janaina Abib, Ednilson Rossi, Rafael Pena, *Brazil*
- **Graph-based Format for Modeling Multimodal Annotations in Virtual Reality by Means of VAnnotatoR**  
Giuseppe Abrami, Alexander Mehler, Christian Spiekermann, *Germany*
- **Designing and Developing Architectures to Tangible User Interfaces: a “softwareless” approach**  
Lucas Barreiro Agostini, Tatiana Aires Tavares, *Brazil*
- **Emotion recognition system based on EEG signal analysis using auditory stimulation: experimental design**  
Catalina Aguirre Grisales, Edwin Gaviria Cardenas, Victor Hugo Castro Londoño, Héctor Fabio Torres Cardona, José Luis Rodríguez Sotelo, *Colombia*
- **Plugin: a crowdsourcing mobile app for easy discovery of public charging outlets**  
Salah Uddin Ahmed, Fisnik Dalipi, *Norway*; Mexhid Ferati, *Sweden*
- **Design Considerations for Developing a Mobile Storytelling Game Application**  
Duck-Ki Ahn, Yun-Gyung Cheong, Byung-Chull Bae, *Korea*
- **Size Perception of Augmented Objects by Different AR Displays**  
Jong-gil Ahn, Euijai Ahn, Seulki Min, Hyoenah Choi, Howon Kim, Gerard J. Kim, *Korea*
- **MRsive: An Augmented Reality Tool for Enhancing Wayfinding and**

## Engagement With Art in Museums

Jad Al Rabbaa, Alexis Morris, Sowmya Somanath, *Canada*

- **AI-based technical approach for designing mobile decision aids**  
Kiana Alikhademi, Brianna Richardson, Kassandra Ross, Jihyun Sung, Juan Gilbert, Wi-Suk Kwon, Veena Chattaraman, *United States*
- **Labenah: an Arabic Block-Based Interactive Programming Environment for Children. The Journey of Learning and Playing**  
Bushra Alkadhi, Sarah Alsaif, Alhanouf Alangri, Fatima Alkallas, Hatoun Aljadou, Noura Altamimi, *Saudi Arabia*
- **The Relationship Between Usability and Biometric Authentication in Mobile Phones**  
Carly Grace Allen, Sashidharan Komandur, *Norway*
- **Co-Creation in the Localization of Interactive Systems Designed for Communicating Science to the Public: An Experience Report**  
Lama Alluwaymi, Lama Alrashed, Hailah Alqaffary, Lamia Alabdulkarim, Nouf Alaloula, Rasha Alruwaili, Amal Alabdulkarim, Lamees Alsuhaibani, Areej Al-Wabil, *Saudi Arabia*
- **A Haptic Virtual Kitchen for the Cognitive Empowerment of Children with Autism Spectrum Disorder**  
Erik Almaguer, Shamima Yasmin, *United States*
- **NET-EXPO: a Gephi Plugin Towards Social Network Analysis of Network Exposure for Unipartite and Bipartite Graphs**  
Muhammad “Tuan” Amith, Kayo Fujimoto, Cui Tao, *United States*
- **Glass-beads Display: Evaluation for aerial graphics rendered by retro-reflective particles**  
Shinnosuke Ando, Kazuki Otao, Yoichi Ochiai, *Japan*
- **Increasing Virtual Reality Immersion through Smartwatch Lower Limb**

## Motion Tracking

Alix Angarita, Alvaro Hernandez, *Colombia*;  
Christopher Carmichael, Alvaro Uribe Quevedo,  
*Canada*; Claudia Rueda, Sergio Salinas, *Colombia*

- **Comparison of gaze patterns while diagnosing infant epilepsies**  
Hirotaka Aoki, Satoshi Suzuki, Makiko Aoki,  
*Japan*
- **Technology-enhanced Training System for Reducing Separation Anxiety in Dogs**  
Carlos Arce-Lopera, Javier Diaz-Cely, Paula  
García, Maria Morales, *Colombia*
- **Generation of atmosphere with haptic impressions by using surrounding visual stimuli**  
Midori Ban, Hideyuki Takahashi, Naoko Omi,  
Ryuta Ueda, Sanae Kagawa, Hisashi Ishihara,  
Yutaka Nakamura, Yuichiro Yoshikawa, Hiroshi  
Ishiguro, *Japan*
- **Smart Traffic Light Request Button – Improving Interaction and Accessibility for Pedestrians**  
David Barabas, Daniel Banzhaf, Waldemar Titov,  
Thomas Schlegel, *Germany*
- **Icon Design for a Tourism Mobile App**  
Claudia Regina Batista, Adhemar Maria Do  
Valle Filho, Amanda Mafioletti, Maria Helena  
Novakoski, *Brazil*
- **Human Learning in Data Science**  
Anna Beer, Daniyal Kazempour, Marcel Baur,  
Thomas Seidl, *Germany*
- **Tinted windows usage in vehicles: introducing a game that evaluates it's impact on driver's vision**  
Luiz C. Begosso, Luiz R. Begosso, Cristiane  
Freitag, Gabriel B. Berto, *Brazil*
- **The Interaction of the Public with the Show Museum: a Case Study about the Museum of Tomorrow**  
Cidomar Biancardi Filho, Priscila Arantes, *Brazil*
- **Interactive Edutainment: A Technologically Enhanced Theme Park**  
Chryssi Birliraki, Nikos Stivaktakis, Antonis  
Chatziantoniou, Vassiliki Neroutsou, Emmanouil  
Zidianakis, Ioanna Zidianaki, Emmanouil

Apostolakis, Emmanouil Stamatakis, Michalis  
Roulis, Stavroula Ntoa, Michalis Sifakis, Maria  
Korozi, Spiros Paparoulis, Thanasis Toutountzis,  
Nikolaos Patsiouras, Antonis Dimopoulos,  
George Paparoulis, Nikolaos Partarakis, George  
Margetis, Constantine Stephanidis, *Greece*

- **Creating a Community of Scholars: Outcomes and Interventions of a Four-Year Community College STEM Scholarship Program**  
James Braman, Barbara Yancy, Sylvia Sorkin,  
*United States*
- **Index of Difficulty Measurement for Handedness with Biometric Authentication**  
Kathleen Brush, Nabil El Achraoui, Jennifer  
Boyd, Jacob Johnson, Randy Chepenik, Tarik  
McLean, *United States*; Sadida Siddiqui, *India*;  
Aditee Verma, John Sheridan, Avery Leider,  
Charles Tappert, *United States*
- **Facilitating Deep Learning Through Vertical Integration Between Data Visualization Courses within an Undergraduate Data Visualization Curriculum**  
Vetria Byrd, *United States*
- **Trust in software: Attributes of computer code and the human factors that influence utilization metrics**  
August Capiola, Alex D. Nelson, Charles Walter,  
Tyler Ryan, Sarah Jessup, Gene Alarcon, Rose  
Gamble, Marc Pfahler, *United States*
- **OPDisp - Open architecture for extensible public displays**  
Miguel Almeida Carvalho, Ana Tomé, João Nuno  
Silva, *Portugal*
- **Language Learning in a Cognitive and Immersive Environment Using Contextualized Panoramic Imagery**  
Samuel Chabot, Jaimie Drozdal, Yalun Zhou, Hui  
Su, Jonas Braasch, *United States*
- **Application Research on Human-Computer Interaction in Emotional Design of Science and Technology Exhibition Hall**  
Chen Chen, *P.R. China*

- **Perception Differences Between Students and Teachers of Undergraduate Industrial Design Core Courses**  
Wenzhi Chen, *Taiwan*
- **LipSpeaker: Helping Acquired Voice Disorders People Speak Again**  
Yaohao Chen, Junjian Zhang, *Japan*; Yizhi Zhang, *United States*; Yoichi Ochiai, *Japan*
- **HCI Technologies in National S&T Master Plan of Korea**  
Changtaek Choi, *Korea*
- **An Online Comment Assistant for a Better Comment Experience**  
Ju Yeon Choi, Younah Kang, Keeheon Lee, *Korea*
- **Layered Information Structure for Hierarchical Security Management of Critical Infrastructure Using Network Security Appliances**  
Seungoh Choi, Yesol Kim, Jeong-Han Yun, Byung-Gil Min, HyoungChun Kim, *Korea*
- **Data Center Physical Security Training VR to Support Procedural Memory Tasks**  
Eunsun Chu, Austin Payne, Jinsil Seo, Dhruva Chakravorty, Donald McMullen, *United States*
- **Brain Computer Interface for Motor Rehabilitation**  
Elizabeth Clark, Adrienne Czapslewski, Sean Dourney, Ashley Gadelha, Khoa Nguyen, Patrick Pasciucco, Marimar Rios, Ross Stuart, Eduardo Castillo, Milena Korostenskaja, *United States*
- **Human Computer Interaction with Multivariate Sentiment Distributions of Stocks Intraday**  
Lamarcus Coleman, Mariofanna Milanova, *United States*
- **InNervate AR: Dynamic Interaction System for Motor Nerve Anatomy Education in Augmented Reality**  
Margaret Cook, Austin Payne, Jinsil Seo, Michelle Pine, Timothy McLaughlin, *United States*
- **Animal Trail: An Augmented Reality Experience in the Amazon Rainforest**  
Cinthia Larissa Da Costa, Wilson Prata, *Brazil*
- **Towards an Augmented Reality-based Mobile Math Learning Game System**  
Lin Deng, Jing Tian, Christopher Cornwell, Victoria Phillips, Long Chen, Amro Alsuwaida, *United States*
- **Research on design service mode of industrial transformation and upgrading driven by design—Setting China's Yangtze River Delta Region as an Example**  
Wei Ding, Defang Chen, Yan Wang, Junnan Ye, Dadi An, *P.R. China*
- **Human Computer Interaction in Education**  
Alexiei Dingli, Lara Caruana Montaldo, *Malta*
- **An Assistant Device for Piano Keyboard Self-learning**  
Adhemar Maria Do Valle Filho, Claudia Regina Batista, Gabriel Vinicius Teixeira Kanczewski, *Brazil*
- **Horizontal Wide-Range Gaze Detection System by Combination of Pupil Ellipticity and Pupil-Corneal Reflection Methods**  
Yoshinobu Ebisawa, Kiyotaka Fukumoto, Yuichi Nakazawa, *Japan*
- **Themes Validation Tools**  
Everlandio Fernandes, Rodrigo Correia, Adriano Gil, Juliana Postal, Mikhail R. Gadelha, *Brazil*
- **Requirements for a framework of a virtual learning environment for deaf people mediated by avatar**  
Marta Angelica Montiel Ferreira, Laura Sanchez Garcia, Juliana Bueno, Tanya Amara Felipe, *Brazil*
- **Human Factors in New Personal Learning Ecosystems: Challenges, Ethical Issues, and Opportunities**  
Helene Fournier, Heather Molyneaux, Rita Kop, *Canada*
- **Is Tourist Markovian under asymmetric information?**  
Karim Elia Fraoua, Sylvain Michelin, *France*

- **Attitude-Behavior Inconsistency Management Strategies in MTurk Workers: Cognitive Dissonance in Crowdsourcing Participants?**  
Katherine Fritzlen, Dania Bilal, Michael Olson, *United States*
- **A Novel Picture Fingerprinting Technique to Provide Practical Indoor Localization for Wheelchair Users**  
Jicheng Fu, Paul Wiechmann, Marcus Ong, Gang Qian, Daniel Yan Zhao, *United States*
- **Equirectangular Image Quality Assessment Tool Integrated into the Unity Editor**  
Adriano Gil, Thiago S. Figueira, *Brazil*
- **Investigating the Determinants of Users' Willingness to Pay for Answers on Q&A Platforms**  
Jia Gu, Lili Liu, *P.R. China*
- **The Long-Term Effect of Health-Related Online Use on Healthcare Utilization and Expenditures among Older Adults**  
Soyeon Guh, Tae Hyon Whang, Betsy Keller, Phil Fiero, *United States*
- **Internet Use and Happiness: An Updated Review of Literature**  
Richard H. Hall, *United States*
- **Focus on the Human Dimension: Constructing Sustainable Experiential Learning Solutions for Small Unit Leaders**  
Lauren Hallal-Kirk, William Ross, Roger Daigle, *United States*
- **Prototyping User Interfaces for Mobile Augmented Reality Applications**  
Nicholas Harvel, Daniel W. Carruth, Julie Baca, *United States*
- **System Usability Scale Evaluation of E-Participation in Malaysia**  
Nasrah Hassan Basri, Wan Adilah Wan Adnan, Hanif Baharin, *Malaysia*
- **Lexicon-Based Sentiment Analysis of Online Customer Ratings as a Quinary Classification Problem**  
Claudia Hösel, Christian Roschke, Rico Thomanek, Marc Ritter, *Germany*
- **Commercial activity trackers overestimate step count: implications for ambulatory activity monitoring**  
Albert Hernandez, Toyin Ajisafe, Byung Cheol Lee, Junfei Xie, *United States*
- **Studying Relationships of Muscle Representations and Levels of Interactivity in a Canine Anatomy VR Environment**  
Ben Heymann, Preston White, Jinsil Seo, *United States*
- **How to achieve explainability and transparency in human AI interaction**  
Joana Hois, Dimitra Theofanou-Fuelbier, Alischa Janine Junk, *Germany*
- **Do self-reported playing preferences correlate with emotional reactions during playing? Evidence from psychophysiological recordings**  
Suvi Holm, Santtu Forsström, Johanna K. Kaakinen, Veikko Surakka, *Finland*
- **A Study on the use of Motion Graphics and Kinect in LMA(Laban Movement Analysis) Expression Activities for Children with Intellectual Disabilities**  
SungHee Hong, TaeWoon Kim, *Korea*
- **Visual Exploration of Topic Controversy in Online Conversations**  
Enamul Hoque, Esha Abid, *Canada*
- **Compensatory Visual Field Training Based on a Head-mounted Display Eye Tracker**  
Katsuyoshi Hotta, Oky Dicky Ardiansyah Prima, Takashi Imabuchi, Hisayoshi Ito, *Japan*
- **The Research on the Characteristics of Furniture Hardware Design through 3D Printing**  
Cynthia Chun Yu Hsieh, Shao Wei Ku, *Taiwan*

- **Perception of Smart Home Devices and Privacy by Chinese Users**  
Kathy Huang, Zhanwei Wu, *P.R. China*
- **Exploration of Virtual Reality-Based Online Shopping Platform**  
Yu-Chun Huang, *Taiwan*; Shan-Ya Hu, Ssu-Ting Wang, *P.R. China*; Scottie Chih-Chieh Huang, *Taiwan*
- **Using Simulation to Accelerate Development of User Interfaces for Autonomous Vehicles**  
Christopher R. Hudson, Ryan Lucius, Robert Gray, Brandon Powell, Matthew Doude, Daniel W. Carruth, *United States*
- **Atlanta Code Warriors: A CS Engagement Pilot Initiative**  
Earl W. Huff, Jaye Nias, Robert Cummings, Naja A. Mack, Kinnis Gosha, *United States*
- **HCI Design Principles and Visual Analytics for Media Analytics Platform**  
Ajaz Hussain, Sara Diamond, Steve Szigeti, Marcus Gordon, Feng Yuan, Melissa Diep, Lan-xi Dong, *Canada*
- **iGlow: Visualizing a Person's Energy Level Through Hand Motion**  
Triet Huynh, Bhagyalakshmi Muthucumar, Dvijesh Shastri, *United States*
- **A supporting system for Teaching Assistant to control assistant behavior by adjusting instruction time**  
Ryuichiro Imamura, Yuuki Yokoyama, Hironori Egi, *Japan*
- **A gamified mobile-based virtual reality laboratory for physics education: results of a mixed approach**  
Diego Iquiria, Briseida Sotelo, Olha Sharhorodska, *Peru*
- **Using Multi-Touch Multi-User Interactive Walls For Collaborative Active Learning**  
Ghislain Maurice N. Isabwe, *Norway*; Renée Schulz, *Japan*; Frank Reichert, Morgan Konnestad, *Norway*
- **Peripheral Distortion on Views in a Fish Tank Could be Corrected using a**

- Trapezoidal Glass and Microlens Array**  
Yukio Ishihara, Makio Ishihara, *Japan*
- **Simultaneous Dialog Robot System**  
Takuya Iwamoto, Kohtaro Nishi, Taishi Unokuchi, *Japan*
- **Beautifying Profile Pictures in Online Dating: Dissolving the Ideal-Reality Gap**  
Takuya Iwamoto, Kazutaka Kurihara, *Japan*
- **Systematic Review of Mobile Phone Apps Currently Available to Norwegian Users to Support Diabetes Self-Management**  
Julia Jacoby, *Norway*
- **Design Strategies of Corporate Gamification Systems that Evokes Employee Motivation – Creative Process of Gathering Game Design Elements into Working System**  
Michał Jakubowski, *Poland*
- **Transforming a specialized Q&A system to a chatbot system: A Case of a Simplified Taxation in Korea**  
Jihye Jang, Keeheon Lee, *Korea*
- **Spaceship, Guardian, Coach: Drivers' Mental Models of Advanced Vehicle Technology**  
James Jenness, John Lenneman, Amy Benedick, Richard Huey, Joshua Jaffe, Jeremiah Singer, Sarah Yahoodik, *United States*
- **Virtual Reality (VR) Technology Improves Hospitality Students' Learning**  
Lan Jiang, Fan Zhao, *United States*
- **On Two Types of Thinking Patterns in Aviation Safety**  
Hung-Sying Jing, *Taiwan*
- **Tingling Cast: Broadcasting platform service for stuttering children**  
HyunJin Jo, Yeonji Kim, JaeYoung Yun, *Korea*
- **Study of Eye Gaze and Presence Effect in Virtual Reality**  
Yoon Seok Ju, Joon Sun Hwang, *Korea*; SJ Kim,

*United States; Hae Jung Suk, Korea*

- **Design Mobile App Notification to Reduce Student Stress**  
*Ann Junker, United States*
- **Detecting and Identifying Real and Decoy Tanks in a Computer Screen: Evidence from Stimuli Sensitivity and Eye-tracking**  
*Kari Kallinen, Finland*
- **Phenomenology of Experience in Ambient Intelligence**  
*Sofia Kaloterakis, Netherlands*
- **Providing Recursive Functions to the Tangible Programming Environment for Smartphones**  
*Yasushi Kambayashi, Katsuki Tsukada, Munehiro Takimoto, Japan*
- **Motion Estimation of Plush Toys through Detachable Acceleration Sensor Module and Machine Learning**  
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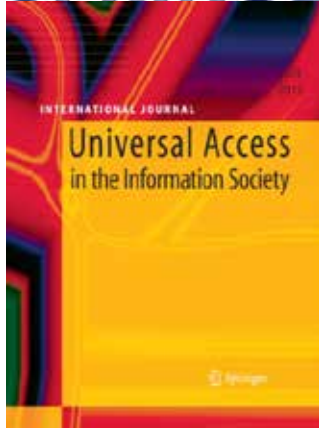
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Students (undergraduate, postgraduate or doctoral) are invited to submit an abstract and a video clip (up to 5-minutes) that presents their design idea. Three awards will be presented.

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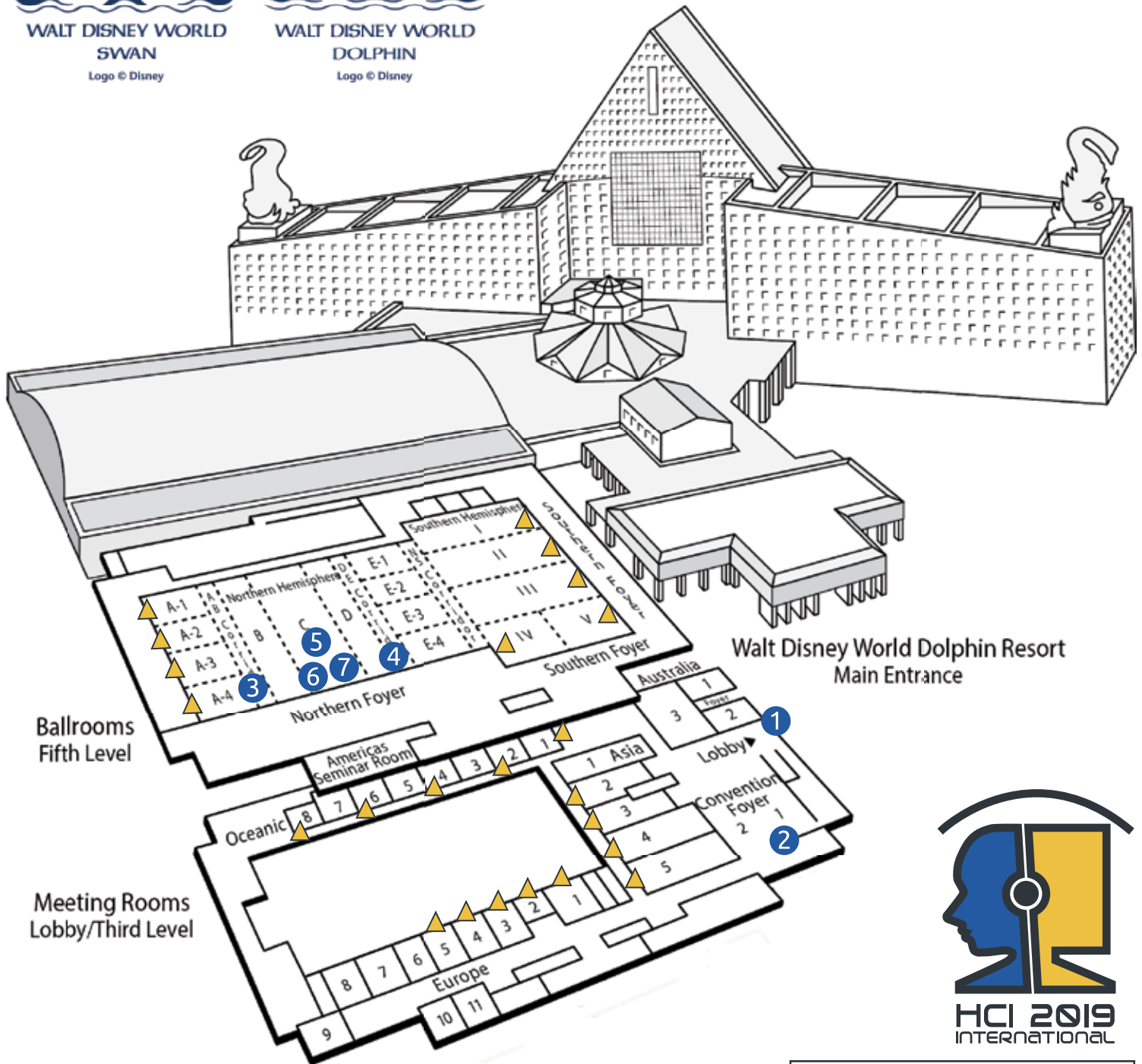


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	Posters <sup>1</sup>	300 words	31 January 2020	21 February 2020	13 March 2020 Short paper	13 March 2020
	Demonstrations	300 words	1 May 2020	1 week after submission	N/A	2 weeks after acceptance
	Student Designs <sup>2</sup>	300 words & video clip	10 April 2020	8 May 2020	N/A	29 May 2020
<sup>1</sup> Submissions will be peer-reviewed by at least 2 independent referees from the International Program Boards						
<sup>2</sup> A distinguished international committee will be the jury						
Invited	Papers	Process under the guidance of Parallel Session Organizers				Registration
		Process open until camera-ready deadline: 31 January 2020				14 February 2020
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