

HCI 2018 International

20th International Conference
on Human - Computer
Interaction

Thematic areas

HCI: Human-Computer Interaction

HIMI: Human Interface and the Management
of Information

Affiliated conferences

EPCE: 15th International Conference on
Engineering Psychology and Cognitive
Ergonomics

UAHCI: 12th International Conference on
Universal Access in Human-Computer Interaction

VAMR: 10th International Conference on
Virtual, Augmented and Mixed Reality

CCD: 10th International Conference on
Cross-Cultural Design

SCSM: 10th International Conference on
Social Computing and Social Media

AC: 12th International Conference on
Augmented Cognition

DHM: 9th International Conference on
Digital Human Modeling and Applications in
Health, Safety, Ergonomics and Risk Management

DUXU: 7th International Conference on
Design, User Experience and Usability

DAPI: 6th International Conference on
Distributed, Ambient and Pervasive Interactions

HCIBGO: 5th International Conference on
HCI in Business, Government and Organizations

LCT: 5th International Conference on
Learning and Collaboration Technologies

ITAP: 4rd International Conference on
Human Aspects of IT for the Aged Population

Program On-line



2018.hci.international/program

VENUE MAP AT BACK PAGE



HCI 2018
INTERNATIONAL

Final Program
15-20 July 2018

Under the auspices of 14 distinguished international
boards, of 362 Members from 40 countries



CAESARS
PALACE
LAS VEGAS



<http://2018.hci.international/>

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

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

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

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Conference at a Glance

Conference Registration – Secretariat

Conference Registration will take place at the Conference Secretariat, located at **Office 4 (Promenade Level)**, during the following hours:

Saturday, 14 July	16:00 - 18:00
Sunday, 15 July	08:00 - 17:30
Monday, 16 July	08:00 - 17:30
Tuesday, 17 July	08:00 - 17:30
Wednesday, 18 July	07:30 - 18:00
Thursday, 19 July	07:30 - 18:00
Friday, 20 July	07:30 - 18:00

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/HCI2018>



or scan the
QR-Code
on the left

The survey will be available until 14 September 2018

PROGRAM

Sunday 15 July 2018	08:30 - 17:30	Tutorials Day 1	- page 13
Monday 16 July 2018	08:30 - 17:30	Tutorials Day 2	- page 13
	08:30 - 17:30	Tutorials Day 3	- page 13
Tuesday 17 July 2018	18:00	Opening Plenary Session - Room: Milano Ballroom Keynote Speech - page 5 “Technology in Support of Healthy Habits” by: Mary Czerwinski Principal Researcher and Research Manager - Visualization and Interaction (VIBE) Research Group - Microsoft Research, US A	
	19:45	Conference Reception	- page 9
Wednesday 18 July 2018	08:00 - 18:00	Parallel paper presentations, Day 1	- page 20
	08:00 - 10:00	Student Design Competition presentations	- page 12
	10:30 - 12:30	Mentoring Session #1 for PhD students offered by Dr James Lewis	- page 5
	16:00 - 18:00	Mentoring Session #2 for PhD students offered by Professor Gavriel Salvendy	- page 5
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HCI International 2018 - 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 2018, the 20th International Conference on Human-Computer Interaction, held in Las Vegas, Nevada, USA, 15 - 20 July, incorporating 14 Affiliated Conferences / Thematic Areas:

- HCI: Human-Computer Interaction Thematic Area
- HIMI: Human Interface and the Management of Information Thematic Area
- EPCE: 15th International Conference on Engineering Psychology and Cognitive Ergonomics
- UAHCI: 12th International Conference on Universal Access in Human-Computer Interaction
- VAMR: 10th International Conference on Virtual, Augmented and Mixed Reality
- CCD: 10th International Conference on Cross-Cultural Design
- SCSM: 10th International Conference on Social Computing and Social Media
- AC: 12th International Conference on Augmented Cognition
- DHM: 9th International Conference on Digital Human Modeling & Applications in Health, Safety, Ergonomics & Risk Management
- DUXU: 7th International Conference on Design, User Experience and Usability
- DAPI: 6th International Conference on Distributed, Ambient and Pervasive Interactions
- HCIBGO: 5th International Conference on HCI in Business, Government and Organizations
- LCT: 5th International Conference on Learning and Collaboration Technologies
- ITAP: 4th International Conference on Human Aspects of IT for the Aged Population



Constantine Stephanidis
General Chair HCI International 2018

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 2018 (HCII 2018) 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 2018 and the Affiliated Conferences/Thematic Areas 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 30-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 volumes of the Proceedings in PDF format are also included in a USB Drive provided in your registration bag. They are also available for sale from Springer in soft cover print format.

An impressive number of about 1700 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 Dr. Mary Czerwinski, Principal Researcher and Research Manager, Visualization and Interaction (VIBE) Research Group, Microsoft Research, USA, has joined us as the keynote speaker

at the opening plenary session. Her speech is entitled "Technology in support of healthy habits".

Dr. James Lewis (IBM Master Inventor with 91 patents issued to date by the US Patent Office) and Prof. Gavriel Salvendy (Major Professor to 67 PhD students) will hold mentoring sessions for PhD students, each with two important topics. The Mentoring Session of James Lewis will be addressing the topics of HCI career trends - past, present and future (in Part #1), and Transition from a PhD student to an industry professional (in Part #2). The Mentoring Session of Gavriel Salvendy will be offered on Wednesday 18 July 2018, from 4pm to 6pm and will be addressing the topics of Development of a PhD Thesis and its dissemination (in Part #1), and Transition from a PhD student to Faculty (in Part #2).

For the first time in the history of the HCII Conference, a Student Design Competition took place. All accepted submissions will be presented during the conference. Three awards will be conferred along with three prizes during the Opening Plenary Session.

Also, as established in previous years, fifteen 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 Affiliated Conference/Thematic Area, 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 Las Vegas.

Constantine Stephanidis

HCI International 2019

The 21st International Conference on Human-Computer Interaction, HCI International 2019, will be held jointly with the affiliated conferences in Orlando, FL, USA, at Walt Disney World Swan and Dolphin Resort, 26-31 July 2019.

It will cover a broad spectrum of themes related to Human-Computer Interaction, including theoretical issues, methods, tools, processes, and case studies in HCI design, as well as

novel interaction techniques, interfaces, and applications. The proceedings will be published by Springer.

General Chair: Prof. Constantine Stephanidis
University of Crete and ICS-FORTH Heraklion, Crete, Greece
Email: general_chair@hcii2019.org

<http://2019.hci.international>

Opening Plenary Session

Tuesday, 17 July 2018 | 18:00

Room: **MILANO BALLROOM**

Technology in Support of Healthy Habits

Mary Czerwinski

Principal Researcher and Research Manager
Visualization and Interaction (VIBE) Research
Group
Microsoft Research, USA

<https://www.microsoft.com/en-us/research/people/marycz/>

Abstract

For several years now, many of us doing research into designing technology for health and wellbeing have leveraged mobile, ambient and wearable devices in order to provide feedback and insight into users' mental and physical states. We have designed our technology, in partnership with caregivers and clinicians, in order to complement and extend clinical care so that it reaches those that really need it. It seems like a good time to stand back and reflect on what has actually worked in terms of motivating our users to make healthier lifestyle decisions, which in turn steer them towards long-term behavioral change, if needed. Specific to our research domain, emotion sensing has become ubiquitous in the physiological sensing and affective computing communities. While we leverage these methods in our research, we have found that the truly difficult problem is "what you do about it" once you have identified a user's emotional state. This keynote will describe various lessons learned from several efforts in this space, as well as traps to avoid, if you want to design engaging and life-changing interventions to help users cope positively with stress, depression, diet, exercise, sleep, and productivity.



Mary Czerwinski
Biographical Sketch

Mary's research focuses primarily on emotion tracking, information worker task management, multitasking, and awareness systems for individuals and groups. Her background is in emotion tracking and awareness, visual attention and multitasking. She holds a Ph.D. in Cognitive Psychology from Indiana University in Bloomington. Mary was awarded the ACM SIGCHI Lifetime Service Award, was inducted into the CHI Academy, became an ACM Distinguished Scientist in 2010 and an ACM Fellow in 2016. She also received the Distinguished Alumni award from Indiana University's Brain and Psychological Sciences department.

Mentoring Sessions for PhD students offered by Dr. James Lewis and Prof. Gavriel Salvendy at HCII2018 (closed sessions)

James Lewis and Gavriel Salvendy have accepted the conference invitation to hold mentoring sessions for PhD students, each with two important topics.

Mentoring Session #1 by James Lewis: Dr James Lewis is IBM Master Inventor with 91 patents issued to date by the US Patent Office. His session will be offered on Wednesday 18 July 2018, from 10:30am to 12:30pm.

Part #1: HCI career trends - past, present and future
Part #2: Transition from a PhD student to an industry professional

Mentoring Session #2 by Gavriel Salvendy: Professor Gavriel Salvendy has been Major Professor to 67 PhD students. His session will be offered on Wednesday 18 July 2018, from 4:00pm to 6:00pm.

Part #1: Development of a PhD Thesis and its dissemination
Part #2: Transition from a PhD student to Faculty

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6th International Conference on Distributed, Ambient and Pervasive Interactions

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HCI International 2018 Proceedings Volumes List

Volume	LNCS/LNAI/CCIS	Title - Conference Name	Editor(s)	ISBN
1	LNCS 10901	Human-Computer Interaction: Theories, Methods and Human Issues (Part I)	M. Kurosu	978-3-319-91237-0
2	LNCS 10902	Human-Computer Interaction: Interaction in Context (Part II)	M. Kurosu	978-3-319-91243-1
3	LNCS 10903	Human-Computer Interaction: Interaction Technologies (Part III)	M. Kurosu	978-3-319-91249-3
4	LNCS 10904	Human Interface and the Management of Information: Interaction, Visualization and Analytics (Part I)	S. Yamamoto; H. Mori	978-3-319-92042-9
5	LNAI 10905	Human Interface and the Management of Information: Information in Applications and Services (Part II)	S. Yamamoto; H. Mori	978-3-319-92045-0
6	LNAI 10906	Engineering Psychology and Cognitive Ergonomics	D. Harris	978-3-319-91121-2
7	LNCS 10907	Universal Access in Human-Computer Interaction: Methods, Technologies and Users (Part I)	M. Antona; C. Stephanidis	978-3-319-92048-1
8	LNCS 10908	Universal Access in Human-Computer Interaction: Virtual, Augmented and Intelligent Environments (Part II)	M. Antona; C. Stephanidis	978-3-319-92051-1
9	LNCS 10909	Virtual, Augmented and Mixed Reality: Interaction, Navigation, Visualization, Embodiment and Simulation (Part I)	J. Y.C. Chen; G. Fragomeni	978-3-319-91580-7
10	LNCS 10910	Virtual, Augmented and Mixed Reality: Applications in Health, Cultural Heritage and Industry (Part II)	J. Y.C. Chen; G. Fragomeni	978-3-319-91583-8
11	LNCS 10911	Cross-Cultural Design: Methods, Tools and Users (Part I)	P.L. P. Rau	978-3-319-92140-2
12	LNCS 10912	Cross-Cultural Design: Applications in Cultural Heritage, Creativity and Social Development (Part II)	P.L. P. Rau	978-3-319-92251-5
13	LNCS 10913	Social Computing and Social Media: User Experience and Behaviour (Part I)	G. Meiselwitz	978-3-319-91520-3
14	LNCS 10914	Social Computing and Social Media: Technologies and Analytics (Part II)	G. Meiselwitz	978-3-319-91484-8
15	LNAI 10915	Augmented Cognition: Intelligent Technologies (Part I)	D. Schmorrow; C. Fidopiastis	978-3-319-91469-5
16	LNAI 10916	Augmented Cognition: Users and Contexts (Part II)	D. Schmorrow; C. Fidopiastis	978-3-319-91466-4
17	LNCS 10917	Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management	V. Duffy	978-3-319-91396-4
18	LNCS 10918	Design, User Experience, and Usability: Theory and Practice (Part I)	A. Marcus; W. Wang	978-3-319-91796-2
19	LNCS 10919	Design, User Experience, and Usability: Designing Interactions (Part II)	A. Marcus; W. Wang	978-3-319-91802-0
20	LNCS 10920	Design, User Experience, and Usability: Users, Contexts and Case Studies (Part III)	A. Marcus; W. Wang	978-3-319-91805-1
21	LNCS 10921	Distributed, Ambient and Pervasive Interactions: Understanding Humans (Part I)	N. Streitz; S. Konomi	978-3-319-91124-3
22	LNCS 10922	Distributed, Ambient and Pervasive Interactions: Technologies and Contexts (Part II)	N. Streitz; S. Konomi	978-3-319-91130-4
23	LNCS 10923	HCI in Business, Government and Organizations	F. F. Nah; B. S. Xiao	978-3-319-91715-3
24	LNCS 10924	Learning and Collaboration Technologies: Design, Development and Technological Innovation (Part I)	P. Zaphiris; A. Ioannou	978-3-319-91742-9
25	LNCS 10925	Learning and Collaboration Technologies: Learning and Teaching (Part II)	P. Zaphiris; A. Ioannou	978-3-319-91151-9
26	LNCS 10926	Human Aspects of IT for the Aged Population: Acceptance, Communication and Participation (Part I)	J. Zhou; G. Salvendy	978-3-319-92033-7
27	LNCS 10927	Human Aspects of IT for the Aged Population: Applications in Health, Assistance and Entertainment (Part II)	J. Zhou; G. Salvendy	978-3-319-92036-8
28	CCIS 850	HCI International 2018 Posters Proceedings - Part I	C. Stephanidis	978-3-319-92269-0
29	CCIS 851	HCI International 2018 Posters Proceedings - Part II	C. Stephanidis	978-3-319-92278-2
30	CCIS 852	HCI International 2018 Posters Proceedings - Part III	C. Stephanidis	978-3-319-92284-3

General Information

Conference Reception

The Conference Reception will take place at 19:45 (right after the Opening Plenary Session) at **OCTAVIOUS 12-24 BALLROOM** on Tuesday, 17 July 2018.

All Conference participants and accompanying persons, who carry an HCI International 2018 badge, will be permitted entrance.

Extra Conference Reception Tickets will be available from the Conference Secretariat until Tuesday, 17 July 2018, 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 Affiliated Conferences / Thematic Areas of HCI International 2018 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 2018 is a smoke-free Conference. Smoking is allowed in the casino, as well as in the smoking optional hotel rooms. Smoking is prohibited in non-gaming areas of all Nevada casinos, including restaurants and bathrooms.

Mobile Phone Courtesy

HCI International 2018 requests that all mobile phones, pagers and other equipment with audible alarms be turned off 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	Sunday, 15 July	12:30 – 14:00
10:30 – 11:00	15:30 – 16:00	Monday, 16 July	12:30 – 14:00
10:30 – 11:00	15:30 – 16:00	Tuesday, 17 July	12:30 – 14:00
10:00 – 10:30	15:30 – 16:00	Wednesday, 18 July	12:30 – 13:30
10:00 – 10:30	15:30 – 16:00	Thursday, 19 July	12:30 – 13:30
10:00 – 10:30	15:30 – 16:00	Friday, 20 July	12:30 – 13:30
Offered by HCII2018 Conference			Participants are kindly asked to make their own arrangements for lunch, during the above breaks

Options for lunch

From celebrity-owned concepts and a world-class buffet to upscale dining and casual fare, Caesars Palace offers the finest restaurants on the Las Vegas Strip. Voted "2015's Best Variety of Restaurants" by Casino Player magazine, Caesars Palace is the ultimate destination for an eclectic assortment of top chef restaurants and other delectable dining options. More information at: <https://www.caesars.com/caesars-palace/restaurants>

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

HCI International NEWS

HCI International News is a newsletter about Human-Computer Interaction topics, the HCI International Conference Series, and more. The newsletter is distributed through a mailing list and is also available on-line at: <http://www.hci.international/news>

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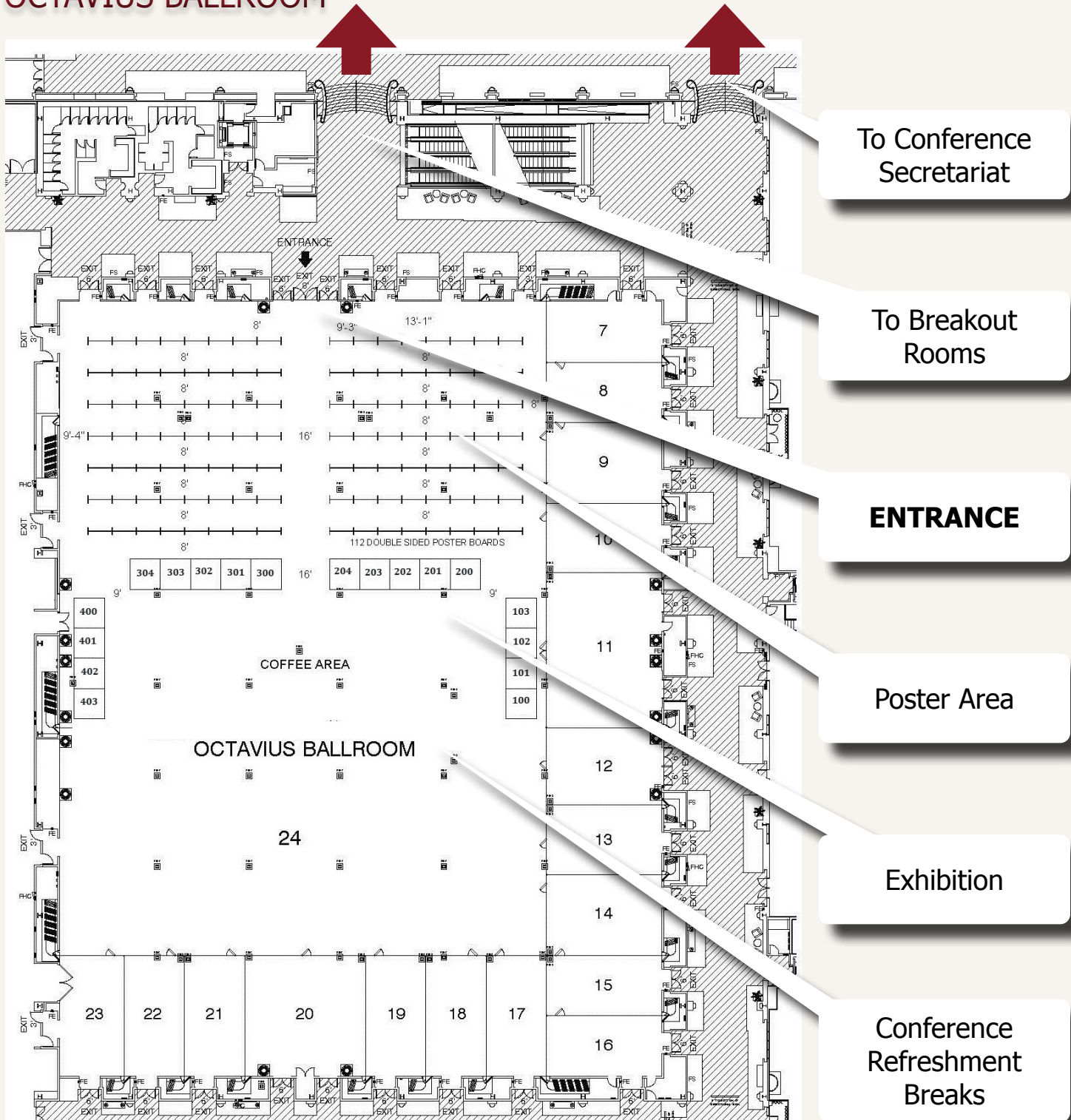
Conference Exhibition

The Exhibition of HCI International 2018 is hosted in the **OCTAVIUS BALLROOM** (entrance: Octavius 4) of Caesars Palace.

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

Timetable		
Display set-up	Tuesday, 17 July	10:00 - 17:00
Opening Hours	Wednesday, 18 July	09:00 - 17:00
	Thursday, 19 July	09:00 - 17:00
	Friday, 20 July	09:00 - 16:30
Display dismantle	Friday, 20 July	16:30 - 18:30

OCTAVIUS BALLROOM



List of Exhibitors

BIOPAC Systems, Inc.

Booth
300



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

g.tec neurotechnology USA, Inc.

Booths
200
201



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

ERGONEERS

Booth
103



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

Smart Eye AB

Booth
301



<http://smarteye.se/>

SR Research Ltd

Booth
303



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

Wearable Sensing

Booth
304



<http://wearablesensing.com/>

3dMD

Booth
302



<http://www.3dmd.com/>

Broadleaf Co.,Ltd

Booth
101



<http://www.broadleaf.co.jp>

Springer Nature

Booths
202
203
204



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

Taylor & Francis Group – Journals

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

ICS-FORTH / HCI Laboratory

Booth
400



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

ICS-FORTH / Ambient Intelligence Programme

Booth
401



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

HCI International 2018
Student Design Competition presentations

Booth
403



<http://2018.hci.international/program>

HCI International 2019 Conference

Booth
402



<http://2019.hci.international>

Student Design Competition

In the context of the HCII2018 Student Design Competition, nineteen (19) video submissions have been accepted for presentation at the conference:

- **Wednesday, 18 July, 08:00 - 10:00 (room: Milano IV)**
- **Wednesday, 18 July - Friday, 20 July, within the Exhibition area**

An ontological knowledge-base to assist machine-level comprehension of emotions for patient-computer interaction

Rebecca Lin, Muhammad Amith, Chen Liang, Rui Duan, Yong Chen, Cui Tao, *United States*

Clothes With Great Dreams

Jiali Zhang, Honglei Wang, Chenyue Sun, Xiaolin Jia, Yan Qin, Kexin Yang, Jiaxin Liu, *P.R. China*

A Haptic-Gripper Fine Motor Training System for Children with Autism

Huan Zhao, *United States*

We Care: Integrated Helping System for people with physical limitations

Shreepriya Shreepriya, Andrea Bottia, Yaoji Du, *Italy*

WYRED Platform, the ecosystem for the young people

Alicia García-Holgado, *Spain*

Let's Go Outside -- a telecommunication assistant system for people with inconveniences

Minghao Cai, *Japan*

A New Virtual Keyboard with Finger Gesture Recognition for AR/VR devices

Tae-Ho Lee, Hyuk-Jae Lee, *Korea*

How Much is too Much Monitoring for a Single Air Traffic Controller Performing Multiple Remote Tower Operations

Peter Kearney, *Ireland*

TSEiA - The Story Envisioning Agent

Qiang Zhang, *Japan*

Augmented Reality Based Driving Training

Xin Lei, *P.R. China*

iNurse: AR-Based Medication Assistance for the Older Adults

Xingchen Zhou, Raphael Maas, Christian Oertel, Paula Machado, Ehsan Taheri, Supisa Chuensiwa, *P.R. China*

Teaching multimodal behaviors for a humanoid robot using immersive teleoperation

Duc-Canh Nguyen, Gérard Bailly, Frédéric Elisei, *France*

tac.tic: Tactile design language for indoor-outdoor navigation

Chirag Murthy, *India*

AR-based Mobile Application for Exposure Therapy

Bryan McQuade, *United States*

Smart TV for Older Adults: A Comparative Study of the Mega Menu and Tiled Menu

Xiwen Ouyang, Jia Zhou, *P.R. China*

Drivers Companion -A Brand New Interactive Steering Wheel

Jia Yu, Cheng Hung Yang, *P.R. China*

Motivations to Join Fitness Communities on Facebook: Which Gratifications are Sought and Obtained?

Aylin Ilhan, *Germany*

Promoting Cultural Heritage using Virtual Reality

Giannis Drossis, *Greece*

A Cooperative Automation Design for Manned-Unmanned Teaming in Future Military Helicopter Missions

Yannick Brand, Fabian Schmitt, Axel Schulte, *Germany*

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Sunday, 15 July 2018		Room	Time	
T01	Supersmart Storyselling: How Best to Inform and Persuade in Short "Elevator Pitch" Presentations? Aaron Marcus	Neopolitan II	08:30 – 12:30	Morning
T02	Speech-based Interaction: Myths, Challenges and Opportunities Cosmin Munteanu, Gerald Penn	Neopolitan III	08:30 – 12:30	
T03	Conversational UX Design Robert J. Moore	Neopolitan IV	08:30 – 12:30	
T04	HCI/UX in Science-Fiction Movies/TV: What can We Learn from the Past 100 Years of the Future? Aaron Marcus	Neopolitan II	13:30 – 17:30	Afternoon
T05	Overview of Human Information Processing for HCI Kim-Phuong Vu, Robert Proctor	Neopolitan III	13:30 – 17:30	
T06	Interactive Visual Data Mining and Knowledge Discovery Boris Kovalerchuk	Sorrento	13:30 – 17:30	
T07	Human Computer Interaction and Cyber-Security Abbas Moallem	Neopolitan IV	13:30 – 17:30	

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

Monday, 16 July 2018		Room	Time	
T08	How to Design User-Friendly Dashboards Abbas Moallem	Neopolitan IV	08:30 – 12:30	Morning
T09	Usability and UX: An integrated approach to design and evaluation Nigel Bevan		Tutorial Cancelled	
T10	User interaction with intelligent systems Martin Maguire	Neopolitan II	08:30 – 12:30	
T11	Brain neural computer interfaces and novel medical applications Günter Edlinger, Brendan Allison	Neopolitan III	08:30 – 12:30	Afternoon
T12	Design for Social Change Panayiotis Zaphiris, Andreas Papallas	Neopolitan II	13:30 – 17:30	
T13	IBM Design Thinking Workshop Camillo Sassano, Paula Besterman	Neopolitan IV	13:30 – 17:30	
T14	Principles for Designing Interfaces Compatible with Human Cognition Robert Proctor, Kim-Phuong Vu	Neopolitan III	13:30 – 17:30	
T15	Effective Design Reviews: How to give and receive meaningful, actionable design feedback Everett McKay	Sorrento	13:30 – 17:30	

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

Tuesday, 17 July 2018		Room	Time	
T16	Introduction to Usability Testing James Lewis	Neopolitan III	08:30 – 12:30	Morning
T17	3DUX: HCI User Experience Design for Immersive Systems and 3D Environments Amy Banic	Neopolitan II	08:30 – 12:30	
T18	Identifying Product Features that Optimize the User Experience Nigel Bevan		Tutorial Cancelled	
T19	Designing new technologies for Universal Access Simeon Keates	Neopolitan IV	08:30 – 12:30	Afternoon
T20	Using the System Usability Scale James Lewis	Neopolitan III	13:30 – 17:30	
T21	Organizing an effective Design Sprint Panayiotis Zaphiris, Andreas Papallas	Neopolitan II	13:30 – 17:30	
T22	Theory and Practice of Digital Storytelling David Kaufman, Simone Hausknecht	Neopolitan IV	13:30 – 17:30	
T23	Social Media Analysis for the Masses: Extracting and Analyzing Data from Facebook, Twitter, and Co. Margeret Hall	Sorrento	13:30 – 17:30	

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

**Room:
Neopolitan I**

Parallel Sessions Overview

Wednesday, 18 July 2018

Morning

08:00 – 10:00 (page 20 - 24)		10:30 – 12:30 (page 25 - 29)	
Thematic Area	session code Session Title	session code Session Title	Session Title
HCI	S001 HCI & Mobility <i>ROOM: NEOPOLITAN I</i>	S019 Design and Application for Medical Navigation and Simulation <i>ROOM: NEOPOLITAN I</i>	
	S002 Towards an integrated approach to technology-mediated social behavior <i>ROOM: NEOPOLITAN II</i>	S020 Research on personalised HCI <i>ROOM: NEOPOLITAN II</i>	
	S003 Images and Vision in HCI <i>ROOM: NEOPOLITAN III</i>		
HIMI	S004 Embodied Interaction and Communication <i>ROOM: MILANO I</i>	S021 VR2.0 and Digital Museum <i>ROOM: MILANO I</i>	
	S005 Human Autonomy Teaming in Reduced Crew Operations <i>ROOM: MILANO II</i>	S022 Information in aviation <i>ROOM: MILANO II</i>	
EPCE	S006 Aviation Safety and Human Factors <i>ROOM: OCTAVIUS 7</i>	S023 Remote Tower Operations and ATM <i>ROOM: OCTAVIUS 7</i>	
UAHCI	S007 Future Technology and Universal Access <i>ROOM: MILANO III</i>	S024 Inclusive design and Intent prediction in Automotive, Aerospace and Further Application Areas <i>ROOM: MILANO III</i>	
VAMR	S008 Virtual and Augmented Reality for Education and Training <i>ROOM: SALERNO</i>	S025 Extended reality technologies for clinically driven and self-guided health and wellness applications <i>ROOM: SALERNO</i>	
CCD	S009 From SAD to CHEER (I): Theories <i>ROOM: NEOPOLITAN IV</i>	S026 Improving User Experience <i>ROOM: NEOPOLITAN III</i>	
		S027 From SAD to CHEER (II): Applications <i>ROOM: NEOPOLITAN IV</i>	
SCSM	S010 Social Live Streaming Services: Investigating the New Human Information Behavior <i>ROOM: OCTAVIUS 12</i>	S028 Opinion Forming, Fake News, and Social Bots <i>ROOM: OCTAVIUS 12</i>	
AC		S029 Brain interfaces and electroencephalography <i>ROOM: MILANO IV</i>	
DHM	S011 Human Factors in Information Visualization and Decision Support Systems <i>ROOM: OCTAVIUS 8</i>	S030 Design-Cognitive Sciences-Health Sciences Cooperations: contributions to human perception and well being <i>ROOM: OCTAVIUS 8</i>	
DUXU	S012 Ergonomics in Usability and User Experience <i>ROOM: MILANO V</i>	S031 Design, User Experience and Usability for mobile devices <i>ROOM: MILANO V</i>	
	S013 Information Design and UX <i>ROOM: MILANO VII</i>	S032 New Approaches of User Experience Research - II <i>ROOM: MILANO VI</i>	
	S014 New Approaches of User Experience Research - I <i>ROOM: MILANO VI</i>		
DAPI	S015 Understanding Human & Animal Behavior <i>ROOM: OCTAVIUS 10</i>	S033 Ambient and Civic Computing <i>ROOM: OCTAVIUS 10</i>	
HCIBGO	S016 HCI and Emergent Technologies <i>ROOM: SORRENTO</i>	S034 User Experience Research in Enterprise <i>ROOM: SORRENTO</i>	
LCT	S017 Usability-Accessibility-Assessment <i>ROOM: MILANO VIII</i>	S035 Gamification-Robotics <i>ROOM: MILANO VIII</i>	
ITAP	S018 Inclusive Design for Diverse User Populations <i>ROOM: OCTAVIUS 9</i>	S036 Development of future services for healthy and active aging <i>ROOM: OCTAVIUS 9</i>	

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

Sessions DAY 1

Wednesday, 18 July 2018

Afternoon

	13:30 – 15:30 (page 30 - 34)		16:00 – 18:00 (page 35 - 39)	
Thematic Area	session code	Session Title	session code	Session Title
HCI	S037	Gesture-based Interaction <i>ROOM: NEOPOLITAN I</i>	S056	Human Aspects of Information Systems <i>ROOM: NEOPOLITAN I</i>
	S038	Speech-based interaction <i>ROOM: NEOPOLITAN II</i>	S057	Human Aspects of Information Security, Privacy, and Trust <i>ROOM: NEOPOLITAN II</i>
	S039	HCI, personal informatics, motivation, persuasion and well-being <i>ROOM: NEOPOLITAN III</i>		
HIMI	S040	Data, Semantics and Interaction <i>ROOM: MILANO I</i>	S058	Evidence Based Design and UX for Design Process <i>ROOM: MILANO I</i>
	S041	Information and Visual Perception <i>ROOM: MILANO II</i>	S059	Data Mining and Intelligent Systems <i>ROOM: MILANO II</i>
EPCE	S042	Flight Deck Design and Human-Computer Interactions <i>ROOM: OCTAVIUS 7</i>	S060	Decision Making with Displayed Information <i>ROOM: OCTAVIUS 7</i>
UAHCI	S043	Web Accessibility in Higher Education <i>ROOM: MILANO III</i>	S061	Sensors and Mobile Applications for Human-Computer Interaction <i>ROOM: MILANO III</i>
VAMR	S044	Puppeteering: Human Tracking in Virtual Space <i>ROOM: SALERNO</i>	S062	Virtual Reality Video Games <i>ROOM: SALERNO</i>
CCD	S045	From SAD to CHEER (III): Case Studies - I <i>ROOM: NEOPOLITAN IV</i>	S063	From SAD to CHEER (IV): Case Studies -II <i>ROOM: NEOPOLITAN IV</i>
SCSM	S046	Cognitive Engineering Aspects of Social Systems <i>ROOM: OCTAVIUS 12</i>	S064	Fitness, Health, and Wearables - Activity Trackers in the Everyday Life <i>ROOM: OCTAVIUS 12</i>
AC	S047	Adaptive Instruction as an Augmentation Technology for Enhancing Human Performance <i>ROOM: MILANO IV</i>	S065	Applications of Augmented Cognition <i>ROOM: MILANO IV</i>
DHM	S048	Advanced technologies and models in healthcare and surgery <i>ROOM: OCTAVIUS 8</i>		
DUXU	S049	Artificial Intelligence and User Experience - I <i>ROOM: MILANO V</i>	S066	Creative Interaction: Cross-disciplinary HCI toward Convergence <i>ROOM: MILANO VII</i>
	S050	Designing behaviours, behaving design - I <i>ROOM: MILANO VI</i>	S067	Design Case Studies <i>ROOM: NEOPOLITAN III</i>
	S051	Designing and Evaluating User Experience (UX) in Interactive Systems <i>ROOM: MILANO VII</i>	S068	Artificial Intelligence and User Experience - II <i>ROOM: MILANO V</i>
DAPI	S052	Social Internet of Things <i>ROOM: OCTAVIUS 10</i>	S069	Designing behaviours, behaving design - II <i>ROOM: MILANO VI</i>
HCIBGO	S053	Service Design and User Experience <i>ROOM: SORRENTO</i>	S070	AR, VR and Digital Media <i>ROOM: OCTAVIUS 10</i>
			S071	Mobile and privacy <i>ROOM: SORRENTO</i>
LCT	S054	Educational Assessment and TEL <i>ROOM: MILANO VIII</i>	S072	HCI and Social Computing <i>ROOM: OCTAVIUS 8</i>
ITAP	S055	Digital Gaming Among Older Populations <i>ROOM: OCTAVIUS 9</i>	S073	Interaction Design in Collaborative and Learning Environments <i>ROOM: MILANO VIII</i>
			S074	Intergenerational use of new media <i>ROOM: OCTAVIUS 9</i>

• **DHM** Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management • **DUXU** Design, User Experience and Usability • **DAPI** Distributed, Ambient and Pervasive Interactions • **HCIBGO** HCI in Business, Government and Organizations • **LCT** Learning and Collaboration Technologies • **ITAP** Human Aspects of IT for the Aged Population

Parallel Sessions Overview

Thursday, 19 July 2018

Morning

	08:00 – 10:00 (page 40 - 44)	10:30 – 12:30 (page 45 - 49)
Thematic Area	session code Session Title	session code Session Title
HCI	S075 User Interface Design and Multimodal Interaction <i>ROOM: NEOPOLITAN I</i>	S094 Design Access in Ergonomics and Interaction <i>ROOM: NEOPOLITAN I</i>
	S076 Quality in interaction <i>ROOM: NEOPOLITAN II</i>	
	S077 Usability and User Experience Evaluation <i>ROOM: NEOPOLITAN III</i>	
HIMI	S078 Wearable multisensory displays: Theory and practice <i>ROOM: MILANO I</i>	S095 Relationality Design and Relationality-oriented Systems <i>ROOM: MILANO I</i>
	S079 Representational approaches for intelligent systems <i>ROOM: MILANO II</i>	S096 Interacting with data and information <i>ROOM: MILANO II</i>
EPCE	S080 Human Systems Integration <i>ROOM: OCTAVIUS 7</i>	S097 Human Factors and Ergonomics in Safety-Critical Systems <i>ROOM: NEOPOLITAN II</i>
UAHCI	S081 Technology for Inclusion and Participation <i>ROOM: MILANO III</i>	S098 Novel approaches in Universal Access <i>ROOM: MILANO III</i>
VAMR	S082 Intelligent Systems and Virtual, Augmented and Mixed Reality <i>ROOM: SALERNO</i>	S099 Training, collaboration and simulation in VR <i>ROOM: SALERNO</i>
CCD	S083 HCI Research and Practice in the Arab World <i>ROOM: NEOPOLITAN IV</i>	S100 Design for All: Cross-Cultural User Experience <i>ROOM: NEOPOLITAN IV</i>
SCSM	S084 Innovative Social Media and Computing Technologies for Aging Societies <i>ROOM: OCTAVIUS 12</i>	S101 Frontiers in Social Media <i>ROOM: OCTAVIUS 12</i>
AC	S085 Meta-Cognition: Thinking About Thought <i>ROOM: MILANO IV</i>	S102 Adaptation Strategies and Adaptation Management <i>ROOM: MILANO IV</i>
DHM	S086 Human modeling for nursing and medical art <i>ROOM: OCTAVIUS 8</i>	S103 Smart Service System Design <i>ROOM: NEOPOLITAN III</i>
DUXU	S087 Design Thinking and Product Design <i>ROOM: MILANO V</i>	S104 Hedonic and Pragmatic Aspects of User Experience - I <i>ROOM: MILANO V</i>
	S088 Urban Media Design <i>ROOM: MILANO VI</i>	S105 Experience Design and Gamification <i>ROOM: MILANO VI</i>
	S089 The Experience of New Media Art <i>ROOM: MILANO VII</i>	S106 UX in the Digital Age <i>ROOM: MILANO VII</i>
DAPI	S090 Playful and Humorous Interactions in Smart Environments <i>ROOM: OCTAVIUS 10</i>	S107 Emotion and Ambient Computing <i>ROOM: OCTAVIUS 10</i>
HCIBGO	S091 Intelligent Data Analysis <i>ROOM: SORRENTO</i>	S108 Human Computer Interaction in Multichannel Commerce and Online Marketing <i>ROOM: SORRENTO</i>
LCT	S092 Social Computing for Social Change - I <i>ROOM: MILANO VIII</i>	S109 Social Computing for Social Change - II <i>ROOM: MILANO VIII</i>
ITAP	S093 New Media in the Everyday Life of Older People - I <i>ROOM: OCTAVIUS 9</i>	S110 New Media in the Everyday Life of Older People - II <i>ROOM: OCTAVIUS 9</i>
		S111 Aging in a digitized world <i>ROOM: OCTAVIUS 8</i>
		S112 Aging and Technology Acceptance - I <i>ROOM: OCTAVIUS 7</i>

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Sessions DAY 2

Thursday, 19 July 2018

Afternoon

	13:30 – 15:30 (page 50 - 54)		16:00 – 18:00 (page 55 - 59)	
Thematic Area	session code	Session Title	session code	Session Title
HCI	S113	Gamification and HCI <i>ROOM: NEOPOLITAN I</i>	S132	Myth or reality? The impact of culture on the user experience <i>ROOM: NEOPOLITAN I</i>
			S133	New horizon of HCI studies <i>ROOM: NEOPOLITAN II</i>
HIMI	S114	Human-centered Systems, Services, and their Applications <i>ROOM: MILANO I</i>	S134	Haptics in VR <i>ROOM: MILANO I</i>
	S115	Bigdata, IoT, and AI for HCI <i>ROOM: MILANO II</i>	S135	Service-Oriented Interaction <i>ROOM: MILANO II</i>
EPCE	S116	Harmonized Human-Machine Connection <i>ROOM: NEOPOLITAN II</i>		
UAHCI	S117	Interaction techniques and technologies supporting user diversity <i>ROOM: MILANO III</i>	S119	Design for All methods, techniques and tools <i>ROOM: MILANO III</i>
	S118	Design Access Technologies for Inclusion and Participation <i>ROOM: SORRENTO</i>	S137	Spatial User Interaction Beyond the Mouse <i>ROOM: SORRENTO</i>
	S136	ICT in Health and in Active Ageing <i>ROOM: SALERNO</i>	S138	Innovative Product Design and Development: Smart Products and Services <i>ROOM: SALERNO</i>
VAMR	S120	The impact of Bi-Directional Communication on Performance of Human-Intelligent Agent Team <i>ROOM: NEOPOLITAN III</i>	S139	Virtual Reality in Psychotherapy and Mental Health <i>ROOM: NEOPOLITAN III</i>
CCD	S121	Cross-Cultural Behavior and Attitude Studies <i>ROOM: NEOPOLITAN IV</i>	S140	Designing New Life-space Ecosystem Towards Sustainability <i>ROOM: NEOPOLITAN IV</i>
SCSM	S122	Natural Language Processing for Social Media <i>ROOM: OCTAVIUS 12</i>	S141	Data Based Social Signal Processing <i>ROOM: OCTAVIUS 12</i>
AC	S123	Assessment Types and Implementation <i>ROOM: MILANO IV</i>	S142	Augmented Cognition through Immersive User Experiences <i>ROOM: MILANO IV</i>
DHM	S124	Dynamic Interactions for Driving Safety <i>ROOM: OCTAVIUS 8</i>		
DUXU	S125	Traditional Chinese Handicraft and Industrial design in the Internet Age (Industrial design, Jewelry, 3D printing, ceramics, fiber, lacquer) - I <i>ROOM: MILANO VI</i>	S143	Design Education & Research for Intelligence in China <i>ROOM: MILANO V</i>
	S126	Hedonic and Pragmatic Aspects of User Experience - II <i>ROOM: MILANO V</i>	S144	Traditional Chinese Handicraft and Industrial design in the Internet Age (Industrial design, Jewelry, 3D printing, ceramics, fiber, lacquer) - II <i>ROOM: MILANO VI</i>
	S127	Design and software development <i>ROOM: MILANO VII</i>	S145	Usability and user experience evaluation methods and techniques <i>ROOM: MILANO VII</i>
DAPI	S128	Augmented Human in Ubiquitous Virtual Reality and Augmented Reality <i>ROOM: OCTAVIUS 10</i>	S146	Pervasive Learning in Super-Aging Societies <i>ROOM: OCTAVIUS 10</i>
HCIBGO	S129	HCI in Business and Organizations <i>ROOM: OCTAVIUS 7</i>	S147	Online Trust, Security and Privacy <i>ROOM: OCTAVIUS 7</i>
LCT	S130	Innovative Collaborative Methodologies and Applications <i>ROOM: MILANO VIII</i>	S148	Active Learning to Build Competencies in Higher Education <i>ROOM: MILANO VIII</i>
ITAP	S131	Aging and Technology Acceptance - II <i>ROOM: OCTAVIUS 9</i>	S149	Sustainability and Usability of technologies for ageing-in-place for community dwelling seniors <i>ROOM: OCTAVIUS 9</i>
			S150	Senior Cloud and Active Aging <i>ROOM: OCTAVIUS 8</i>

• **DHM** Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management • **DUXU** Design, User Experience and Usability • **DAPI** Distributed, Ambient and Pervasive Interactions • **HCIBGO** HCI in Business, Government and Organizations • **LCT** Learning and Collaboration Technologies • **ITAP** Human Aspects of IT for the Aged Population

Parallel Sessions Overview

Friday, 20 July 2018

Morning

	08:00 – 10:00 (page 60 - 64)		10:30 – 12:30 (page 65 - 69)	
Thematic Area	session code	Session Title	session code	Session Title
HCI	S151	Emotion Recognition <i>ROOM: NEOPOLITAN I</i>	S169	HCI and Art <i>ROOM: NEOPOLITAN I</i>
	S152	Input Techniques and Devices <i>ROOM: NEOPOLITAN II</i>	S170	Design Methods, Techniques and Tools <i>ROOM: NEOPOLITAN II</i>
	S153	Mobile user experience <i>ROOM: NEOPOLITAN III</i>		
HIMI	S154	Improvement in Learning and Educational Environments using ICT <i>ROOM: MILANO I</i>	S171	The Potential for Virtual Reality in Cognitive Rehabilitation and Assessment for early dementia, and MCI <i>ROOM: MILANO I</i>
EPCE	S155	Humans and Autonomy Working in Teams <i>ROOM: OCTAVIUS 7</i>	S172	Cognitive workload, situation awareness and metacognition <i>ROOM: OCTAVIUS 7</i>
UAHCI	S156	Human Computer Interaction in Video Games for Health: Design, User Experience and Usability <i>ROOM: MILANO III</i>		
	S157	Design for ASD <i>ROOM: SALERNO</i>		
VAMR	S158	Alternative Controls for VMAR <i>ROOM: MILANO II</i>	S173	Virtual reality in design and industrial applications <i>ROOM: SALERNO</i>
			S174	Psychological and Health Issues in VR <i>ROOM: MILANO III</i>
CCD	S159	Design for human city and social innovation <i>ROOM: NEOPOLITAN IV</i>	S175	Design, User Experience and Usability in New Technology <i>ROOM: NEOPOLITAN III</i>
			S176	Education, Communication and Information Sharing <i>ROOM: NEOPOLITAN IV</i>
			S193	Research, Design and Technology for Life Tomorrow <i>ROOM: MILANO II</i>
SCSM	S160	Customer eXperience and Behavior <i>ROOM: MILANO VII</i>	S177	Cultural dimensions of social media and social computing <i>ROOM: MILANO VII</i>
AC	S161	Mastering Cyberpower: Cognitive Sciences and The Human Factor in Civilian and Military Cyber Security <i>ROOM: MILANO IV</i>	S178	Augmented Cognition for Mindfulness & Workforce Effectiveness & Wellness <i>ROOM: MILANO IV</i>
DHM	S162	Human-Computer Interaction and Occupational Safety and Health <i>ROOM: OCTAVIUS 8</i>	S179	Human Modeling for High Quality Nursing and Medical Care <i>ROOM: OCTAVIUS 8</i>
DUXU	S163	Fostering UX Thinking and Doing through Interaction Design Practice - I <i>ROOM: MILANO V</i>	S180	Developments in DUXU: Contributions for the Context of Technological Environments <i>ROOM: MILANO VI</i>
	S164	Ergonomics in design <i>ROOM: MILANO VI</i>	S181	Fostering UX Thinking and Doing through Interaction Design Practice - II <i>ROOM: MILANO V</i>
DAPI	S165	Smart Homes and Working Environments <i>ROOM: OCTAVIUS 10</i>	S182	Challenges for Large-Scale Deployment of Smart IoT technologies <i>ROOM: OCTAVIUS 10</i>
HCIBGO			S183	Cyber-facilitated Influence <i>ROOM: SORRENTO</i>
LCT	S166	Digital competences development and testing <i>ROOM: SORRENTO</i>	S184	Designing collaborative learning experiences in formal and informal settings <i>ROOM: MILANO VIII</i>
	S167	Learner-centered technologies <i>ROOM: MILANO VIII</i>		
ITAP	S168	Design Empowerment and Ambient Assisted Living <i>ROOM: OCTAVIUS 9</i>	S185	Smart Eldercare in China <i>ROOM: OCTAVIUS 9</i>

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

Sessions DAY 3

Friday, 20 July 2018

Afternoon

13:30 – 15:30 (page 70 - 74)		16:00 – 18:00 (page 75 - 78)	
Thematic Area	session code Session Title	session code Session Title	
HCI	S186 Motion-based interaction <i>ROOM: NEOPOLITAN I</i>	S204 Models, ontologies, visual languages and reasoning in HCI <i>ROOM: NEOPOLITAN I</i>	
HIMI	S187 Information in Complex Environments <i>ROOM: MILANO I</i>		
EPCE	S188 Cognition and Interaction <i>ROOM: MILANO VI</i>		
UAHCI	S189 Cutting Edge in Biosignals for Automatic Control Systems, Virtual Reality and the Education <i>ROOM: MILANO III</i> S190 Virtual Reality in Universal Access <i>ROOM: SORRENTO</i> S191 Universal Access to learning and education <i>ROOM: SALERNO</i>	S205 Quo Vadis "Interaction Design and Children, Older and Disabled Users" <i>ROOM: MILANO II</i>	
VAMR	S192 Interaction in Virtual Reality <i>ROOM: MILANO II</i>	S206 Visualization and Narration in VR <i>ROOM: SALERNO</i>	
CCD	S194 Cross-Cultural Perspectives and Practices on Service Design <i>ROOM: NEOPOLITAN IV</i>	S207 Virtual Reality and Game Design <i>ROOM: NEOPOLITAN III</i> S208 Intelligence service and interaction experience design in different cultures <i>ROOM: NEOPOLITAN IV</i>	
SCSM	S195 Exploring the Impacts of Social Media and Virtual Worlds: Education, Training and Online Interaction <i>ROOM: MILANO VII</i> S196 Social Media Users <i>ROOM: OCTAVIUS 7</i>	S209 Data Science for Human Behavior in Marketing <i>ROOM: MILANO VII</i> S210 Innovating Social Computing and Social Media <i>ROOM: OCTAVIUS 7</i>	
AC	S197 Augmented Reality Applications for Evolving Casualty Care <i>ROOM: MILANO IV</i>	S211 Artificial Intelligence for Advanced Human-Machine Symbiosis <i>ROOM: MILANO III</i> Human/Computer Teaming in Streaming Data Environments <i>ROOM: MILANO IV</i>	
DHM	S198 Anthropometry and Motion Analysis <i>ROOM: OCTAVIUS 8</i>	S213 DHM in ergonomics, mobility and rehabilitation <i>ROOM: OCTAVIUS 8</i>	
DUXU	S199 Design Frameworks, Methods and Tools - I <i>ROOM: MILANO V</i>	S214 Design Frameworks, Methods and Tools - II <i>ROOM: MILANO V</i>	
DAPI	S200 Various Applications in Cyber-Physical Social Systems <i>ROOM: OCTAVIUS 10</i>	S215 Designing intelligent environments <i>ROOM: OCTAVIUS 10</i>	
HCIBGO	S201 Neuro Business/IS <i>ROOM: NEOPOLITAN II</i>		
LCT	S202 Novel Learning Technologies <i>ROOM: MILANO VIII</i>	S216 HCI and Learning in Higher and Academic Education <i>ROOM: MILANO VIII</i>	
ITAP	S203 Intergenerational Communication and Collaboration: Advancing Knowledge about Smart Ageing <i>ROOM: OCTAVIUS 9</i>	S217 Aging and interaction <i>ROOM: OCTAVIUS 9</i>	

• **DHM** Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management • **DUXU** Design, User Experience and Usability • **DAPI** Distributed, Ambient and Pervasive Interactions • **HCIBGO** HCI in Business, Government and Organizations • **LCT** Learning and Collaboration Technologies • **ITAP** Human Aspects of IT for the Aged Population

HCI S001

HCI & Mobility
Chair(s): Heidi Krömker, *Germany*.

Room: **NEOPOLITAN I**

Experience Maps for Mobility

Tobias Wienken, Heidi Krömker, *Germany*

Mobility as a Service (MaaS) Based on Intermodal Electronic Platforms in Public Transport

Ulrike Stopka, René Pessier, Christian Günther, *Germany*

Interactive Public Displays for Paperless Mobility Stations

Cindy Mayas, Tobias Steinert, Heidi Krömker, *Germany*

From HMI to HRI: Human-Vehicle Interaction Design for Smart Cockpit

Xiaohua Sun, Honggao Chen, Jintian Shi, Weiwei Guo, Jingcheng Li, *P.R. China*

Characterizing the EEG Features of Inspiring Designers with Functional Terms

Qian Zhang, Jia Hao, Qing Xue, Yu Yan, *P.R. China*.

User performance for vehicle recognition with visual and infrared sensors from an unmanned aerial vehicle

Patrik Lif, Fredrik Näsström, Fredrik Bissmarck, Jonas Allvar, *Sweden*

Research of a m-Health App Design for Information Management of MDTMs

Qiong Peng, *P.R. China*

S002

Towards an integrated approach to technology-mediated social behavior

Chair(s): Mike Z. Yao, *United States*.

Room: **NEOPOLITAN II**

Towards an integrated approach to studying virtual reality-mediated social behaviors

Jeffrey C. F. Ho, *Hong Kong*

Reading Machine-Written News: Effect of Machine Heuristic and Novelty on Hostile Media Perception

Bingjie Liu, Lewen Wei, *United States*

Cognitive Offloading and the Extended Digital Self

Kristy A. Hamilton, Mike Z. Yao, *United States*

Expressing Mixed Emotions via Gradient Color: An Interactive Online Chat Interface Design Based on Affective Recognition

Ning Tang, Zhanxun Dong, Lu Liu, *P.R. China*

Sports IT and Digital Wellness: Three waves of digital transformation in sports and training.

Charlotte Wiberg, *Sweden*

S003

Images and Vision in HCI

Chair(s): Xiaowen Fang, *United States*.

Room: **NEOPOLITAN III**

Impact of the size of Chinese Characters on the Visual Search Performance Under Vibration

Lifen Tan, Chunhui Wang, Hongting Li, *P.R. China*

Courting the Visual Image: The Ability of Digital Graphics and Interfaces to Alter the Memory and Behaviour of the Viewer

Damian Schofield, *United States*

Image Blurring Method for Enhancing Digital Content Viewing Experience

Hiroaki Yamaura, Masayuki Tamura, Satoshi Nakamura, *Japan*

Analyzing gaze Behavior Prior to Interacting with a Multimedia Interface in a Car

Bastian Hinterleitner, Thomas Hammer, Stefan Mayer, Frederik Naujoks, Nadja Schoemig, *Germany*

Deconaby: Animations for Improving Understandability of Web Images

Kazuyuki Hikawa, Kouhei Matsuda, Satoshi Nakamura, *Japan*

HIMI S004

Embodied Interaction and Communication

Chair(s): Tomio Watanabe, *Japan*.

Room: **MILANO I**

A Video Communication System with a Virtual Pupil CG Superimposed on the Partner's Pupil

Yoshihiro Sejima, Ryosuke Maeda, Daichi Hasegawa, Yoichiro Sato, Tomio Watanabe, *Japan*

Effectiveness of Visual Non-verbal Information on Feeling and Degree of Transmission in Face-to-Face Communication

Masashi Okubo, Akeo Terada, *Japan*

Experimental Observation of Nodding Motion in Remote Communication using ARM-COMS

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

Development of a Pair Ski Jump System Focusing on Improvement of Experience of Video Content

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

Animacy Perception Based on One-Dimensional Movement of a Single Dot

Hidekazu Fukai, Kazunori Terada, Manabu Hamaguchi, *Japan*

Hands-Free Interface Using Breath Residual Heat

Kang Hoon Lee, Sang Hwa Lee, Jong-II Park, *Korea*



HIMI S005

Human Autonomy Teaming in Reduced Crew Operations

Chair(s): Kim-Phuong L. Vu, *United States.*

Room: **MILANO II**

Using Distributed Simulation to Investigate Human-Autonomy Teaming

Michael Matessa, Kim-Phuong L. Vu, Thomas Z. Strybel, Vernol Battiste, Thomas Schnell, Mathew Cover, *United States*

Analysis of Airline Pilots Subjective Feedback to Human Autonomy Teaming in a Reduced Crew Environment

Mathew Cover, Chris Reichlen, Michael Matessa, Thomas Schnell, *United States*

Effectiveness of Human Autonomy Teaming in Cockpit Applications

Thomas Z. Strybel, Jillian Keeler, Vanui Barakezyan, Armando Alvarez, Natassia Mattoon, Kim-Phuong L. Vu, Vernol Battiste, *United States*

Human Automation Teaming: Lessons Learned and Future Directions

Vernol Battiste, Joel Lachter, Summer L. Brandt, Armando Alvarez, Thomas Z. Strybel, Kim-Phuong L. Vu, *United States*

Testing Human-Autonomy Teaming Concepts on a Global Positioning System Interface

Ricky Russell, *United States*

Measuring the Effects of a Cognitive Aid in Deep Space Network Operations

Edward Barraza, Alexandra Holloway, Krys Blackwood, Michael J. Gutensohn, Kim-Phuong L. Vu, *United States*

Engineering Psychology and Cognitive Ergonomics

EPCE S006

Aviation Safety and Human Factors

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

Room: **OCTAVIUS 7**

Pilot Performance Assessment in Simulators: Exploring Alternative Assessment Methods

Pete McCarthy, *United Kingdom*; Arnar Agnarsson, *Iceland*

Task-load Evaluation Method for Maintenance Personnel Based on the JACK Simulation

Ruishan Sun, Yu-Ting Zhang, Zhen Liu, Kang Li, *P.R. China*

The Preliminary Application of Observer XT(12.0) in a Pilot-Behavior Study

Ruishan Sun, Guanchao Zhang, Zhibo Yuan, *P.R. China*

Risk Cognition Variables and Flight Exceedance Behaviors of Airline Transport Pilots

Lei Wang, Jingyi Zhang, Hui Sun, Yong Ren, *P.R. China*

Quantitative study of Alertness During Continuous Wakefulness under the Effect of Nervous Activity

Kang Li, Ruishan Sun, Jingqiang Li, Yu-Ting Zhang, *P.R. China*

The Effect of Thirty-Six Hour Total Sleep Deprivation on Spatial Cognition and Alertness

Wenjuan Feng, Ruishan Sun, Kai Zhang, *P.R. China*

A System for Evaluating Pilot Performance based on Flight Data

Sha Liu, Youxue Zhang, Jintao Chen, *P.R. China*

Universal Access in Human-Computer Interaction

UAHCI S007

Future Technology and Universal Access

Chair(s): Simeon Keates, *United Kingdom.*

Room: **MILANO III**

When Universal Access does not go to plan: Lessons to be learned

Simeon Keates, *United Kingdom*

Universal Design of ICT for Emergency Management: A Systematic Literature Review and Research Agenda

Terje Gjørøseter, Jaziar Radianti, Weiqin Chen, *Norway*

A Strategy on Introducing Inclusive Design Philosophy to Non-design Background Undergraduates

Shishun Wang, Ting Zhang, Guoying Lu, Yinyun Wu, *P.R. China*

Micro-internships on the Margins

Margeret Hall, Michelle Friend, *United States*; Markus Krause, *Spain*

Creativity and Ambient Urbanizing at the Intersection of the Internet of Things and People in Smart Cities

H. Patricia McKenna, *Canada*

Understanding the Questions Asked by Care Staff while Eliciting Life Stories from Older Adults for AAC System Design

Haruka Kanetsuku, Tetsuya Hirotoomi, Sachiko Hara, *Japan*

VAMR S008

Virtual and Augmented Reality for Education and Training

Chair(s): Jorge Martín-Gutiérrez, *Spain*; Leticia Neira-Tovar, *Mexico.*

Room: **SALERNO**

Reconstruction by low cost software based on photogrammetry as a reverse engineering process

Dolores Parras, Francisco Cavas-Martínez, José Nieto, Francisco J.F. Cañavate, Daniel García Fernández-Pacheco, *Spain*

Examination of Effectiveness of a Performed Procedural Task using Low-Cost Peripheral Devices in VR

Damian Grajewski, Pawel Bun, Filip Gorski, *Poland*

The use of Virtual and Augmented Reality to Prevent the Physical Effects Caused by Diabetes Melitus Type 2: An Integrative Review

Leticia Neira-Tovar, *Mexico*; Ivan Castilla Rodriguez, *Spain*

Determining which Touch Gestures Are Commonly Used when Visualizing Physics Problems in Augmented Reality

Marta Del Río Guerra, *Mexico*; Jorge Martín-Gutiérrez, *Spain*; Raúl Vargas-Lizárraga, Israel Garza-Bernal, *Mexico*

Guiding or Exploring? Finding the Right Way to Teach Students Structural Analysis with Augmented Reality

Rafael Radkowski, Aliye Karabulut-Igu, Yelda Turkan, Amir Behzadan, An Chen, *United States*

To Speak or To Text: Effects of Display Type and I/O style on Mobile Virtual Humans Nurse Training

Justin Loyd, Toni Pence, Amy Banic, *United States*

Virtual, Augmented and Mixed Reality

WEDNESDAY 8:00 - 10:00



CCD S009

From SAD to CHEER (I): Theories

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

Room: **NEOPOLITAN IV**

Cross-cultural Communication in Design Collaboration

Rungtai Lin, Hong-lin Li, *Taiwan*; Jun Wu, Wei Bi, *P.R. China*

Representation of Memory in Design for Humanity

Hsien-Fu Lo, I-Wen Wu, Chien-Chih Ni, *Taiwan*

Applying Storyboards to Fashion Design for Empathy

Chien-Chih Ni, I-Ting Wang, Hsien-Fu Lo, *Taiwan*

Case Studies of Designing for Ecology: Branding EVEN

I-Wen Wu, Hsien-Fu Lo, I-Ting Wang, *Taiwan*

Research Model for Traditional Board game Renaissance

Erik Armayuda, *Indonesia*; Po-Hsien Lin, *Tanzania*; Rungtai Lin, *Taiwan*

S.A.D in Education and CHEER in Practice: A Case Study of DTIT Program at NTUA

John Kreifeldt, *United States*; Hong-lin Li, Ming-Xean Sun, *Taiwan*; Wei Bi, *P.R. China*; Rungtai Lin, *Taiwan*

Cross-Cultural Design

SCSM S010

Social Live Streaming Services: Investigating the New Human Information Behavior

Chair(s): Kaja J. Fietkiewicz, *Germany*.

Room: **OCTAVIUS 12**

A Model for Information Behavior Research on Social Live Streaming Services (SLSSs)

Franziska Zimmer, Katrin Scheibe, Wolfgang G. Stock, *Germany*

Dreaming of Stardom and Money: Micro-celebrities and Influencers on Live Streaming Services

Kaja J. Fietkiewicz, Isabelle Dorsch, Katrin Scheibe, Franziska Zimmer, Wolfgang G. Stock, *Germany*

Interactions of Twitch Users and Their Usage Behavior

Daniel Gros, Anna Hackenholt, Piotr Zawadzki, Brigitta Wanner, *Germany*

Does Age Influence the Way People Interact with Social Live Streaming Services?

Thomas Kasakowskij, *Germany*

The Impact of Gamification in Social Live Streaming Services

Katrin Scheibe, *Germany*

A Content Analysis of Social Live Streaming Services

Franziska Zimmer, *Germany*

Social Computing and Social Media

DHM S011

Human Factors in Information Visualization and Decision Support Systems

Chair(s): André Calero Valdez, *Germany*.

Room: **OCTAVIUS 8**

Privacy Pirates - The key role of user diversity in V2X-technology

Teresa Brell, Ralf Philipsen, Martina Ziefle, *Germany*

Safety Performance Evaluation for Civil Aviation Maintenance Department

Yijie Sun, Yuan Zhang, Rong Zhao, Yanqiu Chen, *P.R. China*

Improving Computerized Charting in an Intensive Care Unit

Ben Smith, Sivamanoj Sreeramakavacham, Jung Hyup Kim, Laurel Despins, *United States*

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

DUXU S012

Ergonomics in Usability and User Experience

Chair(s): Francisco Rebelo, *Portugal*.

Room: **MILANO V**

Little big choices: customization in online user experience

Marco Neves, Maria Reis, *Portugal*

Comparing Human against Computer Generated Designs: New Possibilities for Design Activity within Agile Projects

Farley Fernandes, Ernesto Filgueiras, *Portugal*; Andre Neves, *Brazil*

Tourism and Virtual Reality: User experience evaluation of a virtual environment prototype

Yanick Trindade, Francisco Rebelo, Paulo Noriega, *Portugal*

Expected User Acceptance of an Augmented Reality Service for a Smart City

Francisco Rebelo, Paulo Noriega, Tiago Oliveira, Daniela Santos, *Portugal*; Sabrina Oliveira, *Brazil*

Three Column Website Layout vs. Grid Website Layout: An Eye Tracking Study

Abdallah Namoun, *Saudi Arabia*

Design, User Experience, and Usability



DUXU S013

Information Design and UX

Chair(s): Carla G. Spinillo, Heloisa Candello, *Brazil*.

Room: **MILANO VII**

The Semiotics of Space and Time in Interaction Design

Patricia Search, *United States*

The role of dialogue user data in the information interaction design of conversational systems

Heloisa Candello, Claudio Pinhanez, *Brazil*

Educational Digital Games: a Theoretical Framework about Design Models, Learning Theories and User Experience

Michelle Pereira de Aguiar, *Brazil*; Brian Winn, *United States*; Matheus Cezarotto, André Luiz Battaiola, Péricles Varella Gomes, *Brazil*

Interaction and Animation in Health Infographics: a Study of Graphic Presentation and Content Comprehension

Rafael De Castro Andrade, Carla G. Spinillo, *Brazil*

The Design of the saiteBooker: an Authoring Tool for E-books for Health Distance Learning Courses in Brazil

Carla G. Spinillo, Claudio H. Silva, Ana Emilia F. Oliveira, Dilson José L. Rabelo Jr., Aldrea M. O. Rabelo, *Brazil*

S014

New Approaches of User Experience Research - I

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

Room: **MILANO VI**

Extraction of Key Factors and Its Interrelationship Critical to Determining the Satisfaction Degree of User Experience in Taxi Passenger Service Using DEMATEL

Chunrong Liu, Yi Jin, Xu Zhu, *P.R. China*

Study of Chinese City "Portrait" Based on Data Visualization: Take City Dashboard for Example

Xueting Tong, Zhanwei Wu, *P.R. China*

Factor Model for Passenger Experience in the Aircraft Cabin Design

Siyu Ren, Xinyi Tao, Ting Han, *P.R. China*

Exploration of New-Generation Human Computer Interface based on Participatory Design Strategy

Danni Chang, *P.R. China*; Carman Lee, *Hong Kong*; Lo Kwok Leung, *P.R. China*

Exploring potential user experience design for traditional Chinese service station: a case study in Guangzhou, China

Zhen Liu, Yifan Meng, Di Xu, Jun-en He, Xiusheng Gu, Lijun Jiang, Xiaohua Li, Shaoxin Wu, Zhengquan Li, *P.R. China*

Research on Information Recommendation Optimization Mechanism Based on Emotional Expression and Cognition

Ke Zhong, Liqun Zhang, Xiaolei Guan, *P.R. China*

DAPI S015

Understanding Human & Animal Behavior

Chair(s): Takuya Maekawa, *Japan*.

Room: **OCTAVIUS 10**

Survey on Vision-based Path Prediction

Tsubasa Hirakawa, Takayoshi Yamashita, Toru Tamaki, Hironobu Fujiyoshi, *Japan*

Understanding animal behavior using their trajectories: a case study of gender specific trajectory trends

Ilya Ardakani, Koichi Hashimoto, Ken Yoda, *Japan*

Easy-to-install Methods for Indoor Context Recognition Using Wi-Fi Signals

Kazuya Ohara, Takuya Maekawa, *Japan*

Neural Mechanisms of Animal Navigation

Koutarou D. Kimura, Masaaki Sato, Midori Sakura, *Japan*

Finding Discriminative Animal Behaviors from Sequential Bio-logging Trajectory Data

Takuto Sakuma, Kazuya Nishi, Shuhei J. Yamazaki, Koutarou D. Kimura, Sakiko Matsumoto, Ken Yoda, Ichiro Takeuchi, *Japan*

Practical and Numerical Investigation on a Minimal Design Navigation System of Bats

Yasufumi Yamada, Kentaro Ito, Ryo Kobayashi, Shizuko Hiryu, Yoshiaki Watanabe, *Japan*

Distributed, Ambient and Pervasive Interactions

HCIBGO S016

HCI and Emergent Technologies

Chair(s): Bo Sophia Xiao, *United States*.

Room: **SORRENTO**

The Role of Actor Capability in (Re) Defining Technology Affordances: The Case of Open Innovation Platform

Kaveh Abhari, Bo Sophia Xiao, Elizabeth Davidson, *United States*

Why blogger Sells: An Approach from the Attachment Theory

Wei Yang, Choon Ling Sia, *Hong Kong*

Effect of Gamification on Intrinsic Motivation

Edna Chan, Singapore; Fiona Fui-Hoon Nah, *United States*; Qizhang Liu, *Singapore*; Zhiwei Lu, *United States*

Short Paper: Psychosocial Aspects of New Technology Implementation

Dennis Jones, *United States*

Information Visualization and Responsiveness as Digital Capabilities to Improve Digital Business Performance

Jose Carlos Da Silva Freitas Junior, Antonio Carlos Gastaud Maçada, *Brazil*; Jie Mein Goh, *Canada*

The Effects of 360-degree VR Videos on Audience Engagement: Evidence from The New York Times

Guan Wang, Wenying Gu, Ayoung Suh, *Hong Kong*

HCI in Business, Government and Organizations

WEDNESDAY 8:00 - 10:00



LCT S017

Usability-Accessibility-Assessment

Chair(s): David Fonseca, *Spain*.

Room: **MILANO VIII**

Factors Affecting Usability of Interactive 3D Holographic Projection System for Experiential Learning

Hsinfu Huang, Chin-wei Chen, Yuan-wei Hsieh, *Taiwan*

Assessing the Usability of Urdu Learning Mobile Apps for Children

Noor Hussain, Zahid Hussain, Baqar Ali, *Pakistan*

Usability test of WYRED platform

Francisco J. García Peñalvo, Alicia García-Holgado, Andrea Vázquez Ingelmo, Antonio M. Seoane-Pardo, *Spain*

Accessibility in Software Engineering: Pursuing the Mainstream from a Classroom

João Silva, Ramiro Gonçalves, José Luis Bandeira Rodrigues Martins, Frederico Branco, António Pereira, *Portugal*

Human interaction in learning ecosystems based in Open Source solutions

Alicia García-Holgado, Francisco J. García Peñalvo, *Spain*

An Analysis on the Recommendation Engine of a Course Introduction Module

Toshikazu Iitaka, *Japan*

Application of Domain Engineering to Generate Customized Information Dashboards

Andrea Vázquez Ingelmo, Francisco J. García Peñalvo, Roberto Therón, *Spain*

ITAP S018

Inclusive Design for Diverse User Populations

Chair(s): Wang-Chin Tsai, *Taiwan*.

Room: **OCTAVIUS 9**

An Evaluation of User Experience of Web Main Menu on Different Mobile Devices

Kuo-Liang Huang, Hsuan Lin, Chia-Chen Lu, *Taiwan*

Viewing angle, depth and directionality of 2D and 3D icons

Hsuan Lin, Kuo-Liang Huang, Wei Lin, *Taiwan*

Semantic Understanding and Task-Oriented for Image Assessment

Cheng-Min Tsai, Shin-Shen Guan, Wang-Chin Tsai, Zhi-hua Zhang, *Taiwan*

Acoustical Evaluation for the Renovation of Multipurpose Performance Hall

Wei Lin, Hsuan Lin, Kung-Huang Huang, Chung-Tsung Wu, *Taiwan*

Evaluation and Analysis of the Features and Applications of 3D Model Platforms

Chia-Ling Chang, Siou-Wen Wang, *Taiwan*

NOTES

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HCI S019

Design and Application for Medical Navigation and Simulation
 Chair(s): Katsuhiko Onishi, *Japan*

Room: **NEOPOLITAN I**

Calibration Experiences of Multiple RGB/Depth Visions for Capturing a Surgical Area
 Katsuhiko Onishi, Yuichiro Tanaka, Kiminori Mizushino, Katsunori Tachibana, Kaoru Watanabe, Hiroshi Noborio, *Japan*

A Useful Robotic-Mechanical System for Measuring a Surgical Area without Obstructing Surgical Operations by Some Surgeon
 Masahiro Nonaka, Yuya Chikayama, Masatoshi Kayaki, Masanao Koeda, Katsunori Tachibana, Hiroshi Noborio, *Japan*

A Novel Liver Surgical Navigation System Using Polyhedrons with STL-format
 Satoshi Numata, Daiki Yano, Masanao Koeda, Katsuhiko Onishi, Kaoru Watanabe, Hiroshi Noborio, Hirotaka Uoi, *Japan*

Development of Wireless Surgical Knife Attachment with Proximity Indicators Using ARuco Marker
 Masanao Koeda, Daiki Yano, Naoki Shintaku, Katsuhiko Onishi, Hiroshi Noborio, *Japan*

Accurate Evaluation of Rotational Angle and Translation Movement of Our Organ-following Algorithm based on Depth-Depth Matching
 Hiroshi Noborio, Saiki Kiri, Masatoshi Kayaki, Masanao Koeda, Katsuhiko Onishi, *Japan*

Laparoscopic Forceps with Force Feedback
 Atsuro Sawada, Jin Kono, Atsushi Sengiku, Naoto Kume, Junichi Fukuda, Toshinari Yamasaki, Osamu Ogawa, *Japan*

S020

Research on personalised HCI
 Chair(s): Yi Ji, *P.R. China*

Room: **NEOPOLITAN II**

Study on Children's Toy Design Based on Perceptual Evaluation
 Bin Jiang, Haoran Ni, Yingying Miao, *P.R. China*

Research on Personalized Learning Pattern in Traditional Handicraft using Augmented Reality: A Case Study of Cantonese Porcelain
 Yi Ji, Peng Tan, *P.R. China*; Henry Been- Lirn Duh, *Australia*

Research on Office Chair based on Modern Office Posture
 Xinxin Sun, Xiaoyan Lan, Di Zhou, Bin Jiang, *P.R. China*

From Interpretation to Deduction: A Study on the Experience Design Method of Digitized Communication of Cultural Heritage
 Zhigang Chen, Jing Ma, *P.R. China*

Developing Female Clothing Coordination Generation System Using Eye Tracking Information
 Minatsu Fujisaki, Hiroshi Takenouchi, Masataka Tokumaru, *Japan*

HIMI S021

VR2.0 and Digital Museum
 Chair(s): Michitaka Hirose, *Japan*

Room: **MILANO I**

Can I talk to a squid? The origin of visual communication through the behavioral ecology of cephalopod
 Ryuta Nakajima, *United States*

Airflow for Body Motion Virtual Reality
 Masato Kurosawa, Yasushi Ikei, Yujin Suzuki, Tomohiro Amemiya, Koichi Hirota, Michiteru Kitazaki, *Japan*

Basic study on creating VR exhibition content archived under adverse conditions
 Naoya Mizuguchi, Isamu Ohashi, Takuji Narumi, Tomohiro Tanikawa, Michitaka Hirose, *Japan*

Short Paper: Haptic interface technologies using perceptual illusions
 Tomohiro Amemiya, *Japan*

A Fingertip Glove with Motor Rotational Acceleration Enables Stiffness Perception When Grasping a Virtual Object
 Vibol Yem, *Cambodia*; Hiroyuki Kajimoto, *Japan*

K-Culture Time Machine: A Mobile AR Experience Platform for Korean Cultural Heritage Sites
 Hyerim Park, Eunseok Kim, Hayun Kim, Jae-eun Shin, Junki Kim, Kihong Kim, Woontack Woo, *Korea*

Designing Augmented Sports: merging physical sports and virtual world game concept
 Takuya Nojima, Kadri Rebane, Ryota Shijo, Tim Schewe, Shota Azuma, Yo Inoue, Takahiro Kai, Naoki Endo, Yohei Yanase, *Japan*

Emotion Hacking VR: Amplifying Scary VR Experience by Accelerating Actual Heart Rate
 Ryoko Ueoka, Ali AlMutawa, *Japan*

S022

Information in aviation
 Chair(s): Peter Stütz, *Germany*

Room: **MILANO II**

Gestural Transmission of Tasking Information to an Airborne UAV
 Alexander Schelle, Peter Stütz, *Germany*

Integration of an Exocentric Orthogonal Coplanar 360 Degree Top View in a Head Worn see-through Display supporting Obstacle Awareness for Helicopter Operations
 Lars Ebrecht, Johannes M. Ernst, Hans-Ullrich Döhler, Sven Schmerwitz, *Germany*

Discussion on the Application of Active Side Stick on Civil Aircraft
 Xianxue Li, Baofeng Li, Haiyan Liu, *P.R. China*

Towards Autonomous Weapons Movement on an Aircraft Carrier: Autonomous Swarm Parking
 James Hing, Kyle Hart, Ari Goodman, *United States*

Effects of Background Noise and Visual Training on 3D Audio
 Christian Niermann, *Germany*

EPCE S023

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

Room: **OCTAVIUS 7**

Augmented Reality in a Remote Tower Environment based on VS/IR Fusion and Optical Tracking
Maria Hagl, Maik Friedrich, Anne Papenfuss, Norbert Scherer-Negenborn, Jörn Jakobi, Tim Rambau, Markus Schmidt, *Germany*

Human Performance Assessment of Multiple Remote Tower Operations Simultaneous Take-off and Landing at Two Airports
Peter Kearney, *Ireland*; Wen-Chin Li, Graham Braithwaite, *United Kingdom*

Effect of Fatigue and Nervousness of Tower Controller on the Control Efficiency
Xingjian Zhang, Peng Bai, Xinglong Wang, Yifei Zhao, *P.R. China*

Inter-sector Backup Behaviors in Parallel Approach ATC: the Effect of Job Satisfaction
Yazhe Li, Xiaotian E, Han Qiao, Xiangying Zou, Chunhui Lv, Lin Xiong, Xianghong Sun, Jingyu Zhang, *P.R. China*

Playbook for UAS: UX of Goal-Oriented Planning & Execution
Jack Gale, John Karasinski, Steve Hillenius, *United States*

UAHCI S024

Inclusive design and Intent prediction in Automotive, Aerospace and Further Application Areas
Chair(s): Patrick M. Langdon, *United Kingdom*.
Room: **MILANO III**

Stabilising Touch Interactions in Cockpits, Aerospace, and Vibrating Environments
Bashar Ahmad, Patrick M. Langdon, Simon J. Godsill, *United Kingdom*

Intelligent Driver Profiling System for Cars - A Basic Concept
Nermin Caber, Patrick M. Langdon, P. John Clarkson, *United Kingdom*

A Method for Analyzing Mobility Issues for People with Physical Disabilities in the Context of Developing Countries
Leticia Maria de Oliveira Camenar, Diego de Faria Do Nascimento, Leonelo Dell Anhol Almeida, *Brazil*

Ultrasonic Waves to Support Human Echolocation
Florian Von Zabiensky, Michael Kreutzer, Diethelm Bienhaus, *Germany*

Wayfinding Board Design for the Visually Impaired based on Service Design Theory
Wanru Wang, Xinxiang Liu, *P.R. China*

VAMR S025

Extended reality technologies for clinically driven and self-guided health and wellness applications
Chair(s): Mark R. Costa, *United States*.
Room: **SALERNO**

The message effect of augmented health messages on body
Soyoung Jung, *United States*

Immersion in Virtual Reality Can Increase Exercise Motivation and Physical Performance
Gyoung Kim, Frank Biocca, *United States*

xR-based Systems for Mindfulness Based Training in Clinical Settings
Mark R. Costa, Dessa Bergen-Cico, *United States*; Rocio Herrero, Jessica Navarro, *Spain*; Rachel Razza, Qiu Wang, *United States*

A Case Study: Chronic Pain Patients' Preferences for Virtual Reality Games for Pain Distraction
Xin Tong, Weina Jin, Kathryn Cruz, Diane Gromala, Bernie Garrett, Tarnia Taverner, *Canada*

The Effect of Multimodal Feedback on Perceived Exertion on a VR Exercise Setting
Jon Ram Bruun-Pedersen, Morten G. Andersen, Mathias M. Clemmensen, Mads K. Didriksen, Emil J. Wittendorff, Stefania Serafin, *Denmark*

VAIR Field – Multiple Mobile VR Shooting Sports
Masasuke Yasumoto, Takehiro Teraoka, *Japan*

CCD S026

Improving User Experience
Chair(s): Na Chen, *P.R. China*; Giannis Drossis, *Greece*.

Room: **NEOPOLITAN III**

Influence of Different Types of Auxiliary Sensors on the Behaviors of Right turn and Right Changes of Lane
Jitao Li, Hua Qin, Linghua Ran, *P.R. China*

A Study for the Elderly-Oriented Public Rest Facility Design Based on User's Demands and Perceptual Cognition
Hao Yang, Yueran Wang, *P.R. China*

Three Dimensional Head Modeling based on Direct Free Form Deformation
Haixiao Liu, Yanling Zheng, Xia Wang, Taijie Liu, Linghua Ran, Jianwei Niu, *P.R. China*

Engineering Psychology and Cognitive Ergonomics

Universal Access in Human-Computer Interaction

Virtual, Augmented and Mixed Reality

Cross-Cultural Design

CCD S027

From SAD to CHEER (II): Applications
 Chair(s): Rungtai Lin, *Taiwan*; John Kreifeldt, *United States*.

Room: **NEOPOLITAN IV**

A Cheerful Journey or a Depressive Process? A Study of the Integrated Cultural and Creative Design Curriculum
 Shu Hui Huang, Chun-Liang Chen, *Taiwan*; Po-Hsien Lin, *Tanzania*

Integration of Communication Matrix for Evaluating Microfilm
 Jun Wu, Yang Gao, *P.R. China*; Sandy Lee, *Taiwan*

Constructing and Analyzing a Measurement Model of Product Emotional Design
 Hui-Yun Yen, *Taiwan*

The Construction of Cultural Impressions for the Idea of Cultural Products
 Po-Hsien Lin, *Tanzania*; Mo-Li Yeh, *Taiwan*

A Survey Website Designed for The Older People — A Case Study of Happy Life Survey
 Yimeng Xiao, Hsien-Hui Tang, *Taiwan*

New Approach to Design in Cultural Society from ABCDE to FGHIJ
 Wen-Ko Chiou, *Taiwan*; Erik Armayuda, *Indonesia*; Yang Gao, *P.R. China*; Rungtai Lin, *Taiwan*

SCSM S028

Opinion Forming, Fake News, and Social Bots
 Chair(s): André Calero Valdez, *Germany*.

Room: **OCTAVIUS 12**

Changing Perspectives: Is it Sufficient to Detect Social Bots?
 Christian Grimme, Dennis Assenmacher, Lena Adam, *Germany*

Political Opinions of Us and Them and the Influence of Digital Media Usage
 André Calero Valdez, Laura Burbach, Martina Ziefle, *Germany*

Human Factors in the Age of Algorithms - Understanding the Human-in-the-loop using Agent-based Modeling
 André Calero Valdez, Martina Ziefle, *Germany*

Is it Really Fake? – Towards an Understanding of Fake News in Social Media Communication
 Judith Meinert, Milad Mirbabaie, Sebastian Dungs, Ahmet Aker, *Germany*

Exploring the Use of Social Media in Education from Learners Perspectives
 Yara A. AlHaidari, *Saudi Arabia*

AC S029

Brain interfaces and electroencephalography
 Chair(s): Chris Crawford, *United States*.

Room: **MILANO IV**

A Cross-Brain Interaction Platform based on Neurofeedback using Electroencephalogram
 Rongrong Zhang, Xiaojie Zhao, *P.R. China*

Classification Procedure for Motor Imagery EEG Data
 Ellton Sales Barros, Nelson Neto, *Brazil*

Deep Convolutional Neural Networks and Power Spectral Density Features for Motor Imagery Classification of EEG Signals
 Andres F. Perez-Zapata, Andres F. Cardona-Escobar, Jorge A. Jaramillo-Garzón, Gloria M. Diaz, *Colombia*

M.I.N.D. Brain Sensor Caps: Coupling Precise Brain Imaging to Virtual Reality Head-Mounted Displays
 Gyoung Kim, *United States*; Joon Hyun Jeon, *Korea*; Frank Biocca, *United States*

Single-Channel EEG Sleep Stage Classification Based On K-SVD Algorithm
 Shigang Zuo, Xiaojie Zhao, *P.R. China*

WebBCI: An Electroencephalography Toolkit Built on Modern Web Technologies
 Pierce Stegman, Chris Crawford, Jeff Gray, *United States*

DHM S030

Design-Cognitive Sciences-Health Sciences Cooperations: contributions to human perception and well being
 Chair(s): Rachel Zuanon, *Brazil*.
 Room: **OCTAVIUS 8**

AudioGames: Accessibility and Inclusion in Digital Entertainment
 Sergio Nesteriuk, *Brazil*

Game Design and Neuroscience Cooperation: Perspectives to Cybersickness reduction in Head Mounted Displays experiences
 Felipe Moreno, Rachel Zuanon, *Brazil*

Inclusive Design and Textile Technology in the Everyday Lives of Wheelchair Dependent
 Veridianna Cristina Teodoro Ferreira, Agda Carvalho, *Brazil*

SEE BEYOND: Enhancement – strategies in teaching learning as a stimulus to creativity in fashion design
 Geraldo Coelho Lima Junior, Rachel Zuanon, *Brazil*

Drawing Memories: Intersections between the sites of Memory and the Memories of Places
 Rachel Zuanon, Melissa Ramos da Silva Oliveira, Haroldo Gallo, Claudio Lima Ferreira, *Brazil*

Landscape Design and Neuroscience Cooperation: Contributions to the Non-Pharmacological Treatment of Alzheimer’s Disease
 Rachel Zuanon, Barbara Alves Cardoso de Faria, *Brazil*

From Hörspiel to Audio Fiction: Sound Design Perspectives for Blind and Visually Impaired People
 Andréa Catropa, Sergio Nesteriuk, Gilberto Prado, *Brazil*

Design, User Experience, and Usability

DUXU S031

Design, User Experience and Usability for mobile devices

Chair(s): Maria Uther, *United Kingdom.*

Room: **MILANO V**

Music at your Fingertips: Designing Mobile Interaction Interfaces for Runners

Susanne Koch Stigberg, *Norway*

An Improved Model for GUI Design of mHealth Context-Aware Applications

Mario Quinde, Nawaz Khan, *United Kingdom*

Research on Service Process Design of Mobile Medical Platform Based on Patient 's Emotional Demand

Yingying Miao, Tong Cui, Bin Jiang, *P.R. China*

Comparative Study on the Usability of Navigation Style in Iteration Process of Mobile Software

Canqun He, Jiafeng Gu, Zhangyu Ji, Xu Yang, *P.R. China*

Analysis and Design for Mobile applications: a User Experience Approach

Zhao Huang, ZhuoYu Tian, *P.R. China*

A Comparison of QWERTY and Alphabetical Layout on Small Handheld Devices

Dagmawi Lemma Gobena, Addis Seifu, *Ethiopia*

S032

New Approaches of User Experience Research - II

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

Room: **MILANO VI**

User-experience-based visual design study for carrier optical landing-aid system

Lijun Jiang, Yongjie Yao, Zhelin LI, Zhen Liu, Simin Cao, Zhiyong Xiong, *P.R. China*

A Preliminary Study on Design for Different Social Classes

Jiong Fu, Chenghui Shi, *P.R. China*

Research on Image Emotional Tag Generation Mechanism Based on the "Cloud Pet Keeping" Phenomenon

Chen Tang, Ke Zhong, Liqun Zhang, *P.R. China*

Young Chinese Consumers' Perception of Passenger Car Form in Rear View

Chunrong Liu, Yi Jin, Xiaoguo Ding, Yang Xie, *P.R. China*

What Sensory Desires Make Young Chinese Users Prefer One Instrumental Panel Form of Passenger Car to Another?

Chunrong Liu, Yang Xie, Yi Jin, *P.R. China*

DAPI S033

Ambient and Civic Computing

Chair(s): Tatsuo Nakajima, *Japan.*

Room: **OCTAVIUS 10**

Providing Daily Casual Information through Eye Contact with Emotional Creatures

Hina Akasaki, Kota Gushima, Tatsuo Nakajima, *Japan*

Opportunistic Data Exchange Algorithm for Animal Wearable Device through Active Behavior against External Stimuli

Kejiro Nakagawa, Atsuya Makita, Miho Nagasawa, Takefumi Kikusui, Kaoru Sezaki, Hiroki Kobayashi, *Japan*

Planning Placement of Distributed Sensor Nodes to Achieve Efficient Measurement

Yuichi Nakamura, Masaki Ito, Kaoru Sezaki, *Japan*

Collecting Bus Locations by Users: A Crowdsourcing Model to Estimate Operation Status of Bus Transit Service

Kenro Aihara, Piao Bin, Hajime Imura, Atsuhiro Takasu, Yuzuru Tanaka, *Japan*

A Novel Interaction Design Approach for Accessing Daily Casual Information through a Virtual Creature

Kota Gushima, Hina Akasaki, Tatsuo Nakajima, *Japan*

Study on Innovative Design of Urban Intelligent Lighting Appliance (UILA) based on Kansei Engineering

Jianxin Cheng, Junnan Ye, Chaoxiang Yang, Lingyun Yao, Zhenzhen Ma, Tengye Li, *P.R. China*

Distributed, Ambient and Pervasive Interactions

HCIBGO S034

User Experience Research in Enterprise

Chair(s): Shuang Xu, *United States.*

Room: **SORRENTO**

Conducting Cost-effective User Research in China Remotely

Shuang Liu, Shuang Xu, *United States*

Evaluating the Two-Speed IT Concept for Digitalization

Christian Remfert, Jan Stockhinger, *Germany*

Contracting Customer-focused IT Services in Service Level Agreements

Christian Remfert, Alexander Teubner, *Germany*

Activity Simulation for Experiential Learning in Cybersecurity Workforce Development

John Burris, Wesley Deneke, Brandon Maulding, *United States*

Head-Mounted Displays in Industrial AR-Applications: Ready for Prime Time?

Hitesh Dhiman, Sascha Martinetz, Volker Paelke, Carsten Röcker, *Germany*

HCI in Business, Government and Organizations

HCI S037

Gesture-based Interaction
Chair(s): George Margetis, *Greece*.

Room: **NEOPOLITAN I**

Orientation Correction for a 3D Hand Motion Tracking Interface using Inertial Measurement Units
Nonnarit O-larnnithipong, Armando Barreto, Sudarat Tangnimitchok, Neeranut Ratchatanantakit, *United States*

Shopping Together: A Remote Co-shopping System Utilizing Spatial Gesture Interaction
Minghao Cai, Soh Masuko, Jiro Tanaka, *Japan*

A New Virtual Keyboard with Finger Gesture Recognition for AR/VR Devices
Tae-Ho Lee, Hyuk-Jae Lee, *Korea*

A Gesture-Based Interaction Technique for a Passive RFID Card with an Acceleration Sensor
Kazuya Oharada, Buntarou Shizuki, Shin Takahashi, *Japan*

A Novel Hand Written Technique Using Touch-Less Finger Gesture Movement for Human Computer Interaction
Y.A. Joarder, Md Bipul Hossain, Md Jashim Uddin, Md Zahidul Islam, *Bangladesh*

S038

Speech-based interaction
Chair(s): Ayako Hashizume, *Japan*.

Room: **NEOPOLITAN II**

Lucida: Enhancing the Creation of Photography through Semantic, Sympathetic, Augmented, Voice Agent Interaction
Brad Wroblecki, Alexander Ivanov, Eric Eidelberg, Katayoon Etemad, Denis Gadbois, Christian Jacob, *Canada*

An Adaptive Speech Interface for Assistance in Maintenance and Changeover Procedures
Frieder Loch, Julia Czerniak, *Germany*; Valeria Villani, Lorenzo Sabattini, Cesare Fantuzzi, *Italy*; Alexander Mertens, Birgit Vogel-Heuser, *Germany*

Comparing cascaded LSTM architectures for generating head motion from speech in task-oriented dialogs
Duc-Canh Nguyen, Gérard Bailly, Frédéric Elisei, *France*

Voice User Interface Interaction Design Research Based on User Mental Model in Autonomous Vehicle
Yuemeng Du, Jingyan Qin, Shujing Zhang, Sha Cao, Jinhua Dou, *P.R. China*

Speech Emotion Recognition Integrating Paralinguistic Features and Auto-encoders in a Deep Learning Model
Ruben D. Fonnegra, Gloria M. Diaz, *Colombia*

S039

HCI, personal informatics, motivation, persuasion and well-being
Chair(s): Walter Ritter, *Austria*.

Room: **NEOPOLITAN III**

Social Robotics and Human Computer Interaction for Promoting Wellbeing in the Contemporary City
Nimish Bilorla, Dimitra Dritsa, *Australia*

Healthy Hankerings: Motivating Adolescents to Combat Obesity with a Mobile Application
Farzana Rahman, Paul Henninger, David Kegley, Keegan Sullivan, James Yoo, *United States*

A Study of Applying Slow Technology on Wearable Devices
Meng-Dar Shieh, Shu-hui Meng, Tzu Yu Chuang, Fang-Chen Hsu, Chih-Chieh Yang, *Taiwan*

A Lifelog Viewer System Supporting Multiple Memory Cues
Jiaming Zhang, Jie Liang, Jiro Tanaka, *Japan*

Bringing nature into our lives - Using biophilic design and calm computing principles to improve well-being and performance
Carla Barreiros, Eduardo Veas, Viktoria Pammer, *Austria*

Automatic low-level overlays on presentations to support regaining an audience's attention
Walter Ritter, Guido Kempter, Isabella Hämmerle, Andreas Wohlgenannt, *Austria*

HIMI S040

Data, Semantics and Interaction
Chair(s): Yumi Asahi, *Japan*.

Room: **MILANO I**

Analysis of Trends of Purchasers of Motorcycles in Latin America
Rintaro Tanabe, Yumi Asahi, *Japan*

Credit Risk Analysis of Auto Loan in Latin America
Yukiya Suzuki, Yumi Asahi, *Japan*

Analysis and consideration of the relationship between audience rating and purchasing behaviors of TV programs
Saya Yamada, Yumi Asahi, *Japan*

Charactaristic Analysis of Each Store in Japanese Hair Salon
Nanase Amemiya, Remi Terada, Yumi Asahi, *Japan*

Career that tend to be unpaid for motorcycles sales loans
Mari Atsuki, Yumi Asahi, *Japan*

Factor Analysis of the Batting Average
Hiroki Yamato, Yumi Asahi, *Japan*

Analysis of factor of scoring of Japanese professional football league
Taijyu Suda, Yumi Asahi, *Japan*

HIMI S041

Information and Visual Perception
Chair(s): Makoto Oka, *Japan*.

Room: **MILANO II**

A Study for Correlation Identification in Human-Computer Interface Based on HSB color Model
Yikang Dai, Chengqi Xue, Qi Guo, *P.R. China*

Visual Guidance to Find the Right Spot in Parameter Space
Alexander Brakowski, Sebastian Maier, Arjan Kuijper, *Germany*

Trade-Off between Mental Map and Aesthetic Criteria in Simulated Annealing based Graph Layout Algorithms
Armin Jörg Slopek, Carsten Winkelholz, *Germany*; Margaret Varga, *United Kingdom*

Evaluating User Interfaces Supporting Change Detection in Aerial Images and Aerial Image Sequences
Jutta Hild, Günter Saur, Patrick Petersen, Michael Voit, Elisabeth Peinsipp-Byma, Jürgen Beyerer, *Germany*

Investigating Effects of Users' Background in Analyzing Long-Term Images from a Stationary Camera
Koshi Ikegawa, Akira Ishii, Kazunori Okamura, Buntarou Shizuki, Shin Takahashi, *Japan*

EPCE S042

Flight Deck Design and Human-Computer Interactions
Chair(s): Wen-Chin Li, *United Kingdom*; Ruishan Sun, *P.R. China*.

Room: **OCTAVIUS 7**

Psycho-Physiological Evaluation of the Pilot: a Study Conducted with Pilots of the French Air Force
Vincent Ferrari, *France*; Jean-François Gagnon, *Canada*; Cyril Camachon, Maëlle Kopf, *France*

Flight Safety: ESL flight Crew Member Use of Crew Alerting and Information Systems
Dujuan Sevillian, *United States*

CONTACT: a Human Centered Approach of Multimodal Flight Deck Design and Evaluation
Anne-Claire Large, Cedric Bach, Guillaume Calvet, *France*

Now you see it, now you don't: A Change Blindness Assessment of Flight Display Complexity and Pilot Performance
Claire McDermott Ealding, Alex Stedmon, *United Kingdom*

Tablet-based Information System for Commercial Aircraft: Onboard Context-Sensitive Information System (OCSIS)
Wei Tan, *P.R. China*; Guy A. Boy, *France*

Human-Centered Design of Flight Mode Annunciation for Instantaneous Mode Awareness
Andreas Horn, Wen-Chin Li, Graham Braithwaite, *United Kingdom*

Network Re-Analysis of Boeing 737 Accident at Kegworth Using Different Potential Crewing Configurations for a Single Pilot Commercial Aircraft
Don Harris, *United Kingdom*

UAHCI S043

Web Accessibility in Higher Education
Chair(s): Gian Wild, *United States*.

Room: **MILANO III**

State of Accessibility in U.S. Higher Ed Institutions
Jiatyan Chen, *United States*

Institutional Accessibility Awareness
Brent Whiting, *United States*

Teaching About Universal Design and Accessibility in Higher Education
Howard Kramer, *United States*; Gian Wild, *Australia*

Report A Barrier: Creating and Implementing a Pan-University Accessibility Reporting System
Lori Kressin, *United States*

VAMR S044

Puppeteering: Human Tracking in Virtual Space
Chair(s): Tami Griffith, *United States*.

Room: **SALERNO**

Real-time Motion Capture on a Budget
Tami Griffith, Tabitha Dwyer, Jennie Ablanado, *United States*

Is this Person Real? Avatar Stylization and its Influence on Human Perception in a Counseling Training Environment
Jennie Ablanado, Elaine Fairchild, Tami Griffith, Christopher Rodeheffer, *United States*

3Lateral's RigLogic® and Volumetric Capture, Enabling Real-time Interaction with Lifelike Digital Humans
Relja Ljubobratovic, *Serbia and Montenegro*

Extending Embodied Interactions in Mixed Reality Environments
Mohamed Handosa, *United States*; Hendrik Schulze, *Austria*; Denis Gračanin, Matthew Tucker, Mark Manuel, *United States*

Augmented, Mixed, and Virtual Reality Enabling of Robot Deixis
Tom Williams, Nhan Tran, Josh Rands, Neil T. Dantam, *United States*

Engineering Psychology and Cognitive Ergonomics

Universal Access in Human-Computer Interaction

Virtual, Augmented and Mixed Reality

WEDNESDAY 13:30 - 15:30

CCD S045

From SAD to CHEER (III): Case Studies - I

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

Room: **NEOPOLITAN IV**

Influence of Song Porcelain Aesthetics on Modern Product Design

Xiao Song, Zhaoqi Wu, Li Ouyang, Jie Ling, *P.R. China*

Design Method and Application of DNA in the Design of Cultural Creative Products

Yi Li, Jin Li, Qiu Yan, *P.R. China*

From Traditional Culture to Lifestyle - A Case Study on Local Specialties in the Lingnan Area

Zhaoqi Wu, Xiao Song, Jie Shen, Jie Tang, *P.R. China*

Research on the Professional Quality of Product Designers in the Context of the Intelligent Era

Yonghui Lin, Jin Li, *P.R. China*

Teaching Thoughts and Cases Analysis of the Innovative Design of Lacquer Art Products in the Multi-Disciplinary and Trans-Boundary Historical Background

Jin Li, Yonghui Lin, *P.R. China*

Well-being Design for an Aging Society

Ming-Ming Zong, Chen Li, *P.R. China*

Cross-Cultural Design

SCSM S046

Cognitive Engineering Aspects of Social Systems

Chair(s): Shotaro Miwa, Hidenori Fujino, *Japan*.

Room: **OCTAVIUS 12**

Experimental Verification of Sightseeing Information as a Weak Trigger to Affect Tourist Behavior

Yuuki Hiraishi, Takayoshi Kitamura, Tomoko Izumi, Yoshio Nakatani, *Japan*

Evaluation of high precision map creation system with evaluation items unique to each feature type

Masashi Watanabe, Takeo Sakairi, Ken Shimazaki, *Japan*

Development of Methods to Enhance Staff Members' Chats in Refresh Areas in Workplaces for Encouraging Their Knowledge Sharing

Hidenori Fujino, Motoki Urayama, Takayoshi Kitamura, Hirotake Ishii, Hiroshi Shimoda, Kyoko Izuka, Ryo Shimano, Misato Tanemoto, Misaki Maeda, Manabu Goto, Masaki Kanayama, *Japan*

The proposal of cognitive support for driver by voice guide using soliloquy expression

Takuya Yamawaki, Takayoshi Kitamura, Tomoko Izumi, Yoshio Nakatani, *Japan*

A Study on the Differences in the Expressions of Emotional Cognition between Bloggers and Users Based on the "Cloud Pet Keeping" Phenomenon

Chen Tang, Ke Zhong, Liqun Zhang, *P.R. China*

Social Computing and Social Media

AC S047

Adaptive Instruction as an Augmentation Technology for Enhancing Human Performance

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

Room: **MILANO IV**

Leveraging Cognitive Psychology Principles to Enhance Adaptive Instruction

Anne M. Sinatra, *United States*

Experiential Intelligent Tutoring: Using the Environment to Contextualize the Didactic

Benjamin Goldberg, Michael W. Boyce, *United States*

Mitigating Skill Decay in Military Instruction and Enemy Analysis via GIFT

Michael W. Boyce, Jeanine A. DeFalco, Robert C. Davis, Erik K. Kober, Benjamin Goldberg, *United States*

Developing Accelerated Learning Models in GIFT for Medical Military and Civilian Training

Jeanine A. DeFalco, R. Stanley Hum, Michael Wilhelm, *United States*

Adaptive, Policy-Driven, After Action Review in the Generalized Intelligent Framework for Tutoring

Keith Brawner, Alan Carlin, Evan Oster, Chris Nucci, Diane Kramer, *United States*

Augmented Cognition

DHM S048

Advanced technologies and models in healthcare and surgery

Chair(s): Jung Hyup Kim, *United States*.

Room: **OCTAVIUS 8**

Pedicle Screw Insertion Surgical Simulator

Zhechen Du, Reihard Zeller, David Wang, Karl Zabjek, *Canada*

A Proposal for Combining Ultrasound, Magnetic Resonance Imaging and Force Feedback Technology, during the Pregnancy, to Physically Feel the Fetus

Jorge Roberto Lopes dos Santos, Heron Werner, Alberto Raposo, Jan Hurtado, Vinicius Arcoverde, Gerson Ribeiro, *Brazil*

Definition of Strategies for the Reduction of Operational Inefficiencies in a Stroke Unit

Miguel Ortiz-Barrios, Dionicio Neira-Rodado, Genett Jimenez, *Colombia*; Sally McClean, *United Kingdom*; Osvaldo Lara, *Colombia*

Optimization of Proton Therapy based on Service Design Theory

Xinxiong Liu, Wanru Wang, *P.R. China*

Effect of Patient Acuity of Illness and Nurse Experience on EMR works in Intensive Care Unit

Sivamanoj Sreeramakavacham, Jung Hyup Kim, Laurel Despains, Megan Sommerfeldt, Natalie Besette, *United States*

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

DUXU S049

Artificial Intelligence and User Experience - I
Chair(s): Jingyan Qin, *P.R. China*

Room: **MILANO V**

Research on Interaction Design of Somatosensory Games Based on User Experience - A Case Study of Cervical Spine Health Somatosensory Games
Zhi Wang, Yangshuo Zheng, *P.R. China*

HRI Design Research for Intelligent Household Service Robots: Teler as a Case Study
Shujing Zhang, Jingyan Qin, Sha Cao, Jinhua Dou, *P.R. China*

Interaction Design of Autonomous Vehicle Based on Human Mobility
Jingyan Qin, Zeyu Hao, Shujing Zhang, *P.R. China*

S050

Designing behaviours, behaving design - I
Chair(s): Luisa Paraguai, *Brazil*

Room: **MILANO VI**

Do You Eat This? Changing Behavior through Gamification, Crowdsourcing and Civic Engagement
Rejane Spitz, Francisco Queiroz, Clorisval Pereira Jr., Leonardo Cardarelli Leite, Marcelo P. Ferranti, Peter Dam, *Brazil*

Designing Behaviors to Interactively Interlace Natural Language Processing, Text to Speech Procedures and Algorithmic Images
Tania Fraga, *Brazil*

Metacity: Design, Data e Urbanity
Nelson Urssi, *Brazil*

Conformed thought: consolidating traces of memories
Silvia Laurentiz, *Brazil*

Artelligent: a framework for developing interactive computer artwork using artificial intelligent agents
Francisco De Paula Barretto, Suzete Venturelli, *Brazil*

Fables – Exploring Natural Ways of Expressing Behavior to Create Digital Simulations
Andrea Valente, Emanuela Marchetti, *Denmark*

S051

Designing and Evaluating User Experience (UX) in Interactive Systems
Chair(s): Claudia María del Pilar Zapata Del Río, *Peru*

Room: **MILANO VII**

Peruvian Public Universities and the accessibility of their websites
Fanny Dolores Benites Alfaro, Claudia María del Pilar Zapata Del Río, *Peru*

A proposal of usability heuristics oriented to E-Banking websites
Gloria Baños, Claudia María del Pilar Zapata Del Río, *Peru*

Design process of a Mobile Cloud Public Transport Application for Bus Passengers in Lima City
Juan José Ramírez, Juan Arenas, Freddy Paz, *Peru*

Co-Design of a Virtual Training Tool with Emergency Management Stakeholders for Extreme Weather Response
Jaziar Radianti, Santiago Gil Martinez, Bjørn Erik Munkvold, Morgan Konnestad, *Norway*

Short Paper: How do People Choose a Means for Communication in Disaster Situations? -Surveys after the Great East Japan Earthquake and the Kumamoto Earthquake-
Masayuki Ihara, Hiroshi Watanabe, *Japan*

Investigation on the Correlation Model between Display Height and Tilt Angle
Hui-min Hu, Yahui Bai, Chaoyi Zhao, Yinxia Li, Na Lin, Zhongting Wang, *P.R. China*

DAPI S052

Social Internet of Things
Chair(s): Jun Hu, *Netherlands*

Room: **OCTAVIUS 10**

HCI Design for People with Visual Disability in Social Interaction
Shi Qiu, *Netherlands*; Ting Han, *P.R. China*; Hirotaka Osawa, *Japan*; Matthias Rauterberg, Jun Hu, *Netherlands*

Design for Fetal Heartbeat Detection and Monitoring in Pregnancy Care
Biyong Zhang, *P.R. China*; Iuliiia Lebedeva, *Netherlands*; Haiqiang Zhang, *P.R. China*; Jun Hu, *Netherlands*

VisHair: A Wearable Fashion Hair Lighting Interaction System
Cheng Yao, Bing Li, Fangtian Ying, Ting Zhang, Yijun Zhao, LIJUAN LIU, *P.R. China*

An Interactive Smart Music Toy Design for Children
Shijian Luo, Yun Wang, Na Xiong, Ping Shan, Yexing Zhou, *P.R. China*

UMA-P: Smart Bike Interaction that Adapts to Environment, User Habits and Companions
Jiachun Du, Ran Luo, Min Zou, Yuebo Shen, Ying Yang, *P.R. China*

Human-Computer Interaction

HCI	S056
<p>Human Aspects of Information Systems Chair(s): Fan Zhao, <i>United States</i>.</p>	
<p>Room: NEOPOLITAN I</p>	
<p>Difficulties Implementing Big Data: A Big Data Implementation Study Kyle Spraker, <i>United States</i></p>	
<p>How to extend life cycle of an online game Fan Zhao, Yuchen Gui, Eugene Hoyt, <i>United States</i></p>	
<p>User Acceptance Factors for mHealth Adam Pan, Fan Zhao, <i>United States</i></p>	
<p>Usability Evaluation of Origin of Replication Finding Tools Isra Al-Turaiki, Maryam Aloumi, Nour Aloumi, Noorah Almanyi, Khulood Alghamdi, Sarah Almuqhim, <i>Saudi Arabia</i></p>	
<p>HCI Patterns for Cryptographically Equipped Cloud Services Thomas Langer, <i>Switzerland</i>; Ala Alaqra, Simone Fischer-Hubner, Erik Framner, John Soren Pettersson, <i>Sweden</i>; Katrin Riemer, <i>Austria</i></p>	
<p>Supporting Collaboration in Human-Machine Crisis Management Networks Ida Maria Haugstveit, Marita Skjuve, <i>Norway</i></p>	

	S057
<p>Human Aspects of Information Security, Privacy, and Trust Chair(s): Lakshmi Devi Kaiwara Sreeramareddy, Abbas Moallem, <i>United States</i>.</p>	
<p>Room: NEOPOLITAN II</p>	
<p>Why Users Ignore Privacy Policies – A Survey and Intention Model for Explaining User Privacy Behavior Manuel Rudolph, Denis Feth, Svenja Polst, <i>Germany</i></p>	
<p>Towards Collecting and Linking Personal Information for Complete Personal Online Identity Modelling Frans F. Blauw, Sebastiaan H. Von Solms, <i>South Africa</i></p>	
<p>PassHue: Introducing Analog Authentication Jonathan Gurary, <i>United States</i></p>	
<p>Digital Breadcrumbs: A Lack of Data Privacy and What People are Doing About It Carley Ward, Dana Ellis, Lisa D'Ambrosio, Joseph F. Coughlin, <i>United States</i></p>	
<p>A Hand Gesture-Based Method for Biometric Authentication Satoru Imura, Hiroshi Hosobe, <i>Japan</i></p>	

Human Interface and the Management of Information

HIMI	S058
<p>Evidence Based Design and UX for Design Process Chair(s): Keiko Kasamatsu, Takeo Ainoya, <i>Japan</i>.</p>	
<p>Room: MILANO I</p>	
<p>User Interfaces for Personal Vehicle on Water: MINAMO Shunnosuke Naruoka, Naoyuki Takesue, <i>Japan</i></p>	
<p>Study on Process for Product Design Applying User Experience Luya Chen, Keiko Kasamatsu, Takeo Ainoya, <i>Japan</i></p>	
<p>Study of Experience Value Design Method by Movie Prototyping Kazuki Tsumori, Takeo Ainoya, Ryuta Moteji, Keiko Kasamatsu, <i>Japan</i></p>	
<p>Hearing Method Considering Cognitive Aspects on Evidence Based Design Fuko Ohura, Keiko Kasamatsu, Takeo Ainoya, <i>Japan</i></p>	
<p>MyStudentScope: A Web Portal for Parental Management of their Children's Educational Information Theresa Matthews, Jinjuan Heidi Feng, Ying Zheng, Zhijiang Chen, <i>United States</i></p>	

	S059
<p>Data Mining and Intelligent Systems Chair(s): Neetu Singh, <i>United States</i>.</p>	
<p>Room: MILANO II</p>	
<p>Using Social Elements to Recommend Sessions in Academic Events Aline de P. A. Tramontin, Isabela Gasparini, Roberto Pereira, <i>Brazil</i></p>	
<p>Data Mining for Prevention of Crimes Neetu Singh, Chengappa Bellathanda Kaverappa, Jehan D Joshi, <i>United States</i></p>	
<p>An Entity based LDA for Generating Sentiment Enhanced Business and Customer Profiles from Online Reviews Aniruddha Tamhane, Divyaa Lakshmanan Ramalakshmi, Nargis Pervin, <i>India</i></p>	
<p>An Exploration of Crowdwork, Machine Learning and Experts for Extracting Information from Data Fabion Kauker, <i>United States</i>; Kayan Hau, John Iannello, <i>Australia</i></p>	
<p>Decreasing Occlusion and Increasing Explanation in Interactive Visual Knowledge Discovery Boris Kovalerchuk, Abdulrahman Gharawi, <i>United States</i></p>	
<p>Reversible data visualization to support Machine Learning Boris Kovalerchuk, Vladimir Grishin, <i>United States</i></p>	

Engineering Psychology and Cognitive Ergonomics

EPCE S060

Decision Making with Displayed Information
Chair(s): Summer L. Brandt, *United States*

Room: **OCTAVIUS 7**

Accent and Gender Bias in Perceptions of Interactive Voice Systems
Sabrina Moran, Ezekiel Skovron, Matthew Nare, Kim-Phuong L. Vu, *United States*

Population Stereotypes for Color Associations
Yuting Sun, Kim-Phuong L. Vu, *United States*

Comparison of Intellectus Statistics and Statistical Package for the Social Sciences - Differences in User Performance based on Presentation of Statistical Data
Allen C. Chen, Sabrina Moran, Yuting Sun, Kim-Phuong L. Vu, *United States*

Comparative Study of Laptops and Touch-Screen PCs for Searching on the Web
Nicolas Debue, Cécile Van De Leemput, *Belgium*; Anish Pradhan, Robert Atkinson, *United States*

A User Study Comparing Permissions Interfaces of Android 5.0 and Android 6.0
Scott Moore, Huangyi Ge, Ninghui Li, Robert W. Proctor, *United States*

Universal Access in Human-Computer Interaction

UAHCI S061

Sensors and Mobile Applications for Human-Computer Interaction
Chair(s): João M.F. Rodrigues, Pedro J.S. Cardoso, *Portugal*

Room: **MILANO III**

Mobile Augmented Reality Framework - MIRAR
João M.F. Rodrigues, Ricardo J.M. Veiga, Roman Bajireanu, Roberto Lam, João A.R. Pereira, João D.P. Sardo, Pedro J.S. Cardoso, Paulo Bica, *Portugal*

"I would like to get close to you": Making robot personal space invasion less intrusive with a social gaze cue
Stefan-Daniel Suvei, *Denmark*; Jered Vroon, *Netherlands*; Vella V. Somoza Sánchez, Leon Bodenhausen, *Denmark*; Gwenn Englebienne, *Netherlands*; Norbert Krüger, *Denmark*; Vanessa Evers, *Netherlands*

Applying an Implicit Recommender System in the Preparation of Visits to Cultural Heritage Places
Pedro J.S. Cardoso, Pedro Guerreiro, Janio Monteiro, João M.F. Rodrigues, *Portugal*

Performance Sensor for Reliable Operation
Jorge Semião, Ruben Cabral, Marcelino Santos, Isabel Teixeira, Paulo Teixeira, *Portugal*

Development of an Energy Management System for the Charge Scheduling of Plug-In Electric Vehicles
Dario Cruz, Nelson Pinto, Janio Monteiro, Pedro J.S. Cardoso, Cristiano Cabrita, Jorge Semião, Luís Oliveira, João M.F. Rodrigues, *Portugal*

Virtual, Augmented and Mixed Reality

VAMR S062

Virtual Reality Video Games
Chair(s): Lal 'Lila' Bozgeyikli, Evren Bozgeyikli, *United States*

Room: **SALERNO**

VR Evaluation of Motion Sickness Solution in Automated Driving
Quinate Chioma Ihemedu-Steinke, Prashanth Halady, Gerrit Meixner, Michael Weber, *Germany*

Simulation Sickness Evaluation While using a fully Autonomous Car in a Head Mounted Display Virtual Environment
Stanislava Rangelova, Daniel Decker, Marc Eckel, Elisabeth Andre, *Germany*

Following the White Rabbit - The Virtual Reality for Games
Paulo Carvalho, *Brazil*

Virtual Reality Training to Enhance Motor Skills
Matt Dombrowski, Ryan Buysens, Peter A. Smith, *United States*

Escape from the Dark Jungle: A 3D Audio Game for Emotion Regulation
Jiangtao Gong, Yin Shi, *P.R. China*; Jue Wang, *United States*; Danqing Shi, Yingqing Xu, *P.R. China*

Walking with Angest: Subjective Measures for Subjective Evaluation in a Walking Simulator Virtual Reality Game
Wilson Prata, Juan Oliveira, Paulo Melo, *Brazil*

Cross-Cultural Design

CCD S063

From SAD to CHEER (IV): Case Studies -II
Chair(s): Po-Hsien Lin, *Tanzania*; Rungtai Lin, *Taiwan*

Room: **NEOPOLITAN IV**

Research on Selection Differences between Parent and Child on Toys
Yang Gao, Jun Wu, *P.R. China*; Po-Hsien Lin, *Tanzania*

Applying Design Thinking in Real Estate Development
Li-Yu Chen, *Taiwan*; Wei Bi, Yang Gao, *P.R. China*

An Innovated Design of Escape Rooms Game Box through Integrating STEAM Education and PBL Principle
Jui-Ping Ma, Miao-Hsien Chuang, Rungtai Lin, *Taiwan*

Applications of Metaphors in Jewelry Design
I-Ting Wang, Chien-Chih Ni, I-Wen Wu, *Taiwan*

Study on Cultural and Creative Experience Model of Featured Towns
Wei Bi, Yang Gao, *P.R. China*; Li-Yu Chen, Shu Hua Chang, *Taiwan*

WEDNESDAY 16:00 - 18:00

SCSM S064

Fitness, Health, and Wearables - Activity Trackers in the Everyday Life

Chair(s): Aylin Ilhan, *Germany*.

Room: **OCTAVIUS 12**

Rewarding Fitness Tracking — the Communication and Promotion of Health Insurers' Bonus Programs and the Use of Self-Tracking Data

Maria Henkel, *Germany*; Tamara Heck, *Australia*; Julia Göretz, *Germany*

Privacy Protecting Fitness Trackers: An Oxymoron or Soon to be Reality?

Kaja J. Fietkiewicz, Maria Henkel, *Germany*

Stay Connected and Keep Motivated: Modeling Activity Level of Exercise in an Online Fitness Community

Li Zeng, Zack W. Almquist, Emma S. Spiro, *United States*

Motivations to Join Fitness Communities on Facebook: Which Gratifications are Sought and Obtained?

Aylin Ilhan, *Germany*

AC S065

Applications of Augmented Cognition

Chair(s): Martha E. Crosby, Randall K. Minas, *United States*.

Room: **MILANO IV**

Measuring Focused Attention Using Fixation Inner-Density

Wen Liu, Soussan Djamasbi, Andrew C. Trapp, Mina Shojaeizadeh, *United States*

Automatically Unaware: using Data Analytics to Detect Physiological Markers of Cybercrime

Nancy Mogire, Randall K. Minas, Martha E. Crosby, *United States*

Forget the Password: Password Memory and Security Applications of Augmented Cognition

Nancy Mogire, Michael-Brian Ogawa, Randall K. Minas, Brent Auernheimer, Martha E. Crosby, *United States*

Cognition and Predictors of Password Selection and Usability

Lila A. Loos, Martha E. Crosby, *United States*

Can University Students Use Basic Breathing Activities to Regulate Physiological Responses Caused by Computer Use? A Pilot Study

Hubert K. Brumback, *United States*

Do Not Disturb: Psychophysiological Correlates of Boredom, Flow and Frustration during VR Gaming

Klaas Bombeke, Aranka Van Dongen, Wouter Durnez, Alessandra Anzolin, Hannes Almgren, Anissa All, Jan Van Looy, Lieven De Marez, Daniele Marinazzo, Elena Patricia Núñez Castellar, *Belgium*

DUXU S066

Creative Interaction: Cross-disciplinary HCI toward Convergence

Chair(s): Kun Lee, *Korea*.

Room: **MILANO VII**

Interactive Car Parking Simulation Based on On-line Trajectory Optimization

Jungsub Lim, Hyejin Kim, Daseong Han, *Korea*

Pedagogy of Programming Education for Higher Education using Block based Programming Environment

Daehoon Kim, Jaewoong Choi, InHo Jung, Chang-Beom Choi, *Korea*

Crack-free Isosurface of Volumetric Scattered Data

Han Sol Shin, Jee Ho Song, Tae Jun Yu, Kun Lee, *Korea*

Hierarchical Modeling Framework for ICT Application to Measure the User Experience

HyunJae Jo, Chang-Beom Choi, *Korea*

Color Matching Research Based on Octree-LSD Method and Kansei Engineering: A Case Study of Typical Images of The Grain Rain

Meiyu Lv, Hequn Qu, *P.R. China*

Affordable Eye Tracking for Informed Web Design

Jarrett W. Clark, A. Lucas Stephane, *United States*

S067

continues...

Design Case Studies

Chair(s): Salomao David, *Mozambique*.

Room: **NEOPOLITAN III**

Persona Design for Just-in-time Adaptive and Persuasive Interfaces in Menopause Self-care

Amaury Trujillo, Caterina Senette, Maria Claudia Buzzi, *Italy*

Co-design with Raspberry Pi: Developing and hosting sustainable community application

Salomao David, Esperança Muchave, *Mozambique*

Lessons Learned in Designing a Digital Therapeutic Game to Support the Treatment and Well-Being of Children with Cancer

Kamila R.H. Rodrigues, Daniel B.F. Conrado, Vânia P.A. Neris, *Brazil*

Travel Navigation Design and Innovative Operation Mode

Chia-Chieh Lee, Fong-Gong Wu, *Taiwan*

An Interactive Recommender System for Group Holiday Decision-making

Lanyun Zhang, Xu Sun, *P.R. China*



DUXU S068

Artificial Intelligence and User Experience - II

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

Room: **MILANO V**

Experience Design of the Immersive Film: Panoramic View and Interactive Narratives
Feng Ye, *P.R. China*

Smart Information Service Design based on Autonomous Vehicles
Qiong Wu, Long Qin, Yin Shuai Zhang, Jie Chen, *P.R. China*

User Interaction for Guided Learning Supporting Object Recognition in Service Robots
Jan Dornig, Yunjing Zhao, Xiaohua Sun, *P.R. China*

How to include Users in the Design and Development of Cyberinfrastructures?
Hashim Iqbal Chunpir, *Germany*

S069

Designing behaviours, behaving design - II

Chair(s): Luisa Paraguai, *Brazil*

Room: **MILANO VI**

Are Game Design and User Research Guidelines Specific to Virtual Reality Effective in Creating A More Optimal Player Experience? Yes, VR PLAY
Heather Desurvire, Max Kreminski, *United States*

Player behavior influence by visualizing the game sound landscape
Daniel Paz De Araujo, Renan Bonin, *Brazil*

Designing a Generative Pictographic Language
Haytham Nawar, *Egypt*

The INmobility Project: Modes of Textualities and Unpredictable Visualities of Everyday Life
Luisa Paraguai, *Brazil*

The Influence of Short Text Ad. on Consumer Purchase Intention: An Empirical Study
Jia Qu, Can Huang, *P.R. China*

Investigating the Effect of Different Autonomy Levels on User Acceptance and User Experience in Self-Driving Cars with a VR Driving Simulator
Jana Helgath, Philip Braun, Andreas Pritschet, Maximilian Schubert, Patrica Böhm, Daniel Isemann, *Germany*

DAPI S070

AR, VR and Digital Media

Chair(s): Jun Hu, *Netherlands*

Room: **OCTAVIUS 10**

Flavor Explore: Rapid Prototyping and Evaluation of User Interfaces
Shi Qiu, *Netherlands*; Liangyi Du, Ting Han, *P.R. China*; Jun Hu, *Netherlands*

A Study on the Virtual Reality of Folk Dance And Print Art - Taking White Crane Dance for Example
Jia-Ming Day, Der-lor Way, Ke-Juan Chen, Weng-Kei Lau, Su-Chu Hsu, *Taiwan*

VR Games and the Dissemination of Cultural Heritage
Lie Zhang, Weiyong Qi, Kun Zhao, Liang Wang, Xingdong Tan, Lin Jiao, *P.R. China*

Study on the Digital Expansion of Chinese Static Works of Art
Jin Sheng, Ziqiao Wang, *P.R. China*

Thinking Transformation of Traditional Animation Creation Based on the Virtual Reality Presentation
Yue Zhou, Yunpeng Xu, *P.R. China*

Behavior Mapping of Sketching in VR Space with Physical Tablet Interface
Wenjie Xu, Defu Bao, Qifei Wu, Yi Zhou, Xuning Wu, Fangtian Ying, Cheng Yao, *P.R. China*

Distributed, Ambient and Pervasive Interactions

HCIBGO S071

Mobile and privacy

Chair(s): Norman Shaw, *Canada*

Room: **SORRENTO**

Health Belief Model and Organizational Employee Computer Abuse
Mario Silic, Mato Njavro, *Switzerland*; Dario Silic, Goran Oblakovic, *Croatia*

Computers May Not Make Mistakes but Many Consumers Do
David Lewis, *Canada*

Helping the Local Community with Cryptocurrency: a Case Study
Norman Shaw, *Canada*

The Application of IS Success Model on Continuous Intention and Information Sharing for Caller ID Apps Usage
Cho-Fan Lin, Yen-Jung Chang, *Taiwan*

HCI in Business, Government and Organizations



HCI S075

User Interface Design and Multimodal Interaction
Chair(s): Tor-Morten Grønli, Norway.

Room: **NEOPOLITAN I**

"I'm not stupid" - Attitudes Towards Adaptation Among People with Dyslexia
Gerd Berget, Siri Fagernes, Norway

Navigation for Visually Impaired Using Haptic Feedback
Siri Fagernes, Tor-Morten Grønli, Norway

Towards Encouraging a Healthier Lifestyle and Increased Physical Activity – an App incorporating Persuasive Design Principles
Sunny Ladwa, United Kingdom; Tor-Morten Grønli, Norway; Gheorghita Ghinea, United Kingdom

Evaluating Effects of Hand Pointing by an Image-based Avatar of a Navigation System
Michiko Inoue, Aya Shiraiwa, Hiroki Yoshimura, Masashi Nishiyama, Yoshio Iwai, Japan

Exploring Technology Use in Dance Performances
Klaudia Carcani, Veronica Wachek Hansen, Harald Maartmann-Moe, Norway

Can People Sense Their Personalities Only by Watching the Movements of Their Skeleton in Street Dancing Performances?
Hikaru Saito, Yoshiki Maki, Shunki Tsuchiya, Satoshi Nakamura, Japan

S076

Quality in interaction
Chair(s): Stefano Federici, Italy; Simone Borsci, United Kingdom; Maria Laura Mele, Antonio Opromolla, Italy.

Room: **NEOPOLITAN II**

Exploration of Behavioral Markers to Support Adaptive Learning
Adam Wearne, Robert Wray, United States

Sencogi Spatio-Temporal Saliency: a New Metric for Predicting Subjective Video Quality on Mobile Devices
Maria Laura Mele, Italy; Damon Millar, United Kingdom; Christiaan Erik Rijnders, Italy

From Design Fiction to Design Fact: developing future user experiences with proto-tools
Alessio Malizia, Alan Chamberlain, Ian Willcock, United Kingdom

Chatbot in a Campus Environment: Design of LISA, a Virtual Assistant to Help Students in their University Life
Massimiliano Dibitonto, Katarzyna Leszczynska, Federica Tazzi, Carlo M. Medaglia, Italy

Improving Quality of Interaction with the Mobility Services through the Gamification Approach
Valentina Volpi, Giovanni Andrea Parente, Guido Pifferi, Antonio Opromolla, Carlo M. Medaglia, Italy

UX Evaluation Design of UTAssistant: A New Usability Testing Support Tool for Italian Public Administrations
Stefano Federici, Maria Laura Mele, Rosa Lanzilotti, Giuseppe Desolda, Marco Bracalenti, Fabio Meloni, Giancarlo Gaudino, Antonello Cocco, Massimo Amendola, Italy

A Landscape of Design: Interaction, Interpretation and the Development of Experimental Expressive Interfaces
Alan Chamberlain, United Kingdom; Mads Bødker, Denmark; David De Roure, Pip Willcox, Iain Emsley, Alessio Malizia, United Kingdom

S077

Usability and User Experience Evaluation
Chair(s): Charlotte Wiberg, Sweden.

Room: **NEOPOLITAN III**

Improving Mobile User Experience of New Features through Remote Tests and Evaluation
Lúcia Satiko Nomiso, Eduardo Hideki Tanaka, Raquel Pignatelli Silva, Brazil

Don't Leave Me Alone: Retrospective Think Aloud supported by Real-time Monitoring of Participant's Physiology
Alexandros Liapis, Christos Katsanos, Michail Xenos, Greece

Evaluation of Visualization Heuristics
Ryan Williams, Jean Scholtz, Leslie M. Blaha, Lyndsey Franklin, Zhuanyi Huang, United States

A Framework for the Assessment of Enjoyment in Video Games
Elizabeth Matthews, Geoffrey Matthews, Juan E. Gilbert, United States

HIMI S078

Wearable multisensory displays: Theory and practice
Chair(s): Linda R. Elliott, United States.

Room: **MILANO I**

Smart Interaction Device for Advanced Human Robotic Interface (SID)
Rodger A. Pettitt, Glenn Taylor, Linda R. Elliott, United States

Assessing Multimodal Interactions with Mixed-Initiative Teams
Daniel Barber, United States

Multisensory Cueing for Pilots In Degraded Visual Environments
David Durbin, Gina Hartnett, United States

A study of perception using mobile device for Multi-Haptic Feedback
Shuo-Fang Liu, Hsiang-Sheng Cheng, Ching-Fen Chang, Po-Yen Lin, Taiwan

HIMI S079

Representational approaches for intelligent systems

Chair(s): Ryan A. Kirk, *United States*.

Room: **MILANO II**

On Measuring Cognition and Cognitive Augmentation
 Ron Fulbright, *United States*

The Divergency Model: UX Research For and With Stigmatized and Idiosyncratic Populations

Troy D. Abel, Debra Satterfield, *United States*

Discovering Significant Co-Occurrences to Characterize Network Behaviors

Kristine Arthur-Durett, Thomas E. Carroll, Satish Chikkagoudar, *United States*

A Topological Approach to Representational Data Models

Emilie Purvine, Sinan Aksoy, Cliff Joslyn, Kathleen Nowak, Brenda Praggastis, Michael Robinson, *United States*

Evaluating the Effectiveness of Personal Cognitive Augmentation: Utterance/Intent Relationships, Brittleness and Personal Cognitive Agents

Grover Walters, *United States*

Engineering Psychology and Cognitive Ergonomics

EPCE S080

Human Systems Integration

Chair(s): Nirit Gavish, *Israel*.

Room: **OCTAVIUS 7**

Computerized training to avoid under-exploration tendency in Theory of Mind

Nirit Gavish, Doron Faran, Mark Berman, *Israel*

HSI implementation in complex system design

Yakir Yaniv, *Israel*

Robotics in Handling Hazardous Materials

Yael Ungar, Gilad Einy, Nirit Gavish, *Israel*

Tangible User Interface
 Elias Shamilov, Nirit Gavish, Hagit Krisher, Eran Horesh, *Israel*

The Effects of Risk and Role on Users' Anticipated Emotions in Safety-Critical Systems

Yusuf Albayram, Mohammad Maifi Hasan Khan, Theodore Jensen, Ross Buck, Emil Coman, *United States*

Mental Workload Estimation from EEG Signals using Machine Learning Algorithms

Baljeet Singh Cheema, Shabnam Samima, Monalisa Sarma, Debasis Samanta, *India*

Universal Access in Human-Computer Interaction

UAHCI S081

Technology for Inclusion and Participation

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

Room: **MILANO III**

Assistive Technologies for People with Cognitive Impairments - Which Factors Influence Technology Acceptance?

Susanne Dirks, Christian Bühler, *Germany*

Culture and Technology Use - Relevant determinants for the development process

Andre Posenau, *Germany*

Copy Here, Paste There? On the Challenges of Scaling Inclusive Social Innovations

Jennifer Eckhardt, Christoph Kaletka, Bastian Pelka, *Germany*

SELFMADE – Self-determination and Communication through inclusive MakerSpaces

Ingo K. Bosse, Hanna Linke, Bastian Pelka, *Germany*

Technology-based communication tools - Opportunities for inclusion and user-orientation by the example of mechanically ventilated patients

Lea Abdel Ghani, *Germany*

VAMR S082

Intelligent Systems and Virtual, Augmented and Mixed Reality

Chair(s): Maria Olinda Rodas, *United States*.

Room: **SALERNO**

Command and Control Collaboration Sand Table (C2-CST)

Bryan L. Croft, Crisrael Lucero, David Neurnberger, Fred Greene, Allen Qiu, Roni Higgins, Eric Gustafson, *United States*

Augmented Reality and Mixed Reality Prototypes for Enhanced Mission Command / Battle Management Command and Control (BMC2) Execution

Michael Jenkins, Arthur Wollocko, Alessandro Negri, Ted Fichtl, *United States*

Sensor Data Fusion Framework to Improve Holographic Object Registration Accuracy for a Shared Augmented Reality Mission Planning Scenario

Simon Su, Vincent Perry, Qiang Guan, Andrew Durkee, Alexis R. Neigel, Sue Kase, *United States*

Usability Evaluation for Drone Mission Planning in Virtual Reality

Yifei Liu, Nancy Yang, Alyssa Li, Jesse Paterson, David McPherson, Tom Cheng, Allen Yang, *United States*

Element Selection of Three Dimensional Objects in Virtual Reality

Dylan Fox, Sophie So Yeon Park, Amol Borcar, Anna Brewer, Joshua Yang, *United States*

Human-Agent Collaborative Decision-Making Framework for Naval Systems

Maria Olinda Rodas, Jeff Waters, Cheryl Putnam, *United States*

Virtual, Augmented and Mixed Reality

THURSDAY 8:00 - 10:00



CCD S083

HCI Research and Practice in the Arab World

Chair(s): Areej Al-Wabil, *Saudi Arabia*.

Room: **NEOPOLITAN IV**

HCI Practices in Software-Development Environments in Saudi Arabia

Khalid Majrashi, Areej Al-Wabil, *Saudi Arabia*

Assessing the Effectiveness of an Augmented Reality Application for the Literacy Development of Arabic Children with Hearing Impairments

Shiroq Al-Megren, Aziza Almutairi, *Saudi Arabia*

Automatic Assessment of Personality Traits Using Non-verbal Cues in a Saudi Sample

Sharifa Alghowinem, Basmah AlKadhi, *Saudi Arabia*

Human-Centered Design for Sustainable and Responsive Cities: Insights from the Sustainable Cities Think-Tank with a Focus on an Arab Region

Roudaina Alkhani, Nuha Eltinay, *United Kingdom*; Haifa Alhababi, *Saudi Arabia*; Sumayah Alsolaiman, *Saint Vincent and the Grenadines*; Nouha Hansen, Tala Bakhsh, *United Kingdom*; Razan Simbawa, Dina Alnahdy, *Saudi Arabia*; Kinda Ayoub, *United Kingdom*; Effat Fadag, Khadijah Fatani, Faredah Murahhem, *Saudi Arabia*; Zainab Alireza, *United Kingdom*; Sarah Abulhamail, Aljohara Alfayez, Areej Al-Wabil, *Saudi Arabia*

Cross-Cultural User Experience Design for the Arabic Version of NASA's Eyes on the Earth

Amal Alabdulkarim, Lamees Alsuhaibani, *Saudi Arabia*; Kevin Hussey, *United States*; Areej Al-Wabil, *Saudi Arabia*

Cross-Cultural Design

SCSM S084

Innovative Social Media and Computing Technologies for Aging Societies

Chair(s): Han Yu, *Singapore*.

Room: **OCTAVIUS 12**

Opportunistic Work-Rest Scheduling for Productive Aging

Han Yu, Chunyan Miao, *Singapore*; Lizhen Cui, Yiqiang Chen, *P.R. China*; Simon Fauvel, *Singapore*; Qiang Yang, *Hong Kong*

Usability Analysis of the Novel Functions to Assist the Senior Customers in Online Shopping

Xinjia Yu, Lei Meng, Xiaohai Tian, Simon Fauvel, Bo Huang, Yunqing Guan, Zhiqi Shen, Chunyan Miao, Cyril Leung, *Singapore*

Personalized Emotion-Aware Video Streaming for the Elderly

Yi Dong, Han Hu, Yonggang Wen, Han Yu, Chunyan Miao, *Singapore*

A Middle-aged Social Internet with a Millennial Exodus? Changes in Identifications with Online Communities between 2009 and 2017 in Finland

Aki Koivula, Teo Keipi, Ilkka Koironen, Pekka Räsänen, *Finland*

Social Computing and Social Media

AC S085

Meta-Cognition: Thinking About Thought

Chair(s): Monte Hancock, *United States*.

Room: **MILANO IV**

Parole Board Personality and Decision Making using Bias-Based Reasoning

Katy Hancock, Payton Brown, Antoinette Hadgis, *United States*; Markus Hollander, *Germany*; Michael Shrider, *United States*

Feature Extraction from Social Media Posts for Psychometric Typing of Participants

Charles Li, Monte Hancock, Ben Bowles, Olivia Hancock, Lesley Perg, Payton Brown, Asher Burrell, Giannella Frank, Frankie Stiers, Shana Marshall, Gale Mercado, *United States*; Alexis-Walid Ahmed, *France*; Phillip Beckelheimer, Samuel Williamson, Rodney Wade, *United States*

Intermediate Information Grouping in Cluster Recognition

Chloe Chun-Wing Lo, *Hong Kong*; Markus Hollander, *Germany*; Freda Wan, *Hong Kong*; Alexis-Walid Ahmed, *France*; Nikki Bernobic, *Croatia*; Nick Nuon, Michael Shrider, *United States*

Using Bots in Strategizing Group Compositions to Improve Decision Making Processes

Shai Neumann, Suraj Sood, *United States*; Markus Hollander, *Germany*; Freda Wan, *Hong Kong*; Alexis-Walid Ahmed, *France*; Monte Hancock, *United States*

Long Term Use Effects of a P300-based Spelling Application

Cristian-Cezar Postelnicu, Florin Girbacia, Octavian Machidon, Gheorghe-Daniel Voinea, *Romania*

Augmented Cognition

DHM S086

Human modeling for nursing and medical art

Chair(s): Akihiko Goto, Hiromi Nakagawa, Shizuko Hayashi, *Japan*.

Room: **OCTAVIUS 8**

The Effect of Ankle Exercise on Cerebral Blood Oxygenation during and after Postural Change

Sachiko Nagaya, Hisae Hayashi, *Japan*

Study of Factors that Lead to Falls during Body Position Change from a Dorsal Position to a Seated Position by Nursing Students

Hiromi Nakagawa, Masahiro Tukamoto, Kazuaki Yamashiro, Akihiko Goto, *Japan*

Construct of Learning Model for Laparoscopic Surgery

Kazuaki Yamashiro, Akihiko Goto, Hisanori Shiomi, Koichiro Murakami, *Japan*

Characteristics of Eye Movement and Clinical Judgment in Nurses and Nursing Students during the Sterile Glove Application

Shizuko Hayashi, Asumi Sugaiké, Akino Ienaka, Rieko Terai, Naoko Maruoka, *Japan*

Increasing Safety for Assisted Motion during Caregiving: Comparative Analysis of a Critical Care Nurse and a Care Worker Transferring a Simulated Care-receiver

Yasuko Kitajima, Ken Ikuhisa, *Japan*; Porakoch Sirisuwan, *Thailand*; Akihiko Goto, Hiroyuki Hamada, *Japan*

Motion Analysis of Simulated Patients during Bed-to-Wheelchair Transfer by Nursing Students and Skill Acquisition based on the Analysis

Hiromi Nakagawa, Masahiro Tukamoto, Kazuaki Yamashiro, Akihiko Goto, *Japan*

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

Design, User Experience, and Usability

Distributed, Ambient and Pervasive Interactions

THURSDAY 8:00 - 10:00

DUXU S087

Design Thinking and Product Design

Chair(s): Yue (Lilian) Yuan, *United States*.

Room: **MILANO V**

Rethink Product Design of Automotive in New Era

Jian Wen Chi, *P.R. China*

Designing with machine intelligence

Max Kessler, *United States*

The Collaboration Learning in the Interdisciplinary Workshop based on Design Thinking: A Learning Outcome Perspective

Jun Xu, Gang Liu, Sicong Liu, Raoshan Xu, *P.R. China*

Comparing User Experience in Interactions with Different Types of Digital Products

Lemeng Xu, Dede Ma, Pengyi Zhang, *P.R. China*

S088

Urban Media Design

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

Room: **MILANO VI**

Formation and Influence of New Media Art Form in Public Space

Lili Zhang, Yunqiao Su, *P.R. China*

Rethink of Urban Arts: AR Technology with Participatory Experience

Ziyang Li, Hao He, Xiandong Cheng, *P.R. China*

The Application of Human-computer Interaction in Smart City Planning and Design

Yanlin Liu, *P.R. China*

A design for a Public Transport Information Service in China

Dandan Yu, MuRong Ding, Cong Wang, *P.R. China*

Acceptance and Effectiveness of Collision Avoidance System in Public Transportation

Xiaonan Yang, Jung Hyup Kim, *United States*

S089

The Experience of New Media Art

Chair(s): Qunye Gu, *P.R. China*.

Room: **MILANO VII**

Research on application of Gesture Recognition Technology in Traditional Puppet Show

Mu Zhang, Zhanjun Dong, *P.R. China*

Study on Introducing Digitalization in Folk Art -- Taking Beautiful ! Chinese New Year Paintings as an example

Song Lu, *P.R. China*

Analysis on Dimensional Design and Its Application

Qunye Gu, Guangshuai Zhang, *P.R. China*

The Integration of New Media Art and Chinese Traditional Culture

Yunqiao Su, *P.R. China*

The "Living State" Research of China Non-material Cultural Heritage on Digital Age —Taking the Nanjing Jinling Sutra Office as an example

Xiaoxian Wang, Hao Liu, *P.R. China*

Conceptual Framework for Supporting the Creation of Virtual Museums with focus on Natural User Interfaces

Guilherme Corredato Guerino, Breno Guerra Zancan, Tatiany Xavier De Godoi, Daniela Freitas Guilhermino, José Reinaldo Merlin, Ederson Marcos Sgarbi, Carlos Eduardo Ribeiro, Tércio Wesley Sant'Anna de Paula Lima, *Brazil*

DAPI S090

Playful and Humorous Interactions in Smart Environments

Chair(s): Anton Nijholt, *Netherlands*.

Room: **OCTAVIUS 10**

Plug and Play for a Transferrable Sense of Humour

Tony Veale, *Ireland*

Humor Facilitation of Polarized Events

Alessandro Valitutti, *Italy*

Automatic Joke Generation: Learning Humor from Examples

Thomas Winters, Vincent Nys, Daniel De Schreye, *Belgium*

Comparing jokes with NLP: how far can joke vectors take us?

Xiaonan Jing, Chinmay Talekar, Julia Taylor Rayz, *United States*

Designing Humour in Interaction: A Design Experience

Andreea I. Niculescu, Bimlesh Wadhwa, *Singapore*; Anton Nijholt, *Netherlands*

Robotic Stand-up Comedy: State-of-the-Art

Anton Nijholt, *Netherlands*

HCI S094

Design Access in Ergonomics and Interaction

Chair(s): Fong-Gong Wu, *Taiwan*.

Room: **NEOPOLITAN I**

Assessing Patient Needs for the Enhancement of Stroke Rehabilitation Services: A Customer Value Perspective

Yu-Hsiu Hung, Yu-Ching Lin, Wan-Zi Lin, Pin-Ju Chen, *Taiwan*

Interactive stress-free toy design for students studying overseas

Robert Chen, Tse-Ming Chuang, *United Kingdom*

Research on Sticker Cognition for Older Adult Using Instant Messaging

Cheih-Ying Chen, *Taiwan*

Investigating the Behavior of Sequence Typing on the Mobile Devices

Hsi-Jen Chen, Chia-Ming Kuo, Yung-Chueh Cheng, *Taiwan*

An Innovative Mattress Design to Improve Sleep Quality and Thermal Comfort

Fong-Gong Wu, Tsu-Yu Shen, Su-Huey Tan, *Taiwan*

Employing Shortcut Setting and Subitizing Effect for Improving UI of Multi Media Kiosks

T. K. Philip Hwang, Pin-Chieh Kuo, Guan-Jun Ding, Ting-Ju Kuo, Ting-Huan Ko, Po-Chi Weng, *Taiwan*

HIMI S095

Relationality Design and Relationality-oriented Systems

Chair(s): Katsunori Shimohara, *Japan*.

Room: **MILANO I**

Generating Learning Environments Derived from Found Solutions by Adding Sub-goals toward the Creative Learning Support

Takato Okudo, Tomohiro Yamaguchi, Keiki Takadama, *Japan*

Correcting Wrongly Determined Opinions of Agents in Opinion Sharing Model

Eiki Kitajima, Caili Zhang, Haruyuki Ishii, Fumito Uwano, Keiki Takadama, *Japan*

Prediction of standing ovation of TED technology talks

Shohei Maeno, Tetsuya Maeshiro, *Japan*

A System to Visualize Location Information and Relationship Integratedly for Resident-centered Community Design

Koya Kimura, Yurika Shiozu, Kosuke Ogita, Ivan Tanev, Katsunori Shimohara, *Japan*

Effects of group size on performance and member satisfaction

Noriko Suzuki, Mayuka Imashiro, Haruka Shoda, Noriko Ito, Mamiko Sakata, Michiya Yamamoto, *Japan*

A system description model to integrate multiple facets with quantitative relationships among elements

Tetsuya Maeshiro, Yuri Ozawa, *Japan*; Midori Maeshiro, *Brazil*

Case Study on Motivation to Participate in Private Provision of Local Public Goods and Time Spent in the Region Measured using GPS

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

S096

Interacting with data and information

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

Room: **MILANO II**

Impact of Menu Complexity upon User Behavior and Satisfaction in Information Search

Svetlana S. Bodrunova, Alexander Yakunin, *Russia*

The Importance of Online Transaction Textual Labels for Making a Purchasing Decision – An Experimental Study of Consumers' Brain Waves

Pei-Hsuan Hsieh, *Taiwan*

Information Design for Purposeless Information Searching based on Optimum Stimulation Level Theory

Miwa Nakanishi, Motoya Takahashi, *Japan*

Issues of indexing User Experience

Shin'ichi Fukuzumi, Yukiko Tanikawa, *Japan*

Research on the Fuzziness in the Design of Big Data Visualization

Tian Lei, Qiumeng Zhu, Nan Ni, Xin He, *P.R. China*

Web-based Visualization Component for Geo-information

Ralf Gutbell, Lars Pandikow, Arjan Kuijper, *Germany*

EPCE S097

Human Factors and Ergonomics in Safety-Critical Systems

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

Room: **NEOPOLITAN II**

Presentation of Personal Health Information for Consumers: An Experimental Comparison of Four Visualization Formats

Da Tao, Juan Yuan, Xingda Qu, Tiejian Wang, Xingyu Chen, *P.R. China*

Ergonomic Evaluation Study of Occupant Function Allocation for Riot Vehicle Based on Task Load

Qun Wang, Fang Xie, Runing Lin, Xiaoping Jin, Xue Shi, *P.R. China*

Research on test of Anti-G suits airbag pressure

Ding Yi, Zhaowei Zhu, Wang Yandong, Zhang Zhongji, Song Kaiyuan, Ding Li, *P.R. China*

The Influence of Culture on Vigilance Performance and Subjective Experience

Qin Gao, Man Wu, Bin Zhu, *P.R. China*

Effect of Different Information Push Mechanism on Driver's Situation Awareness

Bowen Zheng, Xiaoping Jin, Zhenghe Song, Yeqing Pei, Xuechao Ma, *P.R. China*

Short Paper: Damage Mechanism and Risk Control on Kid's Sunglasses

Xia Liu, Bisong Liu, Bao Liu, Youyu Xiao, Yongnan Li, *P.R. China*

UAHCI S098

Novel approaches in Universal Access

Chair(s): Vagner Figueredo De Santana, *Brazil*.

Room: **MILANO III**

A Robot-based Cognitive Assessment Model based on Visual Working Memory and Attention Level

Ali Sharifara, Ashwin Ramesh Babu, Akilesh Rajavenkatanarayanan, Christopher Collander, Fillia Makedon, *United States*

Brain Controlled Interface Log Analysis in Real Time Strategy Game Matches

Mauro C. Pichiliani, *Brazil*

A Taxonomy for Website Evaluation Tools Grounded on Semiotic Framework

Vagner Figueredo De Santana, M. Cecilia C. Baranauskas, *Brazil*

Barrier Detection using Sensor Data from Unimpaired Pedestrians

Akihiro Miyata, Iori Araki, Tongshun Wang, *Japan*

Multimodal Paradigm for Emotion Recognition based on EEG signals

Naveen Masood, Humera Farooq, *Pakistan*

Universal Access in Human-Computer Interaction

VAMR S099

Training, collaboration and simulation in VR

Chair(s): Joseph B. Lyons, *United States*.

Room: **SALERNO**

Interaction of Distant and Local Users in a Collaborative Virtual Environment

Adrian H. Hoppe, Roland Reeb, Florian Van de Camp, Rainer Stiefelhagen, *Germany*

Virtual Reality based Space Operations – A study of ESA’s Potential for VR based Training and Simulation

Manuel Olbrich, Holger Graf, Jens Keil, Rüdiger Gad, Steffen Bamfaste, Frank Nicolini, *Germany*

AI-based VR Earthquake Simulator

Ryota Suzuki, Ryoki Iitoi, *Japan*; Yue Qiu, *P.R. China*; Kenji Iwata, Yutaka Satoh, *Japan*

Study on the Quality of Experience Evaluation Metrics for Astronaut Virtual Training System

Xiangjie Kong, Yuqing Liu, Ming An, *P.R. China*

Trust in Autonomous Systems for Threat Analysis: A Simulation Methodology

Gerald Matthews, April Rose Panganiban, Rachel Bailey, Jinchao Lin, *United States*

Cyber vulnerability: An attentional dilemma

Joseph B. Lyons, Mark A. Roebke, Phil Bobko, Craig A. Cox, *United States*

Virtual, Augmented and Mixed Reality

CCD S100

Design for All: Cross-Cultural User Experience

Chair(s): Ke Chen, *P.R. China*.

Room: **NEOPOLITAN IV**

Trendiness and Emotion, Two Key Factors for Predicting Aesthetic Preference on Automotive Interior Form Design among Chinese Consumers

Fangzhou Gu, Danhua Zhao, Jianghong Zhao, *P.R. China*

A 3D Head Model Fitting Method Using Chinese Head Anthropometric Data

Haining Wang, Wanrong Chen, Yi Li, Yang Yu, Wenxiu Yang, *P.R. China*; Roger Ball, *United States*

User-oriented Research on Perceivable Indicators of Smartphone Interactive Operation Performance

Zhengyu Tan, Xiao Tan, *P.R. China*

Determinants of E-Commerce Websites’ User Interface: A Cross-Cultural Investigation between Saudi Arabia and Philippines

Regina Garcia Almonte, *Philippines*

Appearance–Behavior–Culture in Creating Consumer Products with Cultural Meaning Meant to Evoke Emotion

Tyan-Yu Wu, Wei-Hsiang Huang, *Taiwan*

Cross-Cultural Design

SCSM S101

Frontiers in Social Media

Chair(s): Christian W. Scheiner, *Germany*.

Room: **OCTAVIUS 12**

This is how we do it: Untangling Patterns of Super Successful Social Media Activities

Tobias Eismann, Timm F. Wagner, Christian V. Baccarella, Kai-Ingo Voigt, *Germany*

Workplace Sexual Harassment on Social Media

Jennifer Wohlert, *Germany*

Moral Disengagement in Social Media Generated Big Data

Markus Beckmann, Christian W. Scheiner, *Germany*; Anica Zeyen, *United Kingdom*

Effective Social Media Marketing Planning – How to Develop a Digital Marketing Plan

Marc Oliver Opresnik, *Germany*

CyberActivist: Tool for Raising Awareness on Privacy and Security of Social Media Use for Activists

Borislav Tadic, Markus Rohde, Volker Wulf, *Germany*

Social Computing and Social Media

AC S102

Augmented Cognition

Adaptation Strategies and Adaptation Management
Chair(s): Sven Fuchs, *Germany*

Room: **MILANO IV**

Position Paper: Session Overview - Adaptation Strategies and Adaptation Management
Sven Fuchs, *Germany*

Lessons Learned regarding Adaptation Strategies and Adaptation Management for AugCog Systems
Dylan D. Schmorrow, *United States*

Community Models to Enhance Adaptive Instruction
Robert Sottolare, *United States*

Toward Adaptive Training Based on Bio-behavioral Monitoring
Alexis Fortin-Côté, Daniel Lafond, *Canada*; Maëlle Kopf, *France*; Jean-François Gagnon, Sébastien Tremblay, *Canada*

Behaviour Adaptation using Interaction Patterns with Augmented Reality Elements
Marcel C.A. Baltzer, Christian Lassen, Daniel López, Frank Flemisch, *Germany*

Biocybernetic Adaptation Strategies: Machine awareness of human engagement for improved operational performance
Chad Stephens, *United States*; Frédéric Dehais, Raphaëlle N. Roy, *France*; Angela Harrivel, Mary Carolyn Last, Kellie Kennedy, Alan Pope, *United States*

DHM S103

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

Smart Service System Design
Chair(s): Vincent G. Duffy, *United States*

Room: **NEOPOLITAN III**

3D Human Head Shape Variation by Using Principal Component Analysis
Yanling Zheng, Haixiao Liu, Jianwei Niu, Linghua Ran, Taijie Liu, *P.R. China*

Research on Ergonomics Design of the Height and Operation Force for Furniture Lockset
Hui-min Hu, Yahui Bai, Yinxia Li, Haimei Wu, Ling Luo, Rui Wang, Pu Hong, *P.R. China*

Assessment of Types of Prototyping in Human-Centered Product Design
Salman Ahmed, Jianfu Zhang, Onan Demirel, *United States*

Mapping System between Passenger Experience and the Factors of Aircraft Cabin Design
Xinyi Tao, Siyu Ren, Ting Han, *P.R. China*

DUXU S104

Design, User Experience, and Usability

Hedonic and Pragmatic Aspects of User Experience - I
Chair(s): Christine Riedmann-Streitz, Manfred Thüring, Michael Burmester, *Germany*

Room: **MILANO V**

CHAI: Coding Heuristics for Assessing Intuitive Interaction
Daniel Reinhardt, Jeremias Kuge, Jörn Hurtienne, *Germany*

Can we Distinguish Pragmatic from Hedonic user Experience Qualities with Implicit Measures?
Kathrin Pollmann, Victoria Sinram, Nora Fronemann, Mathias Vukelić, *Germany*

Assessing User Experience in Virtual Reality – A comparison of different Measurements
Carolyn Wienrich, Nina Döllinger, Simon Kock, Kristina Schindler, Ole Traupe, *Germany*

The meCUE Questionnaire (2.0): Meeting Five Basic Requirements for Lean and Standardized UX Assessment
Michael Minge, Manfred Thüring, *Germany*

What Does the System Usability Scale (SUS) Measure? Validation Using Think Aloud Verbalization and Behavioral Metrics
Mandy R. Drew, Brooke Falcone, Wendy L. Baccus, *United States*

S105 continues...

Experience Design and Gamification
Chair(s): Shi Huang, *P.R. China*

Room: **MILANO VI**

A UX-Driven Design Method for Building Gamification System
Bing Ning, *P.R. China*

How Animation Improve Children's Cognition in User Interface: A Study of the Kids VOD Application
Wei Li, Xuan Zhang, Yi Shen Zhang, *P.R. China*

A Study on Application of AR Three-Dimensional Touch Interaction in Children Education
Yu-Yi Ding, Jing-Hua Han, Qi Cao, Chao Liu, *P.R. China*

Song of Red Pine Woods - Design and Study of Digital Picture Books for Preschool Children on iPad
Qi Cao, Jing-Hua Han, Yu-Yi Ding, Shi Huang, Chao Liu, *P.R. China*

A Method of Evaluating User Visual Attention to Moving Objects in Head Mounted Virtual Reality
Shi Huang, *P.R. China*

An Interactive Digital Storytelling to Identify Emotions and Consequences in the Elementary School Child
Erick Lopez-Ornelas, Rocio Abascal-Mena, *Mexico*

THURSDAY 10:30 - 12:30



DUXU S106

UX in the Digital Age

Chair(s): Ian O'Bara, Sarah Swierenga, *United States*.

Room: **MILANO VII**

Blue-collars/Tough Designs: UX within Fire Service Occupational Safety and Health Programs

Timothy R. Amidon, Tiffany Lipsey, *United States*

Bridging the Gulfs: Modifying an Educational Augmented Reality App to account for Target Users' Age Differences

Hannah Klautke, John Bell, Daniel Freer, Cui Cheng, William Cain, *United States*

Evaluating the Benefit of Accordion Web Elements for Low Literacy Populations

Shannon Tucker, Kathryn Summers, Timothy McGowan, Chris Klimas, *United States*

The Importance of User-Centered Design in Performing Background Checks in Child Care

Fuad Abujarad, Allissa Desloge, Kristina Carlson, Sarah Swierenga, *United States*

Bridging the digital divide: One smartphone at a time

Kathryn Summers, Noel Alton, Anna Haraseyko, Rachel Sherard, *United States*

Empowering Lesbian, Gay, Bisexual, and Transgender (LGBT) People with Codesign: a Critical Evaluation through the Lens of Simplicity

Guilherme C. Pereira, M. Cecilia C. Baranauskas, *Brazil*

DAPI S107

Emotion and Ambient Computing

Chair(s): Yasmine Abbas, *United States*.

Room: **OCTAVIUS 10**

On Interdependent Metabolic Structures: The Case of Cyborg Garden

Zenovia Toloudi, *United States*; Spyridon Ampanavos, *Greece*

Touch: Communication of Emotion through Computational Textile Expression

Felecia Davis, *United States*

Computing Atmospheres

Yasmine Abbas, *United States*

Collaborative Music Composition based on Sonic Interaction Design

Mauro Amazonas, Victor Vasconcelos, Adriano Brandão, Gustavo Kienem, Thais Castro, Bruno Gadelha, Hugo Fuks, *Brazil*

HCIBGO S108

Human Computer Interaction in Multichannel Commerce and Online Marketing

Chair(s): Andreas Auinger, Harald Kindermann, Martin Stabauer, *Austria*.

Room: **SORRENTO**

Initial Trust in Mobile Apps based on Landing Page Information: Results of an Online Experiment

Thomas Fischer, Anja Obermüller, Andreas Auinger, Harald Kindermann, René Riedl, *Austria*

The Impact of UI on Privacy Awareness - Connecting Online Polls and Social Media

Martin Stabauer, *Austria*

Emotions and Feelings: Some Aspects for the HCI-Community – A Work in Progress Paper

Harald Kindermann, Franz Auinger, *Austria*

Towards Measuring the Potential for Semantically Enriched Texts in Knowledge Working Environments

Gerald Petz, Dietmar Nedbal, Werner Wetzlinger, *Austria*

System Response Time as a Stressor in a Digital World: Literature Review and Theoretical Model

René Riedl, Thomas Fischer, *Austria*

The Effect of LOGO Location in Navigation Bar on Web Brand Recognition Based on Event-related Potential

Yingying Dong, Chengqi Xue, Ningyue Peng, Yafeng Niu, *P.R. China*

LCT S109

Social Computing for Social Change - II

Chair(s): Andri Ioannou, Antigoni Parmaxi, Andreas Papallas, Panayiotis Zaphiris, *Cyprus*.

Room: **MILANO VIII**

Towards the Use of Social Computing for Social Inclusion: An Overview of the Literature

Vaso Constantinou, Panagiotis Kosmas, Antigoni Parmaxi, Andri Ioannou, *Cyprus*; Iosif Klironomos, Margherita Antona, Constantine Stephanidis, *Greece*; Panayiotis Zaphiris, *Cyprus*

Usability Evaluation of a Mobile Graphing Calculator Application using Eye Tracking

Melanie Tomaschko, Markus Hohenwarter, *Austria*

An Analytical Investigation on Ecological Strategy Based on "Edu +AR" Education Cloud Platform

Ying Luo, Yajie Wang, *P.R. China*; YOUNGHWAN, *Pan, Korea*

Exploring Sociocultural Theory Application in Online Language Courses

Jennifer Dobberfuhr-Quinlan, *United States*

The Use of Digital Game Based Learning in Manufacturing Education – A Case Study

Stefano Perini, *Italy*; Manuel Oliveira, *Norway*; Maria Margoudi, *United Kingdom*; Marco Taisch, *Italy*

Distributed, Ambient and Pervasive Interactions

HCI in Business, Government and Organizations

Learning and Collaboration Technologies

HCI S113

Human-Computer Interaction

Gamification and HCI
Chair(s): Isabela Gasparini, Marcelo S. Pimenta, *Brazil*.

Room: **NEOPOLITAN I**

Gamification Framework: Using Lexical Approach on Social Media Application Online Reviews
Abdullah Azhari, Xiaowen Fang, *United States*

Application of Gamification to Website Design for the Improvement of Effective Communication
Hsiu Ching Laura Hsieh, *Taiwan*

Competitively Versus Cooperatively? An Analysis of the Effect of Gameplay on Human Emotions and Behaviors
Kenneth Clark, Lusene Donzo, Joon Suk Lee, *United States*

Eudaimonic Gamification to Engage Cancer Patients in Positive Coping Strategies
João Ventura, Sandy Ingram, Maurizio Caon, Maya Zumstein-Shaha, Omar Abou Khaled, Elena Mugellini, *Switzerland*

Towards a Better Understanding of Chess Players' Personalities: A Study Using Virtual Chess Players
Khaldoon Dhou, *United States*

HIMI S114

Human Interface and the Management of Information

Human-centered Systems, Services, and their Applications
Chair(s): Ryosuke Saga, *Japan*.

Room: **MILANO I**

Analyzing reading pattern of simple C source code consisting of only assignment and arithmetic operations based on data dependency relationship by using eye movement
Shimpei Matsumoto, Ryo Hanafusa, Yusuke Hayashi, Tsukasa Hirashima, *Japan*

Investigation of sign language recognition performance by integration of multiple feature elements and classifiers
Tatsunori Ozawa, Yuna Okayasu, *Japan*; Maitai Dahlan, *Thailand*; Hiromitsu Nishimura, Hiroshi Tanaka, *Japan*

User-friendly Information Sharing System for Producers
Tomoko Kashima, Takashi Hatsuike, Shimpei Matsumoto, *Japan*

VisUML: a live UML visualization to help developers in their programming task
Mickaël Duruisseau, Jean-Claude Tarby, Xavier Le Pallec, Sébastien Gérard, *France*

Classification Method of Rubbing Haptic Information Using Convolutional Neural Network
Shotaro Agatsuma, Shinji Nakagawa, Tomoyoshi Ono, Satoshi Saga, Simona Vasilache, Shin Takahashi, *Japan*

S115

Bigdata, IoT, and AI for HCI
Chair(s): JaHwan Koo, *Korea*.

Room: **MILANO II**

Reducing Power Consumption of Mobile Watermarking Application with Energy Refactoring
SeongBo Kim, JaHwan Koo, YoonHo Kim, UngMo Kim, *Korea*

Exploring the Cognitive, Affective, and Behavioral Responses of Korean Consumers toward Mobile Payment Services: A Text Mining Approach
Minji Jung, Yu Lim Lee, Chae Min Yoo, Ji Won Kim, Jae Eun Chung, *Korea*

How Consumers Perceive Home IoT Services for Control, Saving, and Security
Hyesun Hwang, Jaehye Suk, Kee Ok Kim, Jihyung Hong, *Korea*

The Impact of Perceived Privacy Benefit and Risk on Consumer's Desire to Use Internet of Things Technology
Seonglim Lee, Hee Ra Ha, Ji Hyei Oh, Naeun Park, *Korea*

The Lessons of Google Glass: Aligning Key benefits and Sociability
Leo Kim, *Korea*

Efficient Method for Processing Range Spatial Keyword Queries over Moving Objects based on Word2Vec
Sujin Oh, Harim Jung, JaHwan Koo, UngMo Kim, *Korea*

EPCE S116

Engineering Psychology and Cognitive Ergonomics

Harmonized Human-Machine Connection
Chair(s): Shan Fu, *P.R. China*.

Room: **NEOPOLITAN II**

A Multidimensional Workload Assessment Method for Power Grid Dispatcher
Bingbing Song, Zhen Wang, Yanyu Lu, Xiaobi Teng, Xinyi Chen, Yi Zhou, Hai Ye, Shan Fu, *P.R. China*

Affective Recognition Using EEG Signal in Human-robot Interaction
Chen Qian, Tingting Hou, Yanyu Lu, Shan Fu, *P.R. China*

The Identification of Human Errors in the Power Dispatching based on the TRACER Method
Xiaobi Teng, Yanyu Lu, Zhen Wang, Bingbing Song, Hai Ye, Yi Zhou, Shan Fu, *P.R. China*

Modeling and Simulating Astronaut's Performance in a Three-level Architecture
Chunhui Wang, Shanguang Chen, Yuqing Liu, Dongmei Wang, Shoupeng Huang, Yu Tian, *P.R. China*

The Mapping between Hand Motion States Induced by Arm Operation and Surface Electromyography
Tingting Hou, Chen Qian, Yanyu Lu, Shan Fu, *P.R. China*

Computer-Based Neuropsychological Assessment: a Validation of Structured Examination of Executive Functions and Emotion
Gilberto Galindo-Aldana, Victoria Meza-Kubo, Gustavo Castillo-Medina, Israel Ledesma-Amaya, Javier Galarza-Del-Angel, Alfredo Padilla-López, Alberto L. Morán, *Mexico*

UAHCI S117

Interaction techniques and technologies supporting user diversity
Chair(s): Frode Eika Sandnes, Norway.

Room: **MILANO III**

Multi-Switch Scanning Keyboards: A Theoretical Study of Simultaneous Parallel Scans with QWERTY Layout
Frode Eika Sandnes, Evelyn Eika, Norway; Fausto Orsi Medola, Brazil

Picturemarks: Changes in Mining Media and Social Storytelling
Ole Goethe, Norway

Improving Resource Discovery and Access through User-Controlled Adaptation: Exploring the Role of Library Metadata
Wondwossen Beyene, Marius Wiker Aasheim, Norway

Participatory Design Approach to Internet of Things: Co-Designing a Smart Shower for and with People with Disabilities
Mexhid Ferati, Ayesha Babar, Kanani Carine, Ali Hamidi, Christina Mörtberg, Sweden

Towards a Framework for the Design of Quantitative Experiments: Human-Computer Interaction and Accessibility Research
Frode Eika Sandnes, Evelyn Eika, Norway; Fausto Orsi Medola, Brazil

Designing a 2x2 Spatial Vibrotactile Interface for Tactile Letter Reading on a Smartphone
Shaowei Chu, Mei Peng, P.R. China

S118

Design Access Technologies for Inclusion and Participation
Chair(s): Jorge Martín-Gutiérrez, Spain.

Room: **SORRENTO**

Design of an Interactive Gesture Measurement System for Down Syndrome People
Marta Del Río Guerra, Mexico; Jorge Martín-Gutiérrez, Spain; Luis Aceves, Mexico

Gesture-based Vehicle Control in Partially and Highly Automated Driving for Impaired and Non-Impaired Vehicle Operators: A Pilot Study
Ronald Meyer, Rudolf Graf von Spee, Eugen Altendorf, Frank Flemisch, Germany

MyoSL: A Framework for Measuring Usability of Two-Arm Gestural Electromyography for Sign Language
Jordan Aiko Deja, Patrick Arceo, Darren Goldwin David, Patrick Lawrence Gan, Ryan Christopher Roque, Philippines

M2TA - Mobile Mouse Touchscreen Accessible for Users with Motor Disabilities
Agebson Rocha Façanha, Maria da Conceição Carneiro Araújo, Windson Viana, Brazil; Jaime Sánchez, Chile

An Interactive Cognitive-Motor Training System for Children with Intellectual Disability
Caterina Senette, Amaury Trujillo, Erico Perrone, Stefania Bargagna, Maria Claudia Buzzi, Marina Buzzi, Barbara Leporini, Alice Elena Piatti, Italy

S136

ICT in Health and in Active Ageing
Chair(s): João Barroso, Portugal; Leontios Hadjileontiadis, Greece.

Room: **SALERNO**

Security Monitoring in a Low Cost Smart Home for the Elderly
Gabriel Ferreira, Paulo Penicheiro, Ruben Bernardo, Álvaro Neves, Luís Mendes, João Barroso, António Pereira, Portugal

A proposal for a remote interactive class system with sign language interpretation
Márcio Martins, Jorge Borges, Elsa Justino, Tânia Rocha, João Barroso, Arsénio Reis, Portugal

Technologies Applied to Remote Supervision of Exercise in Peripheral Arterial Disease: A Literature Review
Dennis Paulino, Arsénio Reis, João Barroso, Hugo Paredes, Portugal

Low-Cost Smart Surveillance System for Smart Cities
Rúben Pereira, Diogo Correia, Luís Mendes, Carlos Rabadão, João Barroso, António Pereira, Portugal

Designing IoT Solutions for Elderly Home Care: a systematic study of Participatory Design, Personas and Semiotics
Renata De Podestá Gaspar, Rodrigo Bonacin, Vinícius P. Gonçalves, Brazil

Ambient Assisted Living and Digital Inclusion: Overview of Projects, Services and Interfaces
Alessandro Andreadis, Riccardo Zambon, Italy

VAMR S120

The impact of Bi-Directional Communication on Performance of Human-Intelligent Agent Teams
Chair(s): Amar R. Marathe, United States.
Room: **NEOPOLITAN III**

Bidirectional Communication for Effective Human-Agent Teaming
Amar R. Marathe, Kristin E. Schaefer, Arthur W. Evans, Jason S. Metcalfe, United States

A Maximum Likelihood Method for Estimating Performance in a Rapid Serial Visual Presentation Target-Detection Task
Jonroy D. Canady, Amar R. Marathe, David H. Herman, Benjamin T. Files, United States

Quantifying Human Decision-Making: Implications for Bidirectional Communication in Human-Robot Teams
Kristin E. Schaefer, Brandon S. Perelman, Ralph W. Brewer, Julia L. Wright, Nicholas Roy, Derya Aksaray, United States

The Role of Psychophysiological Measures as Implicit Communication within Mixed-Initiative Teams
Kim Drnec, Greg Gremillion, Daniel Donovanik, Jonroy D. Canady, Corey Atwater, Evan Carter, Ben A. Haynes, Amar R. Marathe, Jason S. Metcalfe, United States

MxR Framework for Uncertainty Based Explanation for Uncovering Adversarial Behavior
Adrienne Raglin, James Michaelis, Mark Dennison, Andre Harrison, Theron Trout, James Schaffer, United States

PaolaChat: A Virtual Agent with Naturalistic Breathing
David Novick, Mahdokht Afravi, Adriana Camacho, United States

CCD S121

Cross-Cultural Design

Cross-Cultural Behavior and Attitude Studies
Chair(s): Lin Wang, *Korea*.

Room: **NEOPOLITAN IV**

Modeling and Analyzing Information Preparation Behaviors in Cross-Device Search
Dan Wu, Jing Dong, Yuan Tang, *P.R. China*

Designing an application for Learning Chinese
Vu Thu Thi Hien, Ganta Murali, Nguyen Khanh Linh, Nguyen Hai Yen, Nguyen Thi Thu Hien, Aymen Saleh Abuzied, Zhe Chen, Lin Ma, *P.R. China*; Lin Wang, *Korea*

International Users' Experience of Social Media: a Comparison between Facebook and WeChat
Hanjing Huang, *P.R. China*; Hengameh Akbarian, *Iran*; Nina Alef, *Denmark*; Phairoj Liukitithara, *Thailand*; Monica Marazzi, *Italy*; Bastian Verhaelen, *P.R. China*; Gina Chi-Lan Yang, *Taiwan*; Pei-Luen Patrick Rau, *P.R. China*

SCSM S122

Social Computing and Social Media

Natural Language Processing for Social Media
Chair(s): Hector Allende-Cid, *Chile*.

Room: **OCTAVIUS 12**

Identifying Communities in Social Media with Deep Learning
Pedro Barros, Isadora Cardoso-Pereira, Keila Barbosa, Alejandro C. Frery, *Brazil*; Hector Allende-Cid, *Chile*; Ivan Martins, Heitor S. Ramos, *Brazil*

Early tracking of people's reaction in Twitter for fast reporting of damages in the Mercalli scale
Marcelo Mendoza, Barbara Poblete, Ignacio Valderrama, *Chile*

Forecasting the Chilean electoral year: Using Twitter to predict the presidential elections of 2017
Sebastian Rodriguez, Hector Allende-Cid, Wenceslao Palma, Rodrigo Alfaro, Cristian Gonzalez, Claudio Elortegui, Pedro Santander, *Chile*

A Text Analysis based Method for Obtaining Credibility Assessment of Chinese Microblog Users
Zhaoyi Ma, Qin Gao, *P.R. China*

Product Sentiment Trend Predictor
Vatsal Gala, Varad Deshpande, *India*; Ibtihal Ferwana, *Saudi Arabia*; Mariofanna Milanova, *United States*

AC S123

Augmented Cognition

Assessment Types and Implementation
Chair(s): Lauren Reinerman-Jones, *United States*.

Room: **MILANO IV**

The Motivational Assessment Tool (MAT) Development and Validation Study
Elizabeth Lameier, Lauren Reinerman-Jones, Gerald Matthews, Elizabeth Biddle, Michael W. Boyce, *United States*

A Workflow for Network Analysis-Based Structure Discovery in the Assessment Community
Grace Teo, Lauren Reinerman-Jones, Mark E. Riecken, Joseph McDonnell, Scott Gallant, Maartje Hidalgo, Clayton W. Burford, *United States*

Assessing Operator Psychological States and Performance in UAS Operations
Jinchao Lin, Gerald Matthews, Lauren Reinerman-Jones, Ryan Wohleber, *United States*

Assessment of Wearable Tactile System: Perception, Learning, and Recall
Linda R. Elliott, Bruce J.P. Mortimer, Rodger A. Pettitt, Robert E. Wooldridge, *United States*

Using Scenarios to Validate Requirements through the use of Eye-Tracking in Prototyping
Tia Larsen-Calcano, Omar Ochoa, Richard Simonson, *United States*

Designing and Evaluating Reporting Systems in the Context of New Assessments
Diego Zapata-Rivera, Priya Kannan, Carolyn Forsyth, Stephanie Peters, Andrew D. Bryant, Enruo Guo, Rodolfo Long, *United States*

Understanding Behaviors in Different Domains: The Role of Machine Learning Techniques and Network Science
Grace Teo, Lauren Reinerman-Jones, Joseph McDonnell, Hayden J. Trainor, Rainier A. Porras, Jacob G. Feuerman, *United States*

A Workload Comparison during Anatomical Training with a Physical or Virtual Model
Andrew Wismer, Lauren Reinerman-Jones, Grace Teo, Sasha Willis, Kelsey McCracken, Matthew Hackett, *United States*

DHM S124

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

Dynamic Interactions for Driving Safety
Chair(s): Myoungsoon Jeon, *United States*.

Room: **OCTAVIUS 8**

An International Survey on Automated and Electric Vehicles: Austria, Germany, South Korea, and USA
Myoungsoon Jeon, *United States*; Andreas Riener, *Germany*; Jason Sterkenburg, *United States*; Ju-Hwan Lee, *Korea*; Bruce N. Walker, Ignacio Alvarez, *United States*

Driver Behavior at Simulated Railroad Crossings
Steven Landry, Yuguang Wang, Pasi Lautala, David Nelson, Myoungsoon Jeon, *United States*

Auditory Displays for Take-over in Semi-Automated Vehicles
Erin Richie, Thomas Offer-Westort, Raghavendran Shankar, Myoungsoon Jeon, *United States*

The Research on Layout and Simulation of Human-machine Interface In Vehicle
Qing Xue, Jiawei Sun, Jia Hao, Minxia Liu, *P.R. China*

Indicating Severity of Vehicle Accidents Using Pupil Diameter in a Driving Simulator Environment
Rui Tang, Jung Hyup Kim, Rebecca Parker, *United States*; Yoo Joo Jeong, *Korea*

DUXU S125

Traditional Chinese Handicraft and Industrial design in the Internet Age (Industrial design, Jewelry, 3D printing, ceramics, fiber, lacquer) - I
 Chair(s): Chao Liu, Qianhe Man, P.R. China.
 Room: **MILANO VI**

Study on optimal parameter setting of word size and word spacing in Chinese text of desktop-computer touch screen
 Yue Qiu, Qian Gong, Xiaodong Gong, P.R. China

The Research on the Practice of Traditional Handicraft Entering into College Quality Education Class
 Qianhe Man, P.R. China

The advantage of implementation of Raku class in elective courses at comprehensive university in China
 Bin Zhao, P.R. China

Research on the Adaptability of Underground Soft Guidance and Culture Based on Memorability
 Yang Du, Chao Liu, Ye Zhang, P.R. China

Elementary Introduction to traditional Chinese Plant Dyeing Art and its Inheritance in modern times
 Fang Tang, P.R. China

S126

Hedonic and Pragmatic Aspects of User Experience - II
 Chair(s): Christine Riedmann-Streitz, Manfred Thüring, Michael Burmester, Germany.
 Room: **MILANO V**

Redefining the Customer Centricity Approach in the Digital Age
 Christine Riedmann-Streitz, Germany

Skeuomorph versus Flat Design: User Experience and Age-Related Preferences
 Nils Backhaus, Anna Katharina Trapp, Manfred Thüring, Germany

Impact of Display Clutter on User Experience
 Svetlana Ognjanovic, Switzerland

A Platform to Connect Swiss Consumers of Fair Trade Products with Producers in Developing Countries: Needs and Motivations
 Julia Klammer, Fred Van den Anker, Switzerland

Experience Categories in Specific Contexts – Creating Positive Experiences in Smart Kitchens
 Katharina M. Zeiner, Julian Henschel, Katharina Schippert, Kristin Haasler, Magdalena Laib, Michael Burmester, Germany

PosiTec – How to adopt a positive, need-based design approach
 Kathrin Pollmann, Nora Fronemann, Anne Elisabeth Krüger, Matthias Peissner, Germany

S127

Design and software development
 Chair(s): Dieter Wallach, Germany.
 Room: **MILANO VII**

Merging the Cultures of Design and Engineering: A Case Study
 Julie Baca, Daniel Carruth, Eli Davis, Daniel Waddell, United States

The Use of Design Thinking in Agile Software Requirements Survey: A Case Study
 Edna Dias Canedo, Ruyther Parente Da Costa, Brazil

Toward Applying Online Privacy Patterns Based on the Design Problem: A Systematic Review
 Maha Aljohani, James Blustein, Kirstie Hawkey, Canada

A Roadmap for User Interface Design of Interactive Systems: an Approach based on a Triad of Patterns
 Alexandra Ruiz, William J. Giraldo, Colombia; David Geerts, Belgium; Jose L. Arciniegas, Colombia

ANTETYPE-PM: An Integrated Approach to Model-based Evaluation of Interactive Prototypes
 Dieter Wallach, Sven Fackert, Jan Conrad, Germany; Toni Steimle, Switzerland

DAPI S128

Augmented Human in Ubiquitous Virtual Reality and Augmented Reality
 Chair(s): Woontack Woo, Korea; Si Jung Kim, United States
 Room: **OCTAVIUS 10**

Short Paper: The AR Strip: A City Incorporated Augmented Reality Educational Curriculum
 Si Jung Kim, United States; Su Jin Park, Korea; Yun Hwan Jeong, Jehoshua Josue, Mary Valdez, United States

Case Study of AR Field Museum for activating local communities
 Tomohiro Tanikawa, Junichi Nakano, Takuji Narumi, Michitaka Hirose, Japan

Holistic Quantified Self Framework for Augmented Human
 Juyoung Lee, Eunseok Kim, Jeongmin Yu, Junki Kim, Woontack Woo, Korea

An Intuitive and Personal Projection Interface for Enhanced Self-Management
 Doreen Scheller, Benjamin Bauer, Andrea Krajewski, Claudius Coenen, Dirk Siegmund, Andreas Braun, Germany

LIVEJACKET : Wearable Music Experience Device with Multiple Speakers
 Satoshi Hashizume, Shinji Sakamoto, Kenta Suzuki, Yoichi Ochiai, Japan

HCI S132

Myth or reality? The impact of culture on the user experience

Chair(s): Denise Pilar, *Brazil*.

Room: **NEOPOLITAN I**

UCD: influenced by an organizational culture and its maturity

Lara da Costa Brito, Maria Manuela Rupp Quaresma, *Brazil*

What's the Impact of Local Cultures on the User Experience of Software Solutions?

Denise Pilar, Cecilia Henriques, *Brazil*

Pink Stinks - at Least for Men - How Minimal Gender Cues Affect the Evaluation of Smartphones

Astrid Carolus, Catharina Schmidt, Ricardo Muench, Lena Mayer, Florian Schneider, *Germany*

How is User Research Essential in making E-Government Accessible to All?

Emmanuelle Savarit, *United Kingdom*

S133

New horizon of HCI studies

Chair(s): Masaaki Kurosu, *Japan*.

Room: **NEOPOLITAN II**

User Experience Evaluation by ERM: Experience Recollection Method

Masaaki Kurosu, Ayako Hashizume, Yuuki Ueno, *Japan*

TrackMaze: A Comparison of Head-tracking, Eye-tracking and Tilt as Input Methods for Mobile Games

Mahdieh Abbaszadegan, Sohrab Yaghoubi, I. Scott MacKenzie, *Canada*

Evaluating Tap-And-Drag: A Single-Handed Zooming Method

Manoel Farhad, I. Scott MacKenzie, *Canada*

A New Japanese Input Method for Virtual Reality Applications

Kosuke Komiya, Tatsuo Nakajima, *Japan*

Character Input by Gesture Performed with Grasping both Ends of Tablet PC

Toshimitsu Tanaka, Takuya Mano, Yuuya Tanaka, Kohei Akita, Yuji Sagawa, *Japan*

A Mobile Command Input Through Vowel Lip Shape Recognition

Yuto Koguchi, Kazuya Oharada, Yuki Takagi, Yoshiki Sawada, Buntarou Shizuki, Shin Takahashi, *Japan*

HIMI S134

Haptics in VR

Chair(s): Kentaro Kotani, *Japan*.

Room: **MILANO I**

Development of an End Effector Capable of Intuitive Grasp Operation for SPIDAR-W

Kanata Nozawa, Ryuki Tsukikawa, Takehiko Yamaguchi, Makoto Sato, Tetsuya Harada, *Japan*

Construction of Experimental System SPIDAR-HS for Designing VR Guidelines Based on Physiological Behavior Measurement

Ryuki Tsukikawa, Ryoto Tomita, Kanata Nozawa, Issei Ohashi, Hiroki Horiuchi, Kentaro Kotani, Daiji Kobayashi, Takehiko Yamaguchi, Makoto Sato, Sakae Yamamoto, Tetsuya Harada, *Japan*

Study of Virtual Reality Performance Based on Sense of Agency

Daiji Kobayashi, Yusuke Shinya, *Japan*

Comparison of Electromyogram during Ball Catching Task in Haptic VR and Real Environment

Issei Ohashi, Kentaro Kotani, Satoshi Suzuki, Takafumi Asao, Tetsuya Harada, *Japan*

The Nature of Difference in User Behavior between Real and Virtual Environment: A Preliminary Study

Takehiko Yamaguchi, Hiroki Iwadare, Kazuya Kamijo, Daiji Kobayashi, Tetsuya Harada, Makoto Sato, Sakae Yamamoto, *Japan*

Evaluation of Discomfort Degree Estimation System with Pupil Variation in Partial 3D Images

Shoya Murakami, Kentaro Kotani, Satoshi Suzuki, Takafumi Asao, *Japan*

S135

Service-Oriented Interaction

Chair(s): Hirohiko Mori, Hiroyuki Miki, *Japan*.

Room: **MILANO II**

Interactive Point System Supporting Point Classification and Spatial Visualization

Boyang Liu, Soh Masuko, Jiro Tanaka, *Japan*

Realizing Multi-Touch-Like Gestures in 3D Space

Chunmeng Lu, Li Zhou, Jiro Tanaka, *Japan*

Investigation of Learning Process with TUI and GUI based on COCOM

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

Proposal of Interaction using breath on tablet device

Makoto Oka, Hirohiko Mori, *Japan*

Development of Frame for SPIDAR tablet on Windows and Evaluation of System-presented Geographical Information

Yuki Tasaka, Kazukiyo Yamada, Yasuna Kubo, Masanobu Saeki, Sakae Yamamoto, Takehiko Yamaguchi, Makoto Sato, Tetsuya Harada, *Japan*

Risk Reduction in Texting While Walking with an Umbrella-typed Device for Smartphone

Sohichiro Mori, Makoto Oka, *Japan*

UAHCI 119

Design for All methods, techniques and tools

Chair(s): Margherita Antona, Greece.

Room: **MILANO III**

Comparison of Feedback Modes for the Visually Impaired: Vibration vs. Audio

Sibu Varghese Jacob, I. Scott MacKenzie, Canada

Nateq Reading Arabic Text for Visually Impaired People

Omamah Bamasag, Muna Tayeb, Maha Alsaggaf, Fatimah Shams, Saudi Arabia

Haptic Information Access using Touchscreen devices: Design guidelines for accurate perception of angular magnitude and line orientation

Hari Prasath Palani, G. Bernard Giudice, Nicholas A. Giudice, United States

Cognitive Impact Evaluation of Multimodal Interfaces for Blind People: Towards a Systematic Review

Lana Mesquita, Brazil; Jaime Sánchez, Chile; Rossana M.C. Andrade, Brazil

S137

Spatial User Interaction Beyond the Mouse

Chair(s): Armando Barreto, Francisco R. Ortega, United States.

Room: **SORRENTO**

Towards Multi-Modal Interaction with Interactive Paint

Nicholas Torres, Francisco R. Ortega, Jonathan Bernal, Armando Barreto, Naphtali D. Rishe, United States

3D Spatial Gaming Interaction to Broad CS Participation

Santiago Bolivar, Francisco R. Ortega, Maia Zock-Obregon, Naphtali D. Rishe, United States

Evaluating Devices for Object Rotation in 3D

Sean DeLong, I. Scott, MacKenzie, Canada

Real-Time Implementation of Orientation Correction Algorithm for 3D Hand Motion Tracking Interface

Nonnarit O-Iarnnithipong, Armando Barreto, Neeranut Ratchatanantakit, Sudarat Tangnimitchok, Francisco R. Ortega, United States

Use of 3D Human-Computer Interaction for Teaching in the Architectural, Engineering and Construction Fields

Shahin Vassigh, Francisco R. Ortega, Armando Barreto, Katherine Tarre, Jose Maldonado, United States

S138

Innovative Product Design and Development: Smart Products and Services

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

Room: **SALERNO**

The Formulation of Hybrid Reality: Pokémon Go Mania

Chih-yuan Wang, Chen-li Kuo, Taiwan

Emerging Social Media and Social Networks Analysis Transforms the Tourism Industry: Living Green Smart Tourism Ecosystem

Tsai-Hsuan Tsai, Hsien-Tsung Chang, Yu-Wen Lin, Ming-Chun Yu, Pei-Jung Lien, Wei-Cheng Yan, Wei-Ling Ho, Taiwan

A personal emotion-based recipe recommendation mobile social platform: Mood Canteen

Tsai-Hsuan Tsai, Hsien-Tsung Chang, Chia-Yu Hsu, Shu-Yu Lin, Wei-Cheng Yan, Yi-Cheng Chen, Taiwan

A Scoping Study on the Development of an Interactive Upper-limb Rehabilitation System Framework for Patients with Stroke

Kevin C. Tseng, Alice M.K. Wong, Chung-Yu Wu, Tian-Sheuan Chang, Yu-Cheng Pei, Jean-Lon Chen, Taiwan

Categorization framework for usability issues of smartwatches and pedometers for the older adults

Jayden Khakurel, Antti Knutas, Helinä Melkas, Finland; Birgit Penzenstadler, Bo Fu, United States; Jari Porras, Finland

VAMR S139

Virtual Reality in Psychotherapy and Mental Health

Chair(s): Tom Williams, United States.

Room: **NEOPOLITAN III**

Reducing Fear or Anxiety by Simulating Breathing Movements as Physical Contact with an Unrelated Person

Shunsuke Yanaka, Motofumi Hattori, Takayuki Kosaka, Japan

Scenes Design in Virtual Reality for Depression Assessment

Dan Liao, Lin Shu, Yanping Huang, Jiong Yang, Xiangmin Xu, P.R. China

Design of Virtual Reality Scenes with Variable Levels of Fear Evocation

Dan Liao, Yanping Huang, Zhizhen Tan, Jiong Yang, Xiangmin Xu, P.R. China

Virtual-Reality Videos to Relieve Depression

Syed Ali Hussain, Taiwoo Park, Irem Yildirim, Zihan Xiang, Farha Abbasi, United States

A Mixed Reality Based Social Interactions Testbed: A Game Theory Approach

Archi Dasgupta, Nicole Buckingham, Denis Gračanin, Mohamed Handosa, Reza Tasooji, United States

CCD S140

Designing New Life-space Ecosystem Towards Sustainability
Chair(s): Yongqi Lou, *P.R. China*; Jarmo Suominen, *Finland*.

Room: **NEOPOLITAN IV**

Transforming a neighborhood into a living laboratory for urban social innovation: A comparative case study of Urban Living Labs
Eun Ji Cho, *P.R. China*

Cities as Sustainable Service Platforms - A Framework for Institutional Service Delivery in the Urban Context
Jarmo Suominen, *Finland*

The Transition to a New University Campus as an Opportunity for the Urban Regeneration of the Former Milan Expo 2015 Areas
Paola Trapani, Luisa Collina, Barbara Camocini, Laura Daglio, Martina Mazzarello, *Italy*

The Co-regulation of Tv-white spaces: The Southern Africa Development Community approach
Salomao David, Américo Muchanga, *Mozambique*; Marco Zennaro, *Italy*

The Literature Review of Human Factors Research in Unmanned Aerial Vehicle in China - What Chinese Researcher Need to Do Next?
Xin Zhang, Guozhu Jia, Zhe Chen, *P.R. China*

SCSM S141

Data Based Social Signal Processing
Chair(s): Hung-Hsuan Huang, *Japan*.

Room: **OCTAVIUS 12**

Conversation Envisioning to Train Inter-Cultural Interactions
Maryam Sadat Mirzaei, Qiang Zhang, Toyooki Nishida, *Japan*

Automatically Generating Head Nods with Linguistic Information
Ryo Ishii, Ryuichiro Higashinaka, Kyosuke Nishida, Taichi Katayama, Nozomi Kobayashi, Junji Tomita, *Japan*

Pointing estimation for human-robot interaction using hand pose, verbal cues, and confidence heuristics
Andrew Showers, Mei Si, *United States*

Estimating Speaker's Engagement from Non-verbal Features based on an Active Listening Corpus
Lei Zhang, Hung-Hsuan Huang, Kazuhiro Kuwabara, *Japan*

Multimodal negative-attitude recognition toward automatic conflict-scene detection in negotiation dialog
Shogo Okada, Akihiro Matsuda, Katsumi Nitta, *Japan*

Reducing Interactions in Social Media: A Mathematical Approach
Erick López Ornelas, *Mexico*

AC S142

Augmented Cognition through Immersive User Experiences
Chair(s): Christian Wagner, Ayoun Suh, *Hong Kong*.

Room: **MILANO IV**

Enhancing Bicycle Safety through Immersive Experiences using Virtual Reality Technologies
Hiroki Tsuboi, Shuma Toyama, Tatsuo Nakajima, *Japan*

Visualization of Network Security Data by Haptic
Manabu Ishihara, Taiki Kanayama, *Japan*

Identifying Affordance Features in Virtual Reality: How Do Virtual Reality Games Reinforce User Experience?
Jumin Lee, Jounghae Bang, Hyunju Suh, *Korea*

Cultivating Environmental Awareness: Modeling Air Quality Data Via Augmented Reality Miniature Trees
Jane Prophet, *United Kingdom*; Yong Ming Kow, *Hong Kong*; Mark Hurry, *Australia*

Immersion versus Embodiment: Embodied Cognition for Immersive Analytics in Mixed Reality Environments
Denis Gračanin, *United States*

Enhancing Audience Engagement through Immersive 360-degree Videos: An Experimental Study
Ayoun Suh, Guan Wang, Wenying Gu, Christian Wagner, *Hong Kong*

DUXU S143

Design Education & Research for Intelligence in China
Chair(s): Jianjun Liu, *P.R. China*.

Room: **MILANO V**

Applying context awareness model in interaction design process
Jian Sun, Jianming Yang, *P.R. China*

The Analysis of Visual Communication Design of Commonweal Information through Interactive Design Thinking- Public commonweal Information Design and Communication in Urban Traffic Spatial Environment as an Example
Shi Peng, Chao Liu, Wentao Wang, *P.R. China*

Research on the Influence of Multidimensional Display for Users' Concerns
Yingying Miao, Weiying Pan, Bin Jiang, *P.R. China*

continues... **THURSDAY 16:00 - 18:00**



DUXU S144

Traditional Chinese Handicraft and Industrial design in the Internet Age (Industrial design, Jewelry, 3D printing, ceramics, fiber, lacquer) - II

Chair(s): Chao Liu, Qianhe Man, P.R. China.

Room: **MILANO VI**

A Method of Car Styling Evaluation Based on Eye Tracking

Zhaolin Lu, Shaobing Xu, Bo Cheng, P.R. China

Establishment of Design Strategies and Design Models of Human Computer Interaction Interface Based on User Experience

Chao Gong, Yue Qiu, Bin Zhao, P.R. China

Design of Smartphone 9-Key Keyboard based on Spelling Rule of Pinyin

Xiaodong Gong, Maoqi Liu, P.R. China

Internet AI Technology and its Impact on China's High Education

Chao Liu, Chao Zhao, Wentao Wang, P.R. China

S145

Usability and user experience evaluation methods and techniques

Chair(s): Martin Maguire, United Kingdom.

Room: **MILANO VII**

Improving Usability Evaluation by Automating a Standardized Usability Questionnaire

Priscilla Gonçalves da Silva e Souza, Edna Dias Canedo, Brazil

Considering Users' Different Knowledge about Products to Improve a UX Evaluation Method based on Mental Models

Stefano Filippi, Daniela Barattin, Italy

Usability Evaluation with Heuristics. New Proposal from Integrating Two Trusted Sources

Toni Granollers, Spain

Towards a Conceptual Framework for the Objective Evaluation of User Experience

Carolina Rico-Olarte, Diego M. López, Colombia; Sara Keppinger, Germany

Subjective Preferences towards Various Conditions of Self-Administered Questionnaires: AHP and Conjoint Analyses

Rafał Michalski, Marta Staniów, Poland

A Comparison of User Testing and Heuristic Evaluation Methods for identifying Website Usability Problems

Martin Maguire, Paul Isherwood, United Kingdom

DAPI S146

Pervasive Learning in Super-Aging Societies

Chair(s): Shin'ichi Konomi, Japan.

Room: **OCTAVIUS 10**

Towards Supporting Multigenerational Co-Creation and Social Activities: Extending Learning Analytics Platforms and Beyond

Shin'ichi Konomi, Kohei Hatano, Miyuki Inaba, Misato Oi, Tsuyoshi Okamoto, Fumiya Okubo, Atsushi Shimada, Jingyun Wang, Masanori Yamada, Yuki Yamada, Japan

Effective learning environment design for aging well: A review

Masanori Yamada, Misato Oi, Shin'ichi Konomi, Japan

Potential of Wearable Technology for Super-Aging Societies

Atsushi Shimada, Japan

Can Machine Learning Techniques Provide Better Learning Support for Elderly People?

Kohei Hatano, Japan

Evaluating Learning Style-based Grouping Strategies in Real-world Collaborative Learning Environment

Yuta Taniguchi, Japan; Yiduo Gao, P.R. China; Kentaro Kojima, Shin'ichi Konomi, Japan

Distributed, Ambient and Pervasive Interactions

HCIBGO S147

Online Trust, Security and Privacy

Chair(s): Gaurav Bansal, United States.

Room: **OCTAVIUS 7**

Data Breaches & Trust Rebuilding: Moderating Impact of Signaling of Corporate Social Responsibility

Gaurav Bansal, United States

Trust and the Flow Experience on Facebook: What Motivates Social Network Usage?

Soo Il Shin, Dianne J. Hall, United States

Improving of User Trust in Machine Learning Recommender-Based Business Applications through UI Design: A Case Study

Emily Mai JingWen, Benjamin Yap, Steven Fu, Singapore

Measuring the Influence of User Experience on Banking Customers' Trust

Andrea Müller, Selina Anke, Sabrina Herrmann, Pia Katz, Christina Leuchtweis, Christina Miclau, Sandra Wörner, Oliver Korn, Germany

HCI in Business, Government and Organizations

THURSDAY 16:00 - 18:00

HCI S151

Emotion Recognition

Chair(s): Gilberto Galindo-Aldana, Mexico.

Room: **NEOPOLITAN I**

A System for Non-Intrusive Affective Assessment in the Circumplex Model from Pupil Diameter and Facial Expression Monitoring

Sudarat Tangnimitchok, Nonnarit O-larnnithipong, Neeranut Ratchatanantakit, Armando Barreto, Francisco R. Ortega, Naphtali D. Rische, *United States*

Experimental Induction and Measurement of Negative Affect Induced by Interacting with In-vehicle Information Systems

Nadja Schoemig, Frederik Naujoks, Thomas Hammer, Markus Tomzig, Bastian Hinterleitner, Stefan Mayer, *Germany*

A Flexible, Low Power, Compact, Mobile Sensor for Emotion Monitoring in Human Computer Interaction

Lawrence Lam, Austen Szyplula, *United States*

Deep Learning based Video Spatio-Temporal Modeling for Emotion Recognition

Ruben D. Fonnegra, Gloria M. Diaz, *Colombia*

Measurement of JND Thresholds and Riemannian Geometry in Facial Expression Space

Runa Sumiya, *Japan*; Reiner Lenz, *Sweden*; Jinhui Chao, *Japan*

S152

Input Techniques and Devices

Chair(s): Giannis Drossis, *Greece*.

Room: **NEOPOLITAN II**

SlIT: Character Input System Using Slide-in and Tap for Smartwatches

Kohei Akita, Toshimitsu Tanaka, Yuji Sagawa, *Japan*

Entry and Selection Methods for Specifying Dates in Mobile Context

A. Kürşad Türkcan, Pinar Onay Durdu, *Turkey*

Flickey: Flick-Based QWERTY Software Keyboard for Ultra-small Touch Screen Devices

Akira Ishii, Hiroyuki Hakoda, Buntarou Shizuki, *Japan*

Ex-Space: Expanded Space Key by Sliding Thumb on Home Position

Kodai Sekimori, Yusuke Yamasaki, Yuki Takagi, Kazuma Murata, Buntarou Shizuki, Shin Takahashi, *Japan*

A Method to Make an Existing System Adaptive

Francesca Gullà, Alessandra Papetti, Roberto Menghi, Michele Germani, *Italy*

An Interactive Cat Toy Interfacing Owner PC Operations

Rina Sasaki, Yu Suzuki, *Japan*

S153

Mobile user experience

Chair(s): Ardion Beldad, *Netherlands*.

Room: **NEOPOLITAN III**

Analyzing Impact Factors for Smartphone Sharing Decisions Using Decision Tree

Tao Xu, Yun Zhou, *P.R. China*; Alexander Raake, *Germany*; Xuyun Zhang, *New Zealand*

Application of Logistic Regression Analysis of Smartphone Speech Interaction Usage in China: A Questionnaire-Based Study of 622 Adults

Wen-jun Hou, Xiao-lin Chen, *P.R. China*

Investigating Users' Experiences and Attitudes towards Mobile Apps' Reviews

Omar Asiri, Carl K. Chang, *United States*

Are People Polite to Smartphones? How Evaluations of Smartphones Depend on Who Is Asking

Astrid Carolus, Catharina Schmidt, Florian Schneider, Jule Mayr, Ricardo Muench, *Germany*

What Drives the Perceived Credibility of Mobile Websites: Classical or Expressive Aesthetics?

Kiemute Oyibo, *Nigeria*; Ifeoma Adaji, Rita Orji, Julita Vassileva, *Canada*

HIMI S154

Improvement in Learning and Educational Environments using ICT

Chair(s): Takahito Tomoto, Yusuke Kometani, Takako Akakura, *Japan*.

Room: **MILANO I**

Analysis of Students' Activity in a Virtual Seminar Using a Seminar Management System

Yusuke Kometani, Masanori Yatagai, Keizo Nagaoka, *Japan*

Proposal for Writing Authentication Method Using Tablet PC and Online Information in e-Testing

Daisuke Hayashi, Takako Akakura, *Japan*

Development of an Asynchronous E-Learning System in Which Students Can Add and Share Comments on an Image of a Blackboard

Kazashi Fujita, Takako Akakura, *Japan*

Adaptive Interface That Provides Modeling, Coaching and Fading to Improve Revision Skill in Academic Writing

Harriet Nyanchama Ocharo, Shinobu Hasegawa, *Japan*

Development of a Blended Learning System for Engineering Students Studying Intellectual Property Law and Access Log Analysis of the System

Takako Akakura, Takahito Tomoto, Koichiro Kato, *Japan*

Development of a Mathematical Solution Environment to Understand Symbolic Expressions in Mathematics

Kai Kurokawa, Takahito Tomoto, Tomoya Horiguchi, Tsukasa Hirashima, *Japan*

Proposal of a Framework for a Stepwise Task Sequence in Programming

Kento Koike, Takahito Tomoto, Tomoya Horiguchi, Tsukasa Hirashima, *Japan*

Engineering Psychology and Cognitive Ergonomics

EPCE S155

Humans and Autonomy Working in Teams

Chair(s): Axel Schulte, *Germany*.

Room: **OCTAVIUS 7**

Experimental Evaluation of a Scalable Mixed-Initiative Planning Associate for Future Military Helicopter Missions

Fabian Schmitt, Axel Schulte, *Germany*

Design and Evaluation of a Workload-adaptive Associate System for Cockpit Crews

Yannick Brand, Axel Schulte, *Germany*

A Heterarchical Urgency-Based Design Pattern for Human Automation Interaction

Axel Schulte, Diana Donath, *Germany*; Douglas S. Lange, Robert S. Gutzwiller, *United States*

Displaced Interactions in Human-Automation Relationships: Transparency over Time

Christopher A. Miller, *United States*

Crew Resource Management for Automated Teammates (CRM-A)

Robert J. Shively, Joel Lachter, Robert Koteskey, Summer L. Brandt, *United States*

Using Perceptual and Cognitive Explanations for Enhanced Human-Agent Team Performance

Mark A. Neerincx, Jasper Van der Waa, Frank Kaptein, Jurriaan Van Diggelen, *Netherlands*

Tracking Provenance in Decision Making Between the Human and Autonomy

Crisrael Lucero, Braulio Coronado, Eric Gustafson, Douglas S. Lange, *United States*

Universal Access in Human-Computer Interaction

UAHCI S156

Human Computer Interaction in Video Games for Health: Design, User Experience and Usability

Chair(s): Federica Pallavicini, *Italy*.

Room: **MILANO III**

Virtual Reality for Pain Management among Children and Adolescents: Applicability in Clinical Settings and Limitations

Barbara Atzori, Laura Vagnoli, Andrea Messeri, Rosapia Lauro Grotto, *Italy*

Effectiveness of Virtual Reality Survival Horror Games for the Emotional Elicitation: Preliminary Insights using Resident Evil 7: Biohazard

Federica Pallavicini, Ambra Ferrari, Alessandro Pepe, Giacomo Garcea, Andrea Zanacchi, Fabrizia Mantovani, *Italy*

Using Immersive Virtual Reality Serious Games for Vocational Rehabilitation of Individuals with Physical Disabilities

Lal "Lila" Bozgeyikli, Evren Bozgeyikli, Andoni Aguirrezabal, Redwan Alqasemi, Andrew Rajj, Stephen Sundarrao, Rajiv Dubey, *United States*

A Collaborative Virtual Game to Support Activity and Social Engagement for Older Adults

Jing Fan, Linda Beuscher, Paul Newhouse, Lorraine C. Mion, Nilanjan Sarkar, *United States*

S157

Design for ASD

Chair(s): Valdecir Becker, *Brazil*.

Room: **SALERNO**

A Data-Driven Mobile Application for Efficient, Engaging, and Accurate Screening of ASD in Toddlers

Arpan Sarkar, Joshua Wade, Amy Swanson, Amy Weitlauf, Zachary Warren, Nilanjan Sarkar, *United States*

Research on the Interactive Design of Wearable Devices for Autistic Children

Minggang Yang, Xuemei Li, *P.R. China*

ICT to Support Dental Care of Children with Autism: an Exploratory Study

Mariasole Bondioli, Maria Claudia Buzzi, Marina Buzzi, Susanna Pelagatti, Caterina Senette, *Italy*

Design of an Assistive Avatar in Improving Eye Gaze Perception in Children with ASD during Virtual Interaction

Ashwaq Zaini Amat, Amy Swanson, Amy Weitlauf, Zachary Warren, Nilanjan Sarkar, *United States*

Assisting, not Training, Autistic Children to recognize and Share Each Other's Emotions via Automatic Face-Tracking in a Collaborative Play Environment

Pinata Winoto, Tiffany Y. Tang, Xiaoyang Qiu, Aonan Guan, *P.R. China*

Audiovisual Design of Learning Systems for Children with ASD

Rafael Toscano, Valdecir Becker, *Brazil*

VAMR S158

Alternative Controls for VMAR

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

Room: **MILANO II**

Developing and Training Multi-Gestural Prosthetic Arms

Albert Manero, John Sparkman, Matt Dombrowski, Ryan Buysens, Peter A. Smith, *United States*

Design and Assessment of two Handling Interaction Techniques for 3D Virtual Objects using the Myo Armband

Yadira Garnica Bonome, Abel González Mondéjar, Renato Cherullo de Oliveira, Eduardo De Albuquerque, Alberto Raposo, *Brazil*

Physically-Based Bimanual Volumetric Selection for Immersive Visualizations

Angela Benavides, Rajiv Khadka, Amy Banic, Elliot Hunt, *United States*

Using Body Movements for Running in Realistic 3D Map

Adhi Yudana Svarajati, *Indonesia*; Jiro Tanaka, *Japan*

Virtual, Augmented and Mixed Reality

FRIDAY 8:00 - 10:00



CCD S159

Design for human city and social innovation
Chair(s): Zhiyong Fu, Huan Wang, *P.R. China.*

Room: **NEOPOLITAN IV**

The Research and Co-creation Model for Urban Interaction Design and Practices
Yuyao Zhou, Nan Jiang, *P.R. China*

Bridge the Physical and Virtual Design for Hutongs - Creative Design supports Hutongs Community Participation
Huan Wang, Zhiyong Fu, *P.R. China*

Driverless Vehicle-Based Urban Slow Transportation Service Platform
Jintian Shi, Xiaohua Sun, *P.R. China*

Sociability from the Perspective of Cultural Diversity in Virtual Communities of Practice
Tatiany Xavier De Godoi, Breno Guerra Zancan, Daniela Freitas Guilhermino, Eduardo Filgueiras Damasceno, José Reinaldo Merlin, Thiago Adriano Coleti, André Menolli, Ederson Marcos Sgarbi, *Brazil*

SCSM S160

Customer eXperience and Behavior
Chair(s): Cristian Rusu, *Chile.*

Room: **MILANO VII**

Evaluating Online Travel Agencies' Usability: What Heuristics Should We Use?
Cristian Rusu, Virginica Rusu, Daniela Quiñones, Silvana Roncagliolo, Virginia Zaraza Rusu, *Chile*

An Online Travel Agency Comparative Study: Heuristic Evaluators Perception
Cristian Rusu, *Chile*; Federico Botella, *Spain*; Virginica Rusu, Silvana Roncagliolo, Daniela Quiñones, *Chile*

Approaches on User eXperience Assessment: User Tests, Communicability and Psychometrics
Virginia Zaraza Rusu, Daniela Quiñones, Cristian Rusu, Pablo Caceres, Virginica Rusu, Silvana Roncagliolo, *Chile*

A Framework to Simplify Usability Analysis of Constraint Solvers
Broderick Crawford, Ricardo Soto, Franklin Johnson, *Chile*

Teaching Communication Strategies in Social Media Networks for Computer Science Students
Pamela Hermosilla, Nicole Boye, Silvana Roncagliolo, *Chile*

AC S161

Mastering Cyberpower: Cognitive Sciences and The Human Factor in Civilian and Military Cyber Security
Chair(s): Stefan Sütterlin, Ricardo G. Lugo, Benjamin J. Knox, Øyvind Jøsok, Odd Sveinung Hareide, *Norway.*
Room: **MILANO IV**

A Human Perspective on Maritime Autonomy
Tore Relling, Margareta Lützhöft, Runar Ostnes, Hans Petter Hildre, *Norway*

Validation of a Maritime Usability Study with Eye Tracking Data
Odd Sveinung Hareide, Runar Ostnes, *Norway*

Development and application of The Hybrid Space app for measuring cognitive focus in hybrid contexts
Øyvind Jøsok, Mathias Hedberg, Benjamin J. Knox, Kirsi Helkala, Stefan Sütterlin, Ricardo G. Lugo, *Norway*

DHM S162

Human-Computer Interaction and Occupational Safety and Health
Chair(s): Peter Nickel, *Germany.*

Room: **OCTAVIUS 8**

Improving Occupational Safety and Health (OSH) in Human-System Interaction (HSI) through Applications in Virtual Environments
Peter Nickel, Andy Lungfiel, *Germany*

Similarities and Differences in Posture during Simulated Order Picking in Real Life and Virtual Reality
Daniel Friemert, Florian Saala, Ulrich Hartmann, Rolf Ellegast, *Germany*

Monitors vs. Smart Glasses: A Study on Cognitive Workload of Digital Information Systems on Forklift Trucks
Benno Gross, Michael Bretschneider-Hagemes, Andreas Stefan, Jörg Rissler, *Germany*

Evaluation of an Intelligent Collision Warning System for Forklift Truck Drivers in Industry
Armin Lang, *Germany*

Modelling the Process of Controlling an Automated Steering Maneuver
Luis Kalb, Klaus Bengler, *Germany*

The Role of Standardization for Occupational Safety and Health (OSH) and the Design of Safe and Healthy Human-Computer Interaction (HCI)
Michael Bretschneider-Hagemes, Sebastian Korfmacher, Katharina Von Rymon Lipinski, *Germany*

Design, User Experience, and Usability

DUXU S163

Fostering UX Thinking and Doing through Interaction Design Practice - I
Chair(s): Wei Liu, *P.R. China*

Room: **MILANO V**

Expanding Design Thinking with Methods from Futures Studies. Reflections on a Workshop with Chinese User Experience Students
Ellen De Vos, *Belgium*; Xin Xin, *P.R. China*; Marina Emmanouil, *Belgium*

Speech Communication through the Skin: Design of Learning Protocols and Initial Findings
Jaehong Jung, Yang Jiao, Frederico M. Severgnini, Hong Z. Tan, Charlotte M. Reed, Ali Israr, Frances Lau, Freddy Abnoui, *United States*

Evaluating Tangible and Embodied Interactions for Intercontinental Educators, Researchers, and Designers
Wei Liu, *P.R. China*

Design of Human-Machine Interface System in Inverter Spot Welding
Yancong Zhu, Wei Zhou, *P.R. China*

S164

Ergonomics in design
Chair(s): Marcelo Márcio Soares, *P.R. China*

Room: **MILANO VI**

Virtual Reality as a Tool for Teaching Architecture
Guilherme Valle Loures Brandão, Wilian Daniel Henriques do Amaral, Caio Augusto Rabite de Almeida, José Alberto Barroso Castañon, *Brazil*

Scanner for Visually Impaired People
Juan Felipe Almada, Regina De Oliveira Heidrich, Ana Paula Steigleder, *Brazil*

My Best Shirt with the Right Pants: Improving the Outfits of Visually Impaired people with QR Codes and NFC tags
Sílvio José Vieira Gatis Filho, Jefté De Assumpção Macedo, Marília Moraes Saraiva, Jean Elder Araújo Souza, Felipe Borba Breyer, Judith Kelner, *Brazil*

Generating an Album with the Best Media Using Computer Vision
Tancredo Souza, João Paulo Lima, Veronica Teichrieb, Carla Nascimento, Fabio Q. B. Da Silva, Andre L.M. Santos, Helder Pinho, *Brazil*

SAFE CULTURE – THE NEW AVIATION
Edgard Martins, Isnard Thomas Martins, *Brazil*; Marcelo Márcio Soares, *P.R. China*

Below the Interface: Evaluation of PLM Software Usability and User Self-Efficacy
Michael Saenz, *United States*; Marlen Promann, *Estonia*; Alaina Creager, Nancy Rasche, *United States*

Distributed, Ambient and Pervasive Interactions

DAPI S165

Smart Homes and Working Environments
Chair(s): Yujia Cao, *Czech Republic*

Room: **OCTAVIUS 10**

Design towards AI-powered workplace of the future
Yujia Cao, Jiri Vasek, Matej Dusik, *Czech Republic*

Evaluating User Experience in Smart Home Contexts: a Methodological Framework
Peter Mechant, Anissa All, Lieven De Marez, *Belgium*

The Reconfigurable Wall System: Designing a Responsive Structure Reactive to Socio-Environmental Conditions
Mostafa Alani, Arash Soleimani, Evan Murray, Anthony Bah, Adam Leicht, Salman Sajwani, *United States*

Home Automation Internet of Things: Adopted or diffused?
Badar H. Al Lawati, Xiaowen Fang, *United States*

Hybrid Connected Spaces: Mediating user activities in physical and digital space
Carla Farina, *Italy*; Sotirios D. Kotsopoulos, Federico Casalegno, *United States*

Learning and Collaboration Technologies

LCT S166 continues...

Digital competences development and testing
Chair(s): Birgy Lorenz, *Estonia*

Room: **SORRENTO**

Stenmap: Framework for Evaluating Cybersecurity-Related Skills Based on Computer Simulations
Sten Mäses, Liina Randmann, Olaf Maennel, Birgy Lorenz, *Estonia*

Development of Children's Cyber Security Competencies in Estonia
Birgy Lorenz, Kaido Kikkas, Kairi Osula, *Estonia*

Art and Automation of Teaching Malware Reverse Engineering
Toomas Lepik, Kaie Maennel, Margus Ernits, Olaf Maennel, *Estonia*

Digital Literacy in Higher Education: A Survey on Students' Self-Assessment
Paula Miranda, *Portugal*; Pedro Isaias, *Australia*; Sara Pifano, *Portugal*

Digital Natives and Digital Immigrants Revisited: a Case of CALL
Maria Zenios, Eleni Ioannou, *Cyprus*

Hierarchies of Understanding: Preparing for A.I.
Scott A. Carpenter, Catherine Liu, *United States*; Weixun Cao, *P.R. China*; Allen Yao, *United States*

FRIDAY 8:00 - 10:00

LCT S167

Learner-centered technologies

Chair(s): Enric Mor, *Spain*.

Room: **MILANO VIII**

Designing and Validating Learner-Centered Experiences

Angela Payne, John Sadauskas, Quincy Conley, Dan Shapera, *United States*

Uniqueness Profile of Mobile Applications for Learning

Yuval Shafiriri, Dalit Levy, *Israel*

Understanding User Engagement in Digital Education

Isuru Balasooriya, Enric Mor, M. Elena Rodriguez, *Spain*

A Framework for Interactive Exploratory Learning Analytics

Mohammad Javad Mahzoon, Mary Lou Maher, Omar Eltayeb, Wenwen Dou, *United States*; Kazjon Grace, *Australia*

ITAP S168

Human Aspects of IT for the Aged Population

Design Empowerment and Ambient Assisted Living

Chair(s): Ming-Hong Wang, *Taiwan*.

Room: **OCTAVIUS 9**

Privacy at Home: an Inquiry into Sensors and Robots for the Stay at Home Elderly

Trenton Schulz, Jo Herstad, Harald Holone, *Norway*

An Experimental Study on Intelligent Kitchen Appliances' Interface Information Preference Based on Visual Characteristics of the Elderly

Tian-yu Wu, Yi-qian Zhao, Ya-jun Li, *P.R. China*

Methods to Design Home Support for Elders

Elena Elias, Marc-Eric Bobillier Chaumon, Michel Vacher, *France*

Design Empowerment for Older Adults

Yumei Dong, Hua Dong, *P.R. China*

NOTES

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	HCI S169	S170	HIMI S171	EPCE S172
Human-Computer Interaction	HCI and Art Chair(s): Salah Uddin Ahmed, Norway. Room: NEOPOLITAN I	Design Methods, Techniques and Tools Chair(s): Mikael Wiberg, Sweden. Room: NEOPOLITAN II	The Potential for Virtual Reality in Cognitive Rehabilitation and Assessment for early dementia, and MCI Chair(s): Takehiko Yamaguchi, Japan. Room: MILANO I	Cognitive workload, situation awareness and metacognition Chair(s): Jung Hyup Kim, United States. Room: OCTAVIUS 7
	An Essay about the impact of the Digital Revolution on Higher Education in Art and Design Hendrik Wahl, United Arab Emirates	What are User Requirements? Developing an ISO Standard Nigel Bevan, United Kingdom; Jim Carter, Canada; Jonathan Earthy, United Kingdom; Thomas Geis, Germany; Susan Harker, United Kingdom	A Virtual Kitchen for Cognitive Rehabilitation of Alzheimer Patients Paul Richard, Deborah Foloppe, Philippe Allain, France	The Impact of Metacognitive Monitoring Feedback on Mental Workload and Situational Awareness Jung Hyup Kim, United States
	Interaction and Interactivity: in the context of digital interactive art installation Salah Uddin Ahmed, Norway	Towards Cross-Generational System Design Maurizio Caon, Switzerland	A Mobile Augmented Reality Game to Encourage Hydration in the Elderly Sarah Lehman, Jenna Graves, Carlene Mcaleer, Tania Giovannetti, Chiu C. Tan, United States	An Integrated After Action Review (IAAR) Approach: Conducting AARs for Scenario-Based Training Across Multiple and Distinct Skill Areas Lisa Townsend, Joan Johnston, William Ross, Laura Milham, Dawn Riddle, Henry Phillips, United States
	InterArt: Learning Human-Computer Interaction Through the Making of Interactive Art Emanuel Felipe Duarte, M. Cecilia C. Baranauskas, Brazil	The Development of Individuals' Competencies as a Meaningful Process of the Audiovisual Design Methodology Daniel Gambaro, Valdecir Becker, Thais Saraiva Ramos, Rafael Toscano, Brazil	Interaction techniques and pointing task: a preliminary analysis to understand how to characterize the user abilities in virtual environment Eulalie Verhulst, France; Frédéric Banville, Canada; Paul Richard, Philippe Allain, France	How Shared Screen Affected Team Collaboration Task, A Case Study of Ergonomics Experiment on Team Situation Awareness Xu Wu, Chuanyan Feng, Xiaoru Wanyan, Shuang Liu, Lin Ding, Chongchong Miao, Yuhui Wang, Xueli He, P.R. China
	Bias in Perception of Art Produced by Artificial Intelligence Joo-Wha Hong, United States	Addressing IoT – Towards Material-Centered Interaction Design Mikael Wiberg, Sweden	Validation of a Sorting Task Implemented in the Virtual Multitasking Task-2 and Effect of Aging Frédéric Banville, Claudia Lussier, Edith Massicotte, Canada; Eulalie Verhulst, France; Jean-François Couture, Canada; Philippe Allain, Paul Richard, France	Cyber Officer Profiles and Performance Factors Ricardo G. Lugo, Stefan Sütterlin, Norway
	Approaches to Interface Icon Classification Teemu Korpilahti, Finland			

Engineering Psychology and Cognitive Ergonomics

Human Interface and the Management of Information

FRIDAY 10:30 - 12:30

VAMR S173

Virtual reality in design and industrial applications

Chair(s): Holger Graf, *Germany*.

Room: **SALERNO**

360 Degree Mixed Reality Environment to Evaluate Interaction Design for Industrial Vehicles including Head-up and Head-down Displays

Markus Wallmyr, Daniel Kade, *Sweden*; Tobias Holstein, *Germany*

Assembly Training: Comparing the Effects of Head-Mounted Displays and Face-to-Face Training

Stefan Werrlich, Carolin Lorber, Phuc-Anh Nguyen, *Germany*; Carlos Emilio Franco Yanez, *Mexico*; Gunther Notni, *Germany*

Augmented Reality Views: Discussing the Utility of Visual Elements by Mediation Means in Industrial AR from a Design Perspective

Jens Keil, Florian Schmitt, Timo Engelke, Holger Graf, Manuel Olbrich, *Germany*

CAE/VR Integration – A Qualitative Assessment of Advanced Visualization for Interactive Conceptual Simulations (ICS) in Industrial Use

Holger Graf, André Stork, *Germany*

S174

Psychological and Health Issues in VR

Chair(s): To be announced.

Room: **MILANO III**

Get well soon! Human Factors' Influence on Cybersickness after Redirected Walking Exposure in Virtual Reality

Julian Hildebrandt, Patric Schmitz, André Calero Valdez, Leif Kobbelt, Martina Ziefle, *Germany*

Virtually Empathetic?: Examining the Effects of Virtual Reality Storytelling on Empathy

EunSeo Bang, Caglar Yildirim, *United States*

A Novel Way of Estimating a User's Focus of Attention in a Virtual Environment

Xuanchao He, Zhejun Liu, *P.R. China*

The Impact of Augmented Reality on Art Engagement: Liking, Impression of Learning, and Distraction

Tanja Aitamurto, Jean-Baptiste Boin, Kaiping Chen, Ahmed Cherif, Skanda Shridhar, *United States*

CCD S175

Design, User Experience and Usability in New Technology

Chair(s): Hanjing Huang, *P.R. China*.

Room: **NEOPOLITAN III**

User Defined Eye Movement-based Interaction for Virtual Reality

Wen-jun Hou, Kai-xiang Chen, Hao Li, Hu Zhou, *P.R. China*

Status Effects on Attributions for Online Knowledge Sharing Failures: A Comparison between Chinese and Korean Cultures

Nan Qie, Pei-Luen Patrick Rau, Jun Liu, *P.R. China*

Influence of Rebound Effect on Energy Saving in Smart Homes

Ko-jung Chen, Ziyang Li, Ta-Ping Lu, Pei-Luen Patrick Rau, Ding-Long Huang, *P.R. China*

Innovation Design of Rural Tourism Based On Service Design Methods --- A Case Study of Beijing Lingshui Village

Yanfei Zhu, Zhisheng Zhang, Chengqi Xue, Tianyang Zhu, Jie Shen, *P.R. China*

S176

Education, Communication and Information Sharing

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

Room: **NEOPOLITAN IV**

Effect of Illumination on Reading Performance and Affect in a Virtual Environment

Xingchen Zhou, Pei-Luen Patrick Rau, *P.R. China*

Designing Craft Learning Experience for Rural Children: A Case Study on Huayao Cross-Stitch in Southwest China

Duoduo Zhang, Yuanyuan Yang, Tie Ji, Huiling Xie, Yuwei He, *P.R. China*

Integrated Strategies of Participatory Design and PBL Towards Collaboration Quality

Chenhan Jiang, Yongqi Lou, *P.R. China*

"Which Country Are You From?": A Cross-Cultural Study on Greeting Interaction Design for Social Robots

Mohammad Shidujaman, Haipeng Mi, *P.R. China*

CCD S193

Research, Design and Technology for Life Tomorrow

Chair(s): Pei Lee Teh, *Malaysia*.

Room: **MILANO II**

Facilitating Gerontechnology Adoption: Observational Learning with Live Models

Lu Peng, *Hong Kong*; Qi Ma, *P.R. China*; Rita W.L. Yu, Alan H.S. Chan, *Hong Kong*; Pei Lee Teh, *Malaysia*; Ka Kit So, *Hong Kong*

HEDI: an online platform for healthcare engineering design and innovation

Long Liu, Weiyu Zhang, Jinhua Li, Hua Dong, *P.R. China*

Augmenting Food Experience While Traveling Abroad by Using Mobile Augmented Reality Application

Yue (Lilian) Yuan, *United States*

Cross-Cultural Design for Employability: Mobile Support for Health Care Professionals

Nataliya Berbyuk Lindstrom, *Sweden*

SCSM S177

Cultural dimensions of social media and social computing

Chair(s): Simona Vasilache, *Japan*.

Room: **MILANO VII**

Paths Toward Social Construction of Knowledge: Examining Social Networks in Online Discussion Forums

David Raúl Gómez Jaimes, *United States*; Maria del Rosario Hernandez Castaneda, *Mexico*

Investigating the Generation- and Gender-Dependent Differences in Social Media Use: A Cross-cultural Study in Germany, Poland and South Africa

Kaja J. Fietkiewicz, Elmar Lins, *Germany*; Adheesh Budree, *South Africa*

Using Tiny Viral Messages on Social Networks to Spread Information About Science and Technology: Elements of a Theory of Nanovirals

Nick V. Flor, *United States*

An experience of textual evaluation using the MALTU methodology

Marilia S. Mendes, Elizabeth Furtado, *Brazil*

AC S178

Augmented Cognition for Mindfulness & Workforce Effectiveness & Wellness

Chair(s): Melissa Walwanis, Rolanda Findlay, *United States*.

Room: **MILANO IV**

Improving Understanding of Mindfulness Concepts & Test Methods

Melissa Walwanis, Derek Bryan, *United States*

Optimizing Team Performance when Resilience Falters: An Integrated Training Approach

Debbie Patton, Lisa Townsend, Laura Milham, Joan Johnston, Dawn Riddle, Amanda R. Start, Amy B. Adler, Karen Costello, *United States*

Strengthening Health and Improving Emotional Defenses (SHIELD)

Seth Elkin-Frankston, Arthur Wollocko, James Niehaus, *United States*

A Multi-Sensor Approach to Linking Behavior to Job Performance

Alison M. Perez, Amanda E. Kraft, Raquel Galvan-Garza, Matthew Pava, Amanda Barkan, William D. Casebeer, Matthias D. Ziegler, *United States*

Guided Mindfulness: Optimizing Experiential Learning of Complex Interpersonal Competencies

Richard L. Griffith, Lisa A. Steelman, Nicholas Moon, *United States*; Sherif Al-Qallawi, *Egypt*; Nisha Quraishi, *United States*

Curriculum for Accelerated Learning through Mindfulness (CALM)

Anna Skinner, Cali M. Fidopiastis, Sebastian Pascarelle, Howard Reichel, *United States*

DHM S179

Human Modeling for High Quality Nursing and Medical Care

Chair(s): Yasuko Kitajima, *Japan*.

Room: **OCTAVIUS 8**

Indirect Evaluation of Nurse's Transfer Skill through the Measurement of Patient

Chingszu Lin, *Japan*; Zhifeng Huang, *P.R. China*; Masako Kanai Pak, Jukai Maeda, Yasuko Kitajima, Mitsuhiro Nakamura, Noriaki Kuwahara, Taiki Ogata, Jun Ota, *Japan*

Log4Care: Unified Event Logging Service for Personalized Care

Haruhisa Maeda, Sachio Saiki, Masahide Nakamura, Kiyoshi Yasuda, *Japan*

Developing Face Emotion Tracker for Quantitative Evaluation of Care Effects

Arashi Sako, Sachio Saiki, Masahide Nakamura, Kiyoshi Yasuda, *Japan*

Generating Personalized Virtual Agent in Speech Dialogue System for People with Dementia

Shota Nakatani, Sachio Saiki, Masahide Nakamura, Kiyoshi Yasuda, *Japan*

Development of Safety Testing Technologies of Defecation Assist Devices – Bibliographic Survey and Development of a Rectum Model Sheet

Keiko Homma, Kiyoshi Fujiwara, Isamu Kajitani, Takuya Ogure, *Japan*

Whole-Body Robotic Simulator of the Elderly for Evaluating Robotic Devices for Nursing Care

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

Study of Improving a Welfare Workplace by Surveying Good Standing Companies of Employment of People with Disabilities

Kanako Konno, Noriaki Kuwahara, *Japan*

Social Computing and Social Media

Augmented Cognition

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

FRIDAY 10:30 - 12:30

Design, User Experience, and Usability

DUXU S180

Developments in DUXU: Contributions for the Context of Technological Environments

Chair(s): Freddy Paz, *Peru*.

Room: **MILANO VI**

A New Software Development Model: Innovation through Mobile Application with UCD

Jorge Espinoza, Pamela Loarte, Carlos Espinoza, Freddy Paz, Juan Arenas, *Peru*

Heuristic Evaluation and Usability Testing as Complementary Methods: A Case Study

Braulio Murillo, José Pow Sang, Freddy Paz, *Peru*

Design of graphical user interfaces to implement new features in an ATM system of a financial bank

Roy Meléndez, Freddy Paz, *Peru*

A Web System and Mobile App to improve the performance of the Usability Testing based on Metrics of the ISO/IEC 9126 and Emocards

César Olivera Cokan, Freddy Paz, *Peru*

Application of Agile Development Methodology and User-Centered Design for the Interdisciplinary Project Zuku

Max Vilcapoma, Freddy Paz, *Peru*

Quantifying the Usability through a Variant of the Traditional Heuristic Evaluation Process

Freddy Paz, Freddy A. Paz, Manuel Sánchez, Arturo Moquillaza, Luis Collantes, *Peru*

S181

Fostering UX Thinking and Doing through Interaction Design Practice - II

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

Room: **MILANO V**

Reflecting on Industrial Partnered and Project Based Master Course of 'UX Foundation'

Xin Xin, Wei Liu, Menghan Wu, *P.R. China*

Research on Conversational User Interface in Financial Scenario

Lei Wang, Song Liu, *P.R. China*

Deep Learning Model and Its Application in Big Data

Yuanming Zhou, Shifeng Zhao, Xuesong Wang, Wei Liu, *P.R. China*

From Customer Journey to Knowledge Journey: Mapping the Knowledge Journey in Co-Design on Public Realm

Di Shi, Rong Deng, Xin Xin, Yumei Dong, *P.R. China*

Aesthetic Experimental Study on Information Visualization Design under the Background of Big Data

Tian Lei, Nan Ni, Qiumeng Zhu, Sijia Zhang, *P.R. China*

Distributed, Ambient and Pervasive Interactions

DAPI S182

Challenges for Large-Scale Deployment of Smart IoT technologies

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

Room: **OCTAVIUS 10**

Socio-Technical Challenges of Smart Fleet Equipment Management Systems in the Maritime Industry

Jingyi Jiang, Guochao (Alex) Peng, Fei Xing, *P.R. China*

A Comparative Testing on Performance of Blockchain and Relational Database: Foundation for Applying Smart Technology into Current Business Systems

Si Chen, Jinyu Zhang, Rui Shi, Jiaqi Yan, Qing Ke, *P.R. China*

Challenges for deploying IoT wearable medical devices among the ageing population

Fei Xing, Guochao (Alex) Peng, Tian Liang, Jingyi Jiang, *P.R. China*

A Look at Feet: Recognizing Tailgating via Capacitive Sensing

Dirk Siegmund, Sudeep Dev, Biying Fu, Doreen Scheller, Andreas Braun, *Germany*

A Multi Level Localization System for Intelligent User Interfaces

Mario Heinz, Sebastian Büttner, Martin Wegerich, Frank Marek, Carsten Röcker, *Germany*

HCIBGO S183

Cyber-facilitated Influence

Chair(s): Margeret Hall, *United States*.

Room: **SORRENTO**

Identifying The Responsible Group for Extreme Acts of Violence Through Pattern Recognition

Mahdi Hashemi, Margeret Hall, *United States*

Automated Leadership: Influence from Embodied Agents

Doug C. Derrick, Joel S. Elson, *United States*

Comparing Interface Influence on Users with Varying Expertise

Joel S. Elson, Gina S. Ligon, Doug C. Derrick, *United States*

Digital Participation Roles of the Global Jihad: Social Media's Role in Bringing Together Vulnerable Individuals and VEO Content

Gina S. Ligon, Margeret Hall, Clara Braun, *United States*

Visualizing and Analyzing Street Crimes in Kobe City Using Micro-Level Demographic Data

Takuhiro Kagawa, Sachio Saiki, Masahide Nakamura, *Japan*

Inferring Consumers' Motivations for Writing Reviews

Dongning Yan, Lin Zhang, Heshan Liu, *P.R. China*

HCI in Business, Government and Organizations

HCI S186

Motion-based interaction
Chair(s): Zhi Zheng, *United States*

Room: **NEOPOLITAN I**

Non-Invasive Gaze Direction Estimation from Head Orientation for Human-Machine Interaction
Zhi Zheng, Yuguang Wang, Jaclyn Barnes, Xingliang Li, Chung Hyuk Park, Myoungsoon Jeon, *United States*

Daily activity recognition based on acceleration of both wrists
Junyan Li, Takeshi Umezawa, Noritaka Osawa, *Japan*

Intuitive 3D Model Prototyping with Leap Motion and Microsoft Hololens
Poonsiri Jailungka, Siam Charoenseang, *Thailand*

Development of Holographic Environment for Multi-User Virtual Robot Training System
Chaowwalit Thammatinno, Siam Charoenseang, *Thailand*

Using Convolutional Neural Networks for Assembly Activity Recognition in Robot Assisted Manual Production
Henning Petruck, Alexander Mertens, *Germany*

HIMI S187

Information in Complex Environments
Chair(s): George Margetis, *Greece*

Room: **MILANO I**

Framework to Develop Artificial Intelligent Autonomous Operating System for Nuclear Power Plants
Jae Min Kim, Seung Jun Lee, *Korea*

bRIGHT – Workstations of the Future and Leveraging Contextual Models
Rukman Senanayake, Grit Denker, Patrick Lincoln, *United States*

Embodiment Support Systems: Extending the DEAR Causal Inference Framework through Application to Naturalistic Environments and Inclusion within a Decision Support System
Ryan A. Kirk, Dave A. Kirk, *United States*

The “Watch” Support System for Ship Navigation
Masaki Kondo, Ruri Shoji, Koichi Miyake, *Japan*; Ting Zhang, *P.R. China*; Tadasuke Furuya, Kohta Ohshima, Masaaki Inaishi, Masaki Nakagawa, *Japan*

Monitor System for Remotely Small Vessel Navigating
Masaki Kondo, Ruri Shoji, Koichi Miyake, Tadasuke Furuya, Kohta Ohshima, Etsuro Shimizu, Masaaki Inaishi, Masaki Nakagawa, *Japan*

Segmented Time-Series Plot: A New Design Technique for Visualization of Industrial Data
Tian Lei, Nan Ni, Ken Chen, Xin He, *P.R. China*

EPCE S188

Cognition and Interaction
Chair(s): Akihiro Maehigashi, *Japan*

Room: **MILANO VI**

A pilot Study on Gaze-based Control of a Virtual Camera using 360°-Video Data
Jutta Hild, Edmund Klaus, Jan-Hendrik Hammer, Manuel Martin, Michael Voit, Elisabeth Peinsipp-Byma, Jürgen Beyerer, *Germany*

Micro and Macro predictions: Using SGOMS to predict phone app game playing and Emergency Operations Centre responses
Robert West, Lawrence Ward, Kate Dudzik, Nathan Nagy, Fraydon Karimi, *Canada*

Natural Interaction in Video Image Investigation and its Evaluation
Yan Zheng, Guozhen Zhao, *P.R. China*

Investigation of Factors Affecting the Usability Evaluation of an Adaptive Cruise Control System
Akihiro Maehigashi, Kazuhisa Miwa, Hirofumi Aoki, Tatsuya Suzuki, *Japan*

Efficiency and User Experience of Gaze Interaction in an Automotive Environment
Benedikt Lux, Daniel Schmidl, Maximilian Eibl, Bastian Hinterleitner, Patricia Böhm, Daniel Isemann, *Germany*

An Experiment Study on the Cognitive Schema of Trajectory in Dynamic Visualization
Xiaozhou Zhou, Chengqi Xue, Congzhe Chen, Haiyan Wang, *P.R. China*

UAHCI S189

Cutting Edge in Biosignals for Automatic Control Systems, Virtual Reality and the Education
Chair(s): Hiroki Takada, *Japan*

Room: **MILANO III**

Development of Thought using a Humanoid Robot in an Elementary School Classroom
Reika Omokawa, Shu Matsuura, *Japan*

Power Assist Control based on Learning Database of Joint Angle of Powered Exoskeleton suitable for Wearer’s Posture
Katsuya Sahashi, Shota Murai, Yasutake Takahashi, *Japan*

Analysis of Human Motion and Cognition Ability with Virtual Reality System - Basic Mechanism of Human Response -
Kouki Nagamune, Keisuke Takata, *Japan*

Effect of Controlled Consciousness on Sense of Presence and Visually Induced Motion Sickness while Viewing Stereoscopic Movies
Akihiro Sugiura, Kunihiko Tanaka, Kazuki Ohta, Kazuki Kitamura, Saki Morisaki, Hiroki Takada, *Japan*

Analysis of Electrogastrograms during Exercise Loads
Fumiya Kinoshita, Kosuke Fujita, Kazuya Miyayama, Hideaki Touyama, Masumi Takada, Hiroki Takada, *Japan*

Analysis of the body sway while/after viewing visual target movement synchronized with background motion
Nao Amano, Hiroki Takada, Yusuke Jono, Toru Tanimura, Fumiya Kinoshita, Masaru Miyao, Masumi Takada, *Japan*

Human-Computer Interaction

Human Interface and the Management of Information

Engineering Psychology and Cognitive Ergonomics

Universal Access in Human-Computer Interaction

UAHCI S190

Virtual Reality in Universal Access
Chair(s): Amy Swanson, *United States*.

Room: **SORRENTO**

Virtual Reality Interaction Techniques for Individuals with Autism Spectrum Disorder
Evren Bozgeyikli, Lal "Lila" Bozgeyikli, Redwan Alqasemi, Andrew Raij, Srinivas Katkoori, Rajiv Dubey, *United States*

Exploring Virtual Reality to Enable Deaf or Hard of Hearing Accessibility in Live Theaters: a Case Study
Mauro Teófilo, Álvaro Lourenço, Juliana Postal, Vicente F. Lucena Jr., *Brazil*

The Utility of the Virtual Reality in Autistic Disorder Treatment
Sicong Liu, Yan Xi, Hui Wang, *P.R. China*

Accessibility Guidelines for Virtual Environments
Breno Guerra Zancan, Guilherme Corredato Guerino, Tatiany Xavier De Godoi, Daniela Freitas Guilhermino, José Reinaldo Merlin, Ederson Marcos Sgarbi, Carlos Eduardo Ribeiro, *Brazil*

S191

Universal Access to learning and education
Chair(s): Evelyn Eika, *Norway*.

Room: **SALERNO**

Evaluation of an English Word Look-Up Tool for Web-Browsing with Sign Language Video for Deaf Readers
Dhananjai Hariharan, Sedeeq Al-khazraji, Matt Huenerfauth, *United States*

Keyboard and Screen Reader Accessibility in Complex Interactive Science Simulations: Design Challenges and Elegant Solutions
Emily B. Moore, Taliesin L. Smith, Jesse Greenberg, *United States*

Evaluating the Accessibility of Scratch for Children with Cognitive Impairments
Misbahu S. Zubair, David Brown, Thomas Hughes-Roberts, Matthew Bates, *United Kingdom*

Teaching Concepts with Wearable Technology: Learning Internal Body Organs
Ersin Kara, Mustafa Güleç, Kursat Cagiltay, *Turkey*

Information Design on the Adaptation of Evaluation Processes' Images to People with Visual Impairment
Fernanda Domingues, Emilia Christie Picelli Sanches, Claudia Mara Scudelari De Macedo, *Brazil*

An AAC System Designed for Improving Behaviors and Attitudes in Communication Between Children with CCN and Their Peers
Tetsuya Hiroto, *Japan*

VAMR S192

Interaction in Virtual Reality
Chair(s): Tony Morelli, *United States*.

Room: **MILANO II**

Dynamic Keypad – Digit Shuffling for Secure PIN Entry in a Virtual World
Andrew Holland, Tony Morelli, *United States*

Helmet-mounted Displays to Support Off-Axis Pilot Spatial Orientation
Stephanie Kane, Ryan M. Kilgore, *United States*

VRrowser: A Virtual Reality Parallel Web Browser
Shuma Toyama, Mohammed Al Sada, Tatsuo Nakajima, *Japan*

Interaction in Virtual Environments - How to control the environment by using VR-Glasses in the most immersive way
Barbara Streppel, Dorothea Pantförder, Birgit Vogel-Heuser, *Germany*

CCD S194

Cross-Cultural Perspectives and Practices on Service Design
Chair(s): Cheng-Hung Lo, *P.R. China*.

Room: **NEOPOLITAN IV**

Chinese Sociocultural perspectives and Creativity: Design Practices in the Public Transport sector
Sara E. Sterling, Bingjian Liu, *P.R. China*

Modern Service Design Thinking on Traditional Culture-Based Services: A Case Study of the Service Businesses in Suzhou Old Town Areas
Xin Shen, Cheng-Hung Lo, *P.R. China*

Experiences-based design for overcoming language barriers in healthcare service: a case study
Ding-Hau Huang, Chun Ming Yang, *Taiwan*; Gia Hue On, *Viet Nam*

Beijing Opera Cultural Heritage: A Service Design Perspective
Lu Wang, *P.R. China*

Virtual, Augmented and Mixed Reality

Cross-Cultural Design

FRIDAY 13:30 - 15:30

Social Computing and Social Media

SCSM S195

Exploring the Impacts of Social Media and Virtual Worlds: Education, Training and Online Interaction

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

Room: **MILANO VII**

Designing Training Mechanism for the Elderly to Use Social Media Mobile Apps – A Research Proposal

Abdulrahman Hafez, Yuanqiong (Kathy) Wang, *United States*

Towards the Design of a Forensic Tool for Mobile Data Visualization

Karen Kemp, Subrata Acharya, *United States*

Designing SADD: A Social Media Agent for the Detection of the Deceased

James Braman, Alfreda Dudley, Giovanni Vincenti, *United States*

Speed dating and self-image: Revisiting old data with new eyes

Eleonora Peruffo, Sophia Bobko, Brian Looney, Bernadette Murphy, *Ireland*; Margeret Hall, Quinn Nelson, *United States*; Simon Caton, *Ireland*

Social Media Policies in UK Higher Education Institutions – an Overview

Rebecca Lees, *United Kingdom*

S196

Social Media Users

Chair(s): Joon Suk Lee, *United States*.

Room: **OCTAVIUS 7**

Co-Designing for Co-listening: Conceptualizing Young People's Social and Music-Listening Practices

Michael Stewart, Javier Tibau, Deborah Tatar, Steve Harrison, *United States*

Application of Social Network Analytics to Assessing Different Care Coordination Metrics

Ahmed F. Abdelzاهر, Preetam Ghosh, *United States*; Ahmad Al Musawi, *Iraq*; Ju Wang, *United States*

Because it's Good for my Feeling of Self-Worth: Testing the Expanded Theory of Planned Behavior to Predict Greek Users' Intention to Review Mobile Apps

Charalampos Voutsas, Ardion Beldad, Mark Tempelman, *Netherlands*

Posting Content, Collecting Points, Staying Anonymous - An Evaluation of Jodel

Philipp Nowak, Karoline Jüttner, Katsiaryna S. Baran, *Germany*

MiGua! App for user awareness prior to adopting dogs in urban areas

Gerardo Real Flores, Rocio Abascal-Mena, *Mexico*

AC S197

Augmented Reality Applications for Evolving Casualty Care

Chair(s): Robert Hubal, *United States*.

Room: **MILANO IV**

Augmenting Clinical Performance in Combat Casualty Care: Telemedicine to Automation

Jeremy C. Pamplin, Ronald Yeaw, Gary R. Gilbert, Konrad L. Davis, Elizabeth Mann-Salinas, Jose Salinas, Daniel Kral, Loretta Schlachta-Fairchild, *United States*

The Wide Area Virtual Environment: A New Paradigm for Medical Team Training

Alan Liu, Eric Acosta, Jamie Cope, Valerie Henry, Fernando Reyes, Joseph Bradascio, Wesley Meek, *United States*

Augmented Reality for Tactical Combat Casualty Care Training

Glenn Taylor, Anthony Deschamps, Alyssa Tanaka, Denise Nicholson, Gerd Bruder, Gregory Welch, Francisco Guido-Sanz, *United States*

Augmented Reality and Telestrated Surgical Support for Point of Injury Combat Casualty Care: A Feasibility Study

Geoffrey T. Miller, Tyler Harris, Y. Sammy Choi, Stephen M. DeLellis, Kenneth Nelson, J. Harvey Magee, *United States*

DHM S198

Anthropometry and Motion Analysis

Chair(s): Damien Chablat, *France*.

Room: **OCTAVIUS 8**

Using 3D Scan to Determine Human Body Segment Mass in OpenSim Model

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

Research on Motor Function of the Elderly in Guangzhou Based on Anthropometry

Fenghong Wang, Zhenwen Zeng, Lin Lin, *P.R. China*

A quaternion-based method to IMU-to-Body alignment for gait analysis

Fabián Narváez, Fernando Árbito, Ricardo Xavier Proaño, *Ecuador*

A Study on the Differences of Male Youth Physical Characteristics between South China and Northwest China

Jiahui Xu, Xiaoping Hu, *P.R. China*

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

FRIDAY 13:30 - 15:30

Design, User Experience, and Usability

DUXU S199

Design Frameworks, Methods and Tools - I

Chair(s): Manuel Oliveira, *Norway*.

Room: **MILANO V**

A Canvas Method to Foster Interdisciplinary Discussions on Digital Assistance Systems

Holger Fischer, Björn Senft, Florian Rittmeier, Stefan Sauer, *Germany*

Human-Computer Interaction to Human-Computer-Context Interaction: Towards a Conceptual Framework for Conducting User Studies for Shifting Interfaces

Stephanie Van Hove, Jolien De Letter, Olivia De Ruyck, Peter Conradie, Anissa All, Jelle Saldien, Lieven De Marez, *Belgium*

Conceptual Framework for Affective and Cognitive Product Design

Sol Hee Yoon, Young Woo Kim, Yong Gu Ji, *Korea*

Design theory and methodology in HCI: Applying CPM/PDD to UCD

Jan Conrad, Christian Koehler, Dieter Wallach, Tobias Luedecke, *Germany*

DAPI S200

Various Applications in Cyber-Physical Social Systems

Chair(s): Atsushi Shimada, *Japan*.

Room: **OCTAVIUS 10**

Design and Evaluation of Seamless Learning Analytics

Kousuke Mouri, Noriko Uosaki, Atsushi Shimada, *Japan*

Simulation of energy management by controlling crowd behavior

Maiya Hori, Keita Nakayama, Atsushi Shimada, Rin-ichiro Taniguchi, *Japan*

Sensing, Perception and Decision for deep learning based Autonomous Driving

Takayoshi Yamashita, *Japan*

Visualization of Real World Activity on Group Work

Daisuke Deguchi, Kazuaki Kondo, Atsushi Shimada, *Japan*

Designing a Mobile Behavior Sampling Tool for Spatial Analytics

Shin'ichi Konomi, Tomoyo Sasao, *Japan*

Visualization of Farm Field Information Based on Farm Worker Activity Sensing

Daisaku Arita, Yoshiki Hashimoto, Atsushi Shimada, Hideaki Uchiyama, Rin-ichiro Taniguchi, *Japan*

HCIBGO S201

Neuro Business/IS

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

Room: **NEOPOLITAN II**

Product Web Page Design: A Psychophysiological Investigation of the Influence of Product Similarity, Visual Proximity on Attention and Performance

Carolane Juanéda, Sylvain Senecal, Pierre-Majorique Léger, *Canada*

In AI We Trust: Characteristics Influencing Assortment Planners' Perceptions of AI based Recommendation Agents

Emilie Bigras, Marc-Antoine Jutras, Sylvain Senecal, Pierre-Majorique Léger, Chrystel Black, Nicolas Robitaille, Karine Grande, Christian Hudon, *Canada*

Testing the Convergent Validity of Continuous Self-Perceived Measurement Systems: An Exploratory Study

Sebastien Lourties, Pierre-Majorique Léger, Sylvain Senecal, Marc Fredette, Shang-Lin Chen, *Canada*

Biometrics & Business Information Visualization: Research Review, Agenda & Opportunities

Dinko Bačić, *United States*

Keep Calm and Read the Instructions: Factors for Successful User Equipment Setup

Benjamin Maunier, Juliana Alvarez, Pierre-Majorique Léger, Sylvain Senecal, Elise Labonté-LeMoyne, Shang-Lin Chen, Sylvie Lachize, Julie Gagné, *Canada*

A Study of App User Behaviours: Transitions from Freemium to Premium

Christopher Mulligan, Carlito Vera Cruz, Donagh Healy, David Murphy, *Ireland*; Margeret Hall, Quinn Nelson, *United States*; Simon Caton, *Ireland*

Distributed, Ambient and Pervasive Interactions

HCI in Business, Government and Organizations

Learning and Collaboration Technologies

LCT S202

Novel Learning Technologies

Chair(s): Michael Leitner, *Austria*.

Room: **MILANO VIII**

An Online Environment to Compare Students' and Expert Solutions to Ill-structured Problems

Vishrant K. Gupta, Philippe J. Giabbanelli, Andrew A. Tawfik, *United States*

Reading Multiple Documents on Tablet: Effects of Applications and Strategic Guidance on Performance and Acceptance

Jordan Lombard, Franck Amadiou, *France*; Ivar Bråten, *Norway*; Cécile Van De Leemput, *Belgium*

The NEON Evaluation Framework for Educational Technologies

Michael Leitner, Philipp Hann, Michael D. Kickmeier-Rust, *Austria*

The Design of Music Ear Training System in Building Mental Model with Image Stimulus Fading Strategy

Yu-Ting Hwang, Chi-Nung Chu, *Taiwan*

Training Evaluation in a Learning Organization and Online Training Through the E-booklet Contribution of Game Theory and Shapley Value

Karim Elia Fraoua, Bourret Bourret, *France*

FRIDAY 13:30 - 15:30

ITAP S203

Intergenerational Communication and Collaboration: Advancing Knowledge about Smart Ageing

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

Room: **OCTAVIUS 9**

Impact of Online Social Media Communication and Offline Geographical Distance on Elder Users' Intergenerational Isolation: From Technology Affordance Perspective

Xiaolun Wang, Jie Gu, Anan Hu, Hong Ling, P.R. China

A Qualitative Investigation on Chinese Middle-aged People's ICT Adoption and Use

Shijie Song, Jianjun Sun, Bin Geng, Yuxiang Zhao, P.R. China

Gamified Design for the Intergenerational Learning: A Preliminary Experiment on the Use of Smartphones by the Elderly

Weihan Xu, Xiao Liu, P.R. China

The Comparative Study of Emotional Interaction Design of Empty Nesters in Urban and Rural Areas in China

Xinghui Xu, Xiaoping Hu, P.R. China

Study on the current situation of urban empty nest elderly of community home care and innovation strategy

Ruiqi Li, Ya-jun Li, Xingxing Gao, P.R. China

NOTES

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Human-Computer Interaction

HCI S204

Models, ontologies, visual languages and reasoning in HCI

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

Room: **NEOPOLITAN I**

Tool-mediated HCI Modeling Instruction in a Campus-based Software Quality Course

Christos Katsanos, Michail Xenos, Nikolaos Tselios, *Greece*

Defining a Model for Development of Tactile Interfaces on Smartphones

Fan Zhang, Shaowei Chu, Naye Ji, Ruifang Pan, *P.R. China*

CoRgI: Cognitive Reasoning Interface

Vinicius Segura, Juliana Jansen Ferreira, Ana Fucs, Marcio Ferreira Moreno, Rogério De Paula, Renato Cerqueira, *Brazil*

Implementing Node-Link Interface into a Block-Based Visual Programming Language

Ryo Suzuki, Takuto Takahashi, Kenta Masuda, Ikuro Choh, *Japan*

Universal Access in Human-Computer Interaction

UAHCI S205

Quo Vadis "Interaction Design and Children, Older and Disabled Users"

Chair(s): Francisco V. Cipolla Ficarra, *Spain*.

Room: **MILANO II**

Quo Vadis "Interaction Design and Children, Older and Disabled" in America and Europe?

Francisco V. Cipolla Ficarra, Maria V. Ficarra, *Spain*; Eulogia Mendoza, *Argentina*; Miguel Cipolla Ficarra, *Spain*

Focus on New Technologies, Editorial and Business Publishing for International User

Francisco V. Cipolla Ficarra, *Spain*; Alejandra Quiroga, *Argentina*; Maria V. Ficarra, *Spain*

Acquisition, Representation and Retrieval of 3D Dynamic Objects

Andreas Kratky, *United States*

Virtual, Augmented and Mixed Reality

VAMR S206

Visualization and Narration in VR

Chair(s): Brandon Mechtley, *United States*.

Room: **SALERNO**

Immercity: a Curation Content Application in Virtual and Augmented Reality

Jean-Daniel Taupiac, Nancy Rodriguez, Olivier Strauss, *France*

Visualizing Software Architectures in Virtual Reality with an Island Metaphor

Andreas Schreiber, Martin Misiak, *Germany*

Surface Prediction for Spatial Augmented Reality

Adam Gomes, Keegan Fernandes, David Wang, *Canada*

Enactive Steering of an Experiential Model of the Atmosphere

Brandon Mechtley, Christopher Roberts, Julian Stein, Benjamin Nandin, Xin Wei Sha, *United States*

Cinematic Narration in VR - Rethinking Film Conventions for 360 Degrees

Michael Gödde, Frank Gabler, Dirk Siegmund, Andreas Braun, *Germany*

Cross-Cultural Design

CCD S207

continues...

Virtual Reality and Game Design

Chair(s): Bingcheng Wang, *P.R. China*.

Room: **NEOPOLITAN III**

An Exploratory Study on Design and Implement an Emotional Karaoke Robot (EKR)

Yi-Lun Zheng, *Taiwan*; Pei-Luen Patrick Rau, *P.R. China*; Hsiu-Ping Yueh, Pin-Hsuan Chen, *Taiwan*; Ding-Long Huang, *P.R. China*

Can Virtual Reality Help Children Learn Mathematics Better? The Application of VR Headset in Children's Discipline Education

Xin Lei, Andong Zhang, Bingcheng Wang, Pei-Luen Patrick Rau, *P.R. China*

What makes for successful game storytelling? A model for evaluating game-adaptability of stories in China

Yun Gong, Bingcheng Wang, Pei-Luen Patrick Rau, Ding-Long Huang, *P.R. China*



CCD S208

Intelligence service and interaction experience design in different cultures

Chair(s): Hao Tan, Qingshu Zeng, P.R. China.

Room: **NEOPOLITAN IV**

Responsive Web Design for Chinese Head and Facial Database

Haining Wang, Yang Yu, Wanrong Chen, Wenxiu Yang, P.R. China; Roger Ball, United States

Story Board Tools and Methods for User-Knowledge-Based Automotive Human-Machine Interface Design

Qingshu Zeng, Mingxiang Shi, P.R. China

Study on the Application of Peak-End Rule in the Design of App Blank Pages

Canqun He, Zhangyu Ji, P.R. China

Research on The Usability of Bicycle-Sharing Application Interface

Miao Huang, Taiwan

SCSM S209

Data Science for Human Behavior in Marketing

Chair(s): Kohei Otake, Takashi Namatame, Japan.

Room: **MILANO VII**

Proposal of Learning Support SNS Utilizing Gamification

Syuu Usami, Kohei Otake, Takashi Namatame, Japan

Evaluation of Network Structure Using Similarity of Posts on Twitter

Yusuke Sato, Kohei Otake, Takashi Namatame, Japan

Evaluation of Store Layout Using Eye Tracking Data in Fashion Brand Store

Naoya Saijo, Taiki Tosu, Kei Morimura, Kohei Otake, Takashi Namatame, Japan

Consumer Behavior of Foreign Residents in Japan for Service Industry

Zhen Wang, P.R. China; Noriyuki Suyama, Japan

Use of Personal Color and Purchasing Patterns for Distinguishing Fashion Sensitivity

Takanobu Nakahara, Japan

S210

Innovating Social Computing and Social Media

Chair(s): Hoang D. Nguyen, Singapore.

Room: **OCTAVIUS 7**

Gamification Design Framework for Mobile Health: Designing a Home-Based Self-Management Programme for Patients with Chronic Heart Failure

Hoang D. Nguyen, Ying Jiang, Singapore; Øystein Eiring, Norway; Danny Chiang Choon Poo, Wenru Wang, Singapore

BrewFinder - An Interactive Flavor Map Informed by Users

Chandler Price, United States

The Changing Dynamics of Social Interaction in Gaming Communities: Insights from a Case Study of Gaming Communities in Saudi Arabia

Raghad Almousa, Dalal Al-Aloola, Bashaer Alharthi, Alanoud Bin Masaud, Safaa Alshairri, Hissah Alsudais, Aljohara Alfahad, Areej Al-Wabil, Saudi Arabia

Personality Based Recipe Recommendation Using Recipe Network Graphs

Ifeoma Adaji, Czarina Sharmaine, Simone Debrowney, Canada; Kiemute Oyibo, Nigeria; Julita Vassileva, Canada

AC S211

Artificial Intelligence for Advanced Human-Machine Symbiosis

Chair(s): Scott S. Grigsby, United States.

Room: **MILANO III**

Artificial Intelligence for Advanced Human-Machine Symbiosis

Scott S. Grigsby, United States

Man-Computer Symbiosis: 58 years later

Michael Van Lent, United States

Human Performance Augmentation in Context: Using Artificial Intelligence to Deal with Variability—An Example from Narrative Influence

William D. Casebeer, Matthias D. Ziegler, Amanda E. Kraft, Jason Poleski, Bartlett Russell, United States

Trust in Sensing Technologies and Human Wingmen: Analogies for Human-Machine Teams

Joseph B. Lyons, Nhut T. Ho, Lauren C. Hoffman, Garrett G. Sadler, Anna Lee Van Abel, Mark Wilkins, United States

A Wearable Multisensory, Multiagent Approach for Detection and Mitigation of Acute Cognitive Strain: Phase I- Vocalization analysis

Anil Raj, Brooke Roberts, Kristy Hollingshead, Neil McDonald, Melissa Poquette, Walid Soussou, United States

Human-Machine Teaming and Cyberspace

Fernando J. Maymi, Robert Thomson, United States

Social Computing and Social Media

Augmented Cognition

AC S212

Human/Computer Teaming in Streaming Data Environments

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

Room: **MILANO IV**

Human Machine Interactions: Velocity Considerations

Joseph Cottam, Leslie M. Blaha, Kris Cook, Mark Whiting, *United States*

Human Augmentation of UAV Cyber-Attack Detection

Haibei Zhu, Mahmoud Elfar, Miroslav Pajic, Ziyao Wang, Missy Cummings, *United States*

Improving Automation Transparency: Addressing Some of Machine Learning's Unique Challenges

Corey K. Fallon, Leslie M. Blaha, *United States*

Multi-modal Interruptions on Primary Task Performance

Pooja P. Bovard, Kelly A. Sprehn, Meredith G. Cunha, Jaemin Chun, SeungJun Kim, Jana L. Schwartz, Sara K. Garver, Anind K. Dey, *United States*

DHM S213

DHM in ergonomics, mobility and rehabilitation

Chair(s): Onan Demirel, *United States*.

Room: **OCTAVIUS 8**

Perception of Floor Slipperiness Before and After a Walk

Caijun Zhao, P.R. China; Kai-Way Li, *Taiwan*

4 DOF Exoskeleton Robotic Arm System for Rehabilitation and Training

Siam Charoenseang, Sarut Panjan, *Thailand*

A Novel Approach for Assessing Power Wheelchair Users' Mobility by Using Curve Fitting

Jicheng Fu, Fang Li, Marcus Ong, Tyler Cook, Gang Qian, Yan Daniel Zhao, *United States*

A growth study of Chinese ears using 3D scanning

Fang Fu, Yan Luximon, Parth Shah, *Hong Kong*

DUXU S214

Design Frameworks, Methods and Tools - II

Chair(s): Joon Suk Lee, *United States*.

Room: **MILANO V**

Exploring the Referral and Usage of Science-Fiction in HCI Literature

Philipp Jordan, *United States*; Omar Mubin, *Australia*; Mohammad Obaid, *Sweden*; Paula Alexandra Silva, *Portugal*

A Design Provocation for Humble Designers and Empowered Users

Joon Suk Lee, Margaret Dickey-Kurdziolek, Stacy Branham, *United States*

Assist Users to Straightaway Suggest and Describe Experienced Problems

Björn Senft, Holger Fischer, Simon Oberthür, Nitish Patkar, *Germany*

SocioCon: A Social Circle for Your Interactive Devices

Ngoc Thi Nguyen, Hyowon Lee, *Singapore*

A Semiotics Analysis of Icons in Open Data Portals

Arwa Alsaati, Furat Aljishi, Aljohara Alfayez, Areej Al-Wabil, *Saudi Arabia*

DAPI S215

Designing intelligent environments

Chair(s): Lawrence Henschen, *United States*.

Room: **OCTAVIUS 10**

The Use of Live-Prototypes as Proxy Technology in Smart City Living Lab Pilots

Michelle Boonen, Bram Lievens, *Belgium*

Automatic Generation of Human-Computer Interfaces from BACnet Descriptions

Lawrence Henschen, Julia Lee, Ries Guthmann, *United States*

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

Design, User Experience, and Usability

Distributed, Ambient and Pervasive Interactions

- 001. **Use of the Augmented Reality Sandtable (ARES) to Enhance Army CBRN Training**
Julian Abich IV, Morgan Eudy, Jennifer Murphy, Christopher Garneau, Yasmina Raby, Charles Amburn, *United States*
- 002. **Comparative Evaluation of Accessibility and Learnability of Learning Management systems: Case of Fronter and Canvas**
Faizan Ahmad, Wondwossen Beyene, George Anthony Giannoumis, *Norway*
- 003. **An Unsafe Act Autodetection Methodology in Nuclear Power Plant Operations**
Jeeyea Ahn, Jae Min Kim, Seung Jun Lee, *Korea*
- 004. **CLIP 4 Robotics: A Click-Based Programming Language**
Ali Al-Bayaty, Christopher Martinez, *United States*
- 005. **Complex system HCI as a Triangle of Interface, Content, and Person Interaction**
Michael Albers, *United States*
- 006. **Investigating the Effect of Different Operational Definitions of Fixation on Fixation Duration Metric: A Preliminary Study**
Amin Alhashim, Ziho Kang, *United States*
- 007. **Behavioral Archetypes for Stroke Rehabilitation Technologies**
Bushra Alkadhi, Areej Al-Wabil, *Saudi Arabia*
- 008. **VEO-Engine: Interfacing and reasoning with an emotion ontology for device visual expression**
Muhammad Amith, Rebecca Lin, Chen Liang, Yang Gong, Cui Tao, *United States*
- 009. **Using Multiple Research Methods to Inform Transformation of a Software Application into a Web Survey for Businesses**
Amy Anderson Riemer, *United States*
- 010. **MobileDNA: Relating Physiological Stress Measurements to Smartphone**

Usage to Assess the Effect of a Digital Detox

Sarah Anrijs, Klaas Bombeke, Wouter Durnez, Kristin Van Damme, Bart Vanhaelewyn, Peter Conradie, Elena Smets, Jan Cornelis, Walter De Raedt, Koen Ponnet, Lieven De Marez, *Belgium*

- 011. **Emotion Recognition and Eye Gaze Estimation System: "EREGE"**
Suzan Anwar, Mariofanna Milanova, *United States*; Shereen Abdulla, *Iraq*; Zvetomira Svetleff, *United States*
- 012. **Complementary Learning Assist System: Guitar Performance Assist by Haptic Presentation**
Kazushige Ashimori, Hiroshi Igarashi, *Japan*
- 013. **Towards Human Affect Modeling: A Comparative Analysis of Discrete Affect and Valence-Arousal Labeling**
Sinem Aslan, Eda Okur, Nese Alyuz, Asli Arslan Esme, Ryan S. Baker, *United States*
- 014. **Automation and Complacency: Insights from a Planning Task in the Transportation Domain**
Eugénie Avril, Jordan Navarro, Liên Wioland, Benoit Valery, Virginie Govaere, Didier Gourc, Koosha Khademi, *France*; Christos Dimopoulos, *Cyprus*; Elisabeth Dargent, Nathalie Renaudeau, Julien Cegarra, *France*
- 015. **Instruvis: Play Music Virtually and Visualize the Data**
Ismail Ayaz, Elumalai Monisha, *United States*
- 016. **Interactive Narratives, Counterfactual Thinking and Personality in Video Games**
Catherine Bacos, Michael McCreery, Jeffrey Laferriere, *United States*
- 017. **Developing an Synthetic Binaural Interactive Soundscape based on user 3D space displacement using OpenCV and Pure Data**
Isaac Batista, Francisco De Paula Barretto, *Brazil*
- 018. **Multi-dimensional echo chambers: language and sentiment structure of Twitter discussions on the Charlie Hebdo case**

Svetlana S. Bodrunova, Ivan S. Blekanov,
Mikhail Kukarkin, *Russia*

019. **Learning to code with Minescratch: or combining an educational coding program (Scratch) with a popular game (Minecraft)**
Julien Bugmann, Thierry Karsenti, Simon Parent, *Canada*
020. **Learning to program a humanoid robot: Impacts on students with special needs**
Thierry Karsenti, Julien Bugmann, Simon Parent, *Canada*
021. **The Educational Impacts of Minecraft: an exploratory study**
Simon Parent, Thierry Karsenti, Julien Bugmann, *Canada*
022. **Cross-cultural empathy: learning about diverse users in Design Thinking Process**
Ewa Callahan, *United States*
023. **Post-Correction of OCR Errors using PyEnchant Spelling Suggestions Selected through a Modified Needleman–Wunsch Algorithm**
Ewerton Cappelatti, Regina De Oliveira Heidrich, Ricardo Oliveira, Cintia Monticelli, Ronaldo Rodrigues, Rodrigo Goulart, Eduardo Velho, *Brazil*
024. **A Fundamental Study Toward Development of a New Brain Computer Interface Using a Checker-Board Pattern Reversal Stimulation**
Ingon Chanpornpakdi, Junya Enjoji, Tatsuhiro Kimura, Hiroshi Ohshima, Kiyoyuki Yamazaki, *Japan*
025. **The Research on the Application of Incentive Mechanism in Interactive Design of Rehabilitation products for Elderly Stroke Patients**
Hong Chen, Dan Li, Yongyan Guo, *P.R. China*
026. **An Emotion Management System via Face Tracking, Data Management, and Visualization**

Jie Chen, Xiaoyang Qiu, Pinata Winoto, *P.R. China*

027. **The Research of Applying Interactive Design for a New Experience into Taiwan Traditional Matsu Culture**
Yi-Chieh Chen, Chao-Ming Wang, *Taiwan*
028. **Is web navigation with tablet more difficult than with laptop?**
Aline Chevalier, Julien Rivière, Jean-Christophe Sakdavong, Franck Amadiou, *France*
029. **Stress-Mentor: Linking gamification and behavior change theory in a stress management application**
Corinna Christmann, Alexandra Hoffmann, Gregor Zolynski, Gabriele Bleser, *Germany*
030. **Flow: A Musical Composition Tool using Gesture Interactions and Musical Metacreation**
Jordan Aiko Deja, Kevin Gray Chan, Migo Andres Dancel, Allen Vincent Gonzales, John Patrick Tobias, *Philippines*
031. **A Human Recognition System for Pedestrian Crosswalk**
Chyi-Ren Dow, Liang-Hsuan Lee, Ngo Huu Huy, Kuan-Chieh Wang, *Taiwan*
032. **Interaction with Immersive Cultural Heritage Environments using Virtual Reality Technologies**
Giannis Drossis, Chryssi Birliraki, Constantine Stephanidis, *Greece*
033. **Enriching mixed reality systems with mobile applications**
Giannis Drossis, Constantine Stephanidis, *Greece*
034. **Supporting Audiography: Design of a System for Sentimental Sound Recording, Classification and Playback**
Tijds Duel, David M. Frohlich, Christian Kroos, Yong Xu, Philip J. B. Jackson, Mark D. Plumbley, *United Kingdom*
035. **Enhancing the experience of visiting outdoor heritage sites using handheld AR**

Mihai Duguleana, Gheorghe-Daniel Voinea,
Romania

036. On Gaze Estimation Using Integral Projection of Eye Images

Lan-Rong Dung, Yu-Cheng Lee, Yin-Yi Wu,
Taiwan

037. Validating Self-reported Trends Using WiFi Tracking

Daniel Ebeling, Zach Luker, Seth Pacheco,
Angela Payne, *United States*; Nikki Rae, *United Kingdom*

038. Design Guidelines for the Implementation of an Interactive Virtual Reality Application that Supports the Rehabilitation of Amputees of Lower Limbs Patients with Post-Traumatic Stress Disorder (PTSD)

Roberto Encarnación Mosquera, *Colombia*;
Habib M. Fardoun, Daniyal M. Alghazzawi,
Saudi Arabia; Cesar A. Collazos, *Colombia*;
Víctor M. Ruiz Penichet, *Spain*

039. LineChange: An analytic framework for automated moderation of crowdsourcing systems

Brent Fegley, Ryan Mullins, Ben Ford, Chad
Weiss, *United States*

040. Enhancing Itinerary Recommendation with Linked Open Data

Alessandro Fogli, Alessandro Micarelli,
Giuseppe Sansonetti, *Italy*

041. Human-automation interaction in automated vehicles: an innovative HMI design approach - The case of elderly and cyclists

Federico Fraboni, Marco De Angelis, *Italy*; David
Plesnik, *Slovakia*; Andrea Altini, Marco Depolo,
Bruna Zani, Gabriele Prati, Luca Pietrantoni, *Italy*

042. Interface for a Better Tourist Experience, Bayesian Approach and Cox-Jaynes Support

Karim Elia Fraoua, Sylvain Michelin, *France*

043. Proposal of remote face-to-face communication system with line of sight matching based on pupil detection

Kiyotaka Fukumoto, Yoshiyuki Yamamoto,
Yoshinobu Ebisawa, *Japan*

044. Study on the layout and function allocation of community home care service center in Nanjing

Xingxing Gao, Ruiqi Li, Ya-jun Li, *P.R. China*

045. ABLE: An Arts-Based, Interactive Physical Therapy Platform for Seniors with Dementia and Frailty

Paula Gardner, Stephen Surlin, Caitlin
McArthur, *Canada*

046. Implementation and Evaluation of a Reminder Registration Interface for Daily Life Objects

Kenro Go, Nagomu Horikoshi, Shion Tominaga,
Jinta Nakamura, Akihiro Miyata, *Japan*

047. Reconfigurable Spaces and Places in Smart Built Environments: A Service Centric Approach

Denis Gračanin, Mohamed Eltoweissy, Liang
Cheng, Reza Tasooji, *United States*

048. Competitive intelligence in the service sector: a data visualization approach

Oscar Granados, Oswaldo Velez-Langs,
Colombia

049. Design social media interface to better support collaborative travel planning

Jie Gu, Xinlin Yao, Anan Hu, *P.R. China*

050. Player Analytic Technologies in Tennis: An Investigation of Non-Professional Players' Personal Values and Perceptual Orientations

Sebastian Guevara Martinez, Stephan Schlägl,
Austria

051. Chat-Box: Proposing a Mood Analyzer for Individuals with Social Interaction Disabilities

Bineeta Gupta, Michael Saxon, Troy McDaniel,
Sethuraman Panchanathan, *United States*

052. Chancho Assistant: Smart Shopping Guided by Consumer Habits

Fabián Gutierrez-Gómez, Rocio Abascal-Mena,
Mexico

053. **A Consideration of effects of Different Numbers of Seconds in Spontaneous Time Production with fMRI Analysis**
Ryosuke Hayasaka, Keita Mitani, Yukinobu Hoshino, *Japan*
054. **Characterization of the Use of the Internet of Things in the Institutions of Higher Education of the City of Barranquilla and its Metropolitan Area**
Leonel Hernandez, Genett Jimenez, Claudia Baloco, Angelica Jimenez, Hugo Hernandez, *Colombia*
055. **Picture Book-based Augmented Reality Content Authoring System**
Ji Sook Hong, Jong Weon Lee, *Korea*
056. **Text Mining Analysis of Online Consumer Reviews on Home IoT Services**
Jihyung Hong, Jaehye Suk, Hyesun Hwang, Dongmin Kim, Kee Ok Kim, Yunjik Jeong, *Korea*
057. **Development of Gesture Recognition Education Game for Elementary School Students Personality Education**
Sunghee Hong, Eunhye Kim, *Korea*
058. **qVRty: Virtual Keyboard with a Haptic, Real-World Representation**
Adrian H. Hoppe, Leonard Otto, Florian Van de Camp, Rainer Stiefelwagen, Gabriel Unmüßig, *Germany*
059. **Capability for Collision Avoidance of Different User Avatars in Virtual Reality**
Adrian H. Hoppe, Roland Reeb, Florian Van de Camp, Rainer Stiefelwagen, *Germany*
060. **Multi-User Collaboration on Complex Data in Virtual and Augmented Reality**
Adrian H. Hoppe, Kai Westerkamp, Sebastian Maier, Florian Van de Camp, Rainer Stiefelwagen, *Germany*
061. **Integration of Kahoot into EFL classroom**
Yen-ju Hou, *Taiwan*
062. **Utilizing HMD VR to Improve the Spatial Learning and Wayfinding Effects in the Virtual Maze**
Tsuei-Ju(Tracy) Hsieh, Yu-Hsuan Kuo, Chun-Kai Niu, *Taiwan*
063. **The psychological cost of college math: digital learning behaviors, outcomes, and genders differences**
Xing Huang, Wonjoon Hong, Matthew Bernacki, *United States*
064. **Effects of Videogames on HBCU Students**
Erick Huston, Joon Suk Lee, *United States*
065. **Driver Drowsiness Detection using EEG Features**
Se-Hyeon Hwang, Myoungouk Park, Jonghwa Kim, Yongwon Yun, Joonwoo Son, *Korea*
066. **Improve Onboarding customer experience and reduce airline ground staff efforts using wearable**
Abhishek Jain, *India*; Shiva Subhedar, *United States*; Naveen Kumar Gupta, *India*
067. **Benefits and Challenges to using Tangible Augmented Reality in Product Evaluation**
Karan Jain, Young Mi Choi, *United States*
068. **Factors Affecting User Satisfaction of Adaptive Cruise Control**
Hyeji Jang, Sung H. Han, Jiyoung Kwahk, *Korea*
069. **Skip or Not to Skip: Impact of Empathy and Ad Length on Viewers' Ad-Skipping Behaviors on the Internet**
Yongwoog Andrew Jeon, *United States*
070. **A method for developing creative ideas: A case study of user experience of the mobility challenged**
Dong Yeong Jeong, Sung H. Han, Jiyoung Kwahk, Mingyu Lee, Kyudong Park, Ju Hwan Kim, Hyeji Jang, Youngin Koh, Dawoon Jeong, *Korea*
071. **Text Mining of Online News and Social Data about Chatbot Service**
Yunjik Jeong, Jaehye Suk, Jihyung Hong,

Dongmin Kim, Kee Ok Kim, Hyesun Hwang,
Korea

072. A research on User Experience of Older Social Software

Bin Jiang, Hengyuan Liu, *P.R. China*

073. Research on Interactive Design of Interface Layout of Idle Resource Transactional Websites

Bin Jiang, Yitong Wang, *P.R. China*

074. Cognitive-psychology-based Study on Interactive Design of Preschool Children's Picture Books

Bin Jiang, Yuqiu Zhao, *P.R. China*

075. Entertainment Design of Elderly Community Oriented to Maker Space in University Libraries

Bin Jiang, Sen Guo, *P.R. China*

076. Diagnosis of Initial Conditions for the Implementation of the Integrated Management System in the Companies of the Land Cargo Transportation in the city of Barranquilla (Colombia)

Genett Jimenez, Laxmi Novoa, Laura Ramos, Jairo Martinez, Cesar Alvarino, *Colombia*

077. Evaluation of Quality Management for Strategic Decision Making in Companies in the Plastic Sector of the Colombian Caribbean Region Using the TQM Diagnostic Report and Data Analysis

Genett Jimenez, Leonel Hernandez, Hugo Hernandez, Luis Cabas, Jenny Ferreira, *Colombia*

078. xBook, a Framework for Common Scientific Databases

Daniel Kaltenthaler, Johannes-Y. Lohrer, Peer Kröger, Henriette Obermaier, *Germany*

079. ReMIS and ReMIS Cloud: Information Systems for Retrieving Disciplinary and Interdisciplinary Data

Daniel Kaltenthaler, Johannes-Y. Lohrer, Peer Kröger, *Germany*

080. Development of prevention system for beast damage of agricultural

product by using deep learning

Ryoki Kamesaka, Yukinobu Hoshino, *Japan*

081. Proposal for an Affective Skateboard Using Various Lighting Patterns

Namgyu Kang, Ryosuke Sato, *Japan*

082. Head and Neck Supporting for Seating

Ghi-Hwei Kao, T. K. Philip Hwang, *Taiwan*

083. Generating Training Images using a 3D City Model for Road Sign Detection

Ryuto Kato, Satoshi Nishiguchi, Wataru Hashimoto, Yasuharu Mizutani, *Japan*

084. Interactive Online Selection Guide for Usability Evaluation Methods

Luise Künnemann, Heidi Krömker, *Germany*

085. Developing Instructional Videos to Direct Business Respondents Through a Feature-heavy Online Survey Instrument

Rebecca Keegan, *United States*

086. Support Collaboration across Geographically Distributed Users using Heterogeneous Virtual Reality Systems

Rajiv Khadka, James Money, Amy Banic, *United States*

087. Measurement of motion range to improve of body balance and its training contents

Dong-Yeon Kim, Sung-Wook Shin, Se-Jin Goo, Sung-Taek Chung, *Korea*

088. Opinion Mining on Internet Primary Bank with Online News and Social Data

Dongmin Kim, Jihyung Hong, Yunjik Jeong, Jaehye Suk, Kee Ok Kim, Hyesun Hwang, *Korea*

089. Health e-Learning for Dads of Preterm Infants

Hyung Nam Kim, *United States*

090. Personalized Recommendation System for Efficient Integrated Cognitive Rehabilitation Training

- based on Bigdata**
Jeong Joon Kim, Yong-Jun Kim, Hyeok-Min Lee, Sang-Ho Lee, Sung-Taek Chung, *Korea*
091. **Ergonomic Design of Target Symbols for Fighter Aircraft Cockpit Displays based on Usability Evaluation**
Sung-Ho Kim, Woo-Seok Jang, Heung-Seob Kim, Hyoung-Seog Chung, Young-Duk Kim, Woo-Jin Lee, Hyeon-Ju Seol, *Korea*
092. **Talon Metaphor: Grasp and Release Method for Virtual Reality**
Yusik Kim, Jung-Min Park, *Korea*
093. **The digital evolution of gender: a visual analysis of women's representation through emoji communication**
Raquel Forma Klafke, Daniela Kutschat Hanns, *Brazil*
094. **Redesign of Cartesian Diver for Underwater Expression Combining Dynamic Fabrication with Non-Contact Manipulation**
Amy Koike, Kazuki Takazawa, Satoshi Hashizume, Mose Sakashita, Daitetsu Sato, Yoichi Ochiai, *Japan*
095. **Understanding the acceptance of health management mobile services: Integrating theory of planned behavior and health belief model**
Wen-Tsung Ku, Pi-Jung Hsieh, *Taiwan*
096. **Implementation of educational drum contents using mixed reality and virtual reality**
Yongjun Kweon, SunMyeong Kim, Byounghyuk Yoon, Taeyang Jo, Changhoon Park, *Korea*
097. **Modeling Conversational Flows for In-Store Mobile Decision Aids**
Wi-Suk Kwon, Veena Chattaraman, Kacee Ross, Kiana Alikhademi, Juan E. Gilbert, *United States*
098. **How Do Aging Adults Adopt and Use a New Technology? New Approach to Understand Aging Service Technology Adoption**
Byung Cheol Lee, Junfei Xie, *United States*
099. **Developing a Human Behavior Simulation System based on Geometry Affordance**
Yun Gil Lee, *Korea*
100. **Human Genome data protection using PostgreSQL DBMS**
Péter Lehotay-Kéry, Attila Kiss, *Hungary*
101. **The Effect of an Integrated E-Health Care Model on the Health and Life-Style of Chinese Elderly: Study Protocol**
Jinlei Li, Pingyue Jin, Yuanli Liu, *P.R. China*
102. **A Review of the Current Intelligent Personal Agents**
Sean Li, Xiaojun (Jenny) Yuan, *United States*
103. **Intervention Effect of Color and Sound Cross-modal Correspondence between Interaction of Emotion and Ambient**
Xiaoling Li, Yang Liu, Huifen Wang, Bin Liu, Jiawei Li, Zhuoyun Li, Xin Chen, *P.R. China*
104. **Research on Interactive Design of Vehicle Information Interface for Old People Based on Visual Characteristics**
Ya-jun Li, Hong Zhu, *P.R. China*
105. **Research on Information Interfaces Visual Search Efficiency and Matching Mechanism Based on Similarity Theory**
Ya-jun Li, Ruiting Yang, *P.R. China*
106. **A Study of Game Design Based on Sense of Loneliness of the Elderly**
Ya-jun Li, Weiqing Ren, *P.R. China*
107. **Digi-Craft: A creative process in form-finding beyond the accuracy of 3D printing**
Chor-Kheng Lim, *Taiwan*
108. **The way to preserve Korean Intangible Cultural Assets**
Yang Kyu Lim, Jin Wan Park, *Korea*
109. **A compliance method for the design and airworthiness certification of civil**

- aircraft flight deck human factor**
Haiyan Liu, Dayong Dong, Hua Meng, *P.R. China*
110. **Research on information architecture based on graphic reasoning and mental model**
Ren Long, Jiali Zhang, *P.R. China*
111. **Sketching as a Modality in Intelligent Tutoring Systems**
Rodney Long, Kenneth Forbus, Thomas Hinrichs, Samuel Hill, *United States*
112. **Macrocognitive approaches on Cyber Performance**
Ricardo G. Lugo, Stefan Sütterlin, Øyvind Jøsok, Benjamin J. Knox, Kirsi Helkala, *Norway*
113. **Cognitive Styles of Cyber Engineers - A Cross Cultural Comparison**
Ricardo G. Lugo, Stefan Sütterlin, Øyvind Jøsok, Benjamin J. Knox, *Norway*; Andrea Firth, *United Kingdom*; Stian Iversen, *Norway*
114. **An adaptation of the OODA-loop model in cyber operations: Implications for communication and training in a Hybrid Space**
Ricardo G. Lugo, Helle Stangeland, Stefan Sütterlin, Øyvind Jøsok, Benjamin J. Knox, *Norway*; Andrea Firth, *United Kingdom*
115. **ParkCDMX: a Customized Parking App**
Leticia Luna Tlatelpa, Rocio Abascal-Mena, *Mexico*
116. **A Study on Diversified Emotional Interaction Mode of Users — Research, Design and Realization of the Diversified Input Method Based on 3D-touch Technology**
WenLan Luo, *P.R. China*
117. **Information at Hand – Using Wearable Devices to Display Task Information in the Context of Industry 4.0**
Sebastian Mach, Almut Kastrau, Franziska Schmalfluss, *Germany*
118. **Making video tutorials in the classroom – tacit knowledge on display**
Gunver Majgaard, Lykke Bertel, *Denmark*
119. **Virtual Environment for the Treatment of Patients with Hemiparesis**
Sandra Mateus, Cristian Garcia, Victor Martinez, *Colombia*
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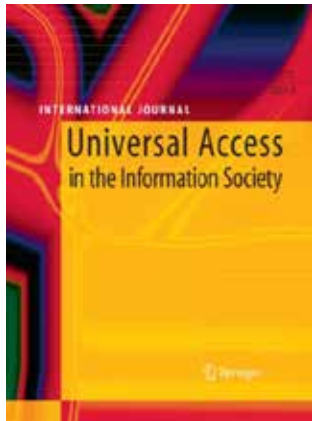
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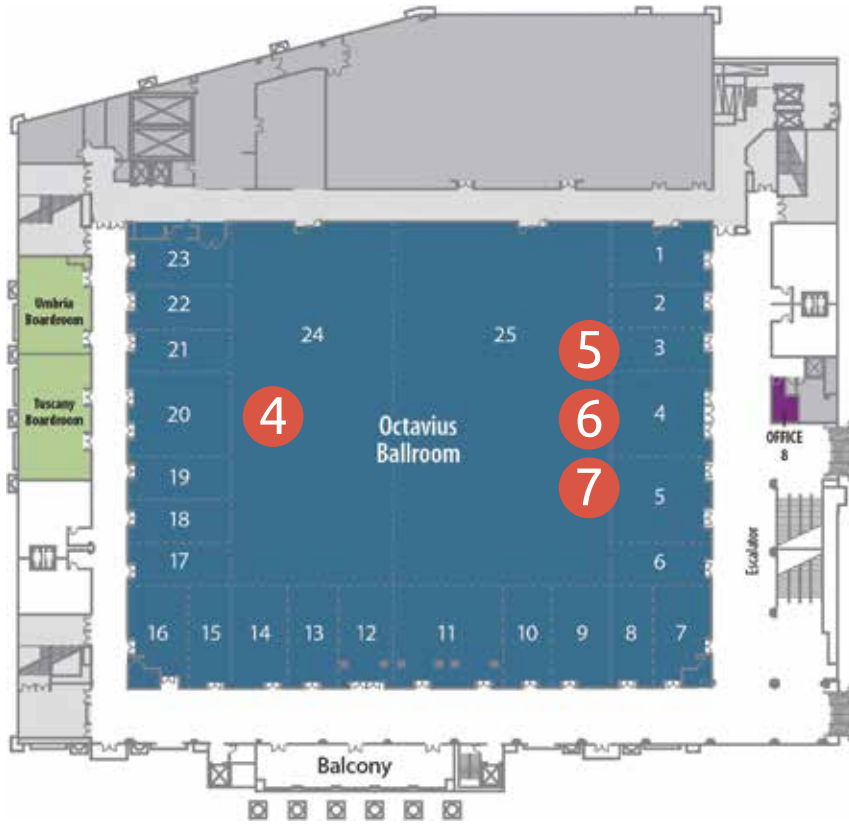


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