



2018 AHFE International

9th International Conference on Applied Human Factors and Ergonomics

- jointly with
- 1st International Conference on Human Factors in Artificial Intelligence and Social Computing
 - 1st International Conference on Kansei Engineering
 - 1st International Conference on Additive Manufacturing, Modeling Systems and 3D Prototyping
 - 1st International Conference on Advanced Production Management and Process Control
 - 1st International Conference on Interdisciplinary Practice in Industrial Design
 - 1st International Conference on Human Factors in Aging and Gerontology
 - 1st International Conference on Human Factors and Assistive Technology
 - 2nd International Conference on Human Factors and Wearable Technologies
 - 2nd International Conference on Human Error, Reliability, Resilience, and Performance
 - 2nd International Conference on Human Factors in Communication of Design
 - 2nd International Conference on Human Factors in Game Design and Virtual Environments
 - 3rd International Conference on Design for Inclusion
 - 3rd International Conference on Cognitive Computing and Internet of Things
 - 3rd International Conference on Human Factors and Simulation
 - 3rd International Conference on Human Factors in Management and Leadership
 - 4th International Conference on Human Factors in Cybersecurity
 - 4th International Conference on Human Factors and Systems Interaction
 - 4th International Conference on Human Factors in Robots and Unmanned Systems
 - 4th International Conference on Human Factors in Sports, Injury Prevention and Outdoor Recreation
 - 4th International Conference on Human Factors, Business Management and Society
 - 4th International Conference on Human Factors in Energy: Oil, Gas, Nuclear and Power Industries
 - 4th International Conference on Human Factors in Training, Education, and Learning Sciences
 - 5th International Conference on Human Factors, Software, and Systems Engineering
 - 5th International Conference on Human Factors, Sustainable Urban Planning and Infrastructure
 - 5th International Conference on Safety Management and Human Factors
 - 6th International Conference on The Human Side of Service Engineering
 - 6th International Conference on Affective and Pleasurable Design
 - 6th International Conference on Human Factors in Transportation
 - 6th International Conference on Ergonomics in Design
 - 7th International Conference on Cross-Cultural Decision Making
 - 7th International Conference on Human Factors and Ergonomics in Healthcare and Medical Devices
 - 7th International Conference on Digital Human Modeling and Applied Optimization
 - 9th International Conference on Physical Ergonomics and Human Factors
 - 9th International Conference on Usability & User Experience
 - 9th International Conference on Neuroergonomics and Cognitive Engineering
 - 9th International Conference on Social & Occupational Ergonomics
 - 19th International Conference on The Human Aspects of Advanced Manufacturing: Managing Enterprise of the Future

Final Program

July 21-25, 2018

Loews Sapphire Falls Resort
Universal Studios Orlando™
Florida, USA

www.ahfe.org

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DETAILED TECHNICAL PROGRAM

MONDAY, JULY 23

8:00 - 10:00	11
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10:30 - 12:30	18
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14:00 - 16:00	24
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16:30 - 18:30	30
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TUESDAY, JULY 24

8:00 - 10:00	38
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10:30 - 12:30	44
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14:00 - 16:00	52
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16:30 - 18:30	59
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WEDNESDAY, JULY 25

8:00 - 10:00	66
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10:30 - 12:30	72
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14:00 - 16:00	81
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16:30 - 18:30	87
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POSTER/DEMONSTRATION SESSIONS

MONDAY, JULY 23

10:30-12:30	93
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14:00-16:30	95
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TUESDAY, JULY 24

10:30-12:30	97
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14:00-16:30	99
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WEDNESDAY, JULY 25

10:30-12:30	102
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Opening Plenary Session and Keynote Address

Date: Sunday, July 22 • 17:00 - 19:00

Room: Grand Caribbean Ballroom

Chair: Dylan Schmorrow

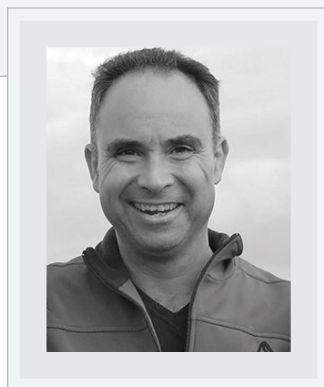
INTRODUCTORY REMARKS

Waldemar Karwowski - General Conference Chair

HUMAN FACTORS AND ERGONOMICS IN SOLVING AND COPING WITH GLOBAL PROBLEMS

Professor Andrew Thatcher

Chair Industrial & Organisational Psychology
University of the Witwatersrand
Johannesburg, South Africa



About the speaker

Prof. Andrew Thatcher chairs the "Human Factors and for Sustainable Development" Technical Committee of the International Ergonomics Association (IEA) and is one of the editors of 'Ergonomics.' His research interests are concerned with building theoretical models that connect social and ecological ideas to support human factors and ergonomics work. This work looks at how complex adaptive system analysis might be integrated with complex sociotechnical systems to understand sustainability in human factors and ergonomics systems. This work applies concepts such as system resilience and adaptability to understand how humans might facilitate or hinder sustainability and sustainable development. His empirical work looks at various aspects of ergonomics and sustainability and includes trying to understand the psychological factors in the adoption of sustainable technologies and determining the health and well-being of "green" buildings for building occupants. He is the ergonomics specialist on the World Green Building Council's technical committee on wellbeing, health, and productivity in green buildings. He is the immediate past-President of the Ergonomics Society of South Africa and was recently asked to sit on the IEA's Future of Ergonomics Task Team (chaired by Sarah Sharples). He is one of the editors of the book entitled "Ergonomics and human factors for a sustainable future: current research and future possibilities" which will be published by Palgrave Macmillan in January 2018.

CONFERENCE RECEPTION/BANQUET: SUNDAY, JULY 22 • 19:00

GRAND CARIBBEAN BALLROOM (LOBBY LEVEL)

(AHFE 2018 BADGE REQUIRED)

Dress is business casual

Tutorials

PRE-CONFERENCE TUTORIALS

All Tutorials will be held on Saturday, July 21 and Sunday, July 22, 2018 (Grand Caribbean/Lobby Level at Loews Sapphire Falls Resort). Tutorial registration is required.

SATURDAY, JULY 21

8:00 - 12:00		COFFEE BREAK: 10:30 AT GRAND CARIBBEAN 5	ROOM
T-1	An Introduction to Cognitive Work Analysis Presenter: Neville Stanton, University of Southampton		Grand Caribbean 1
T-3	Customer Experience for UX Designers Presenter: Everett McKay, UX Design Edge		Grand Caribbean 2
13:00 - 17:00		COFFEE BREAK: 15:30 AT GRAND CARIBBEAN 5	ROOM
T-4	Human Factors and Cybersecurity Presenter: Abbas Moallem, San Jose State University		Grand Caribbean 1
T-5	Agile Data for Agile Teams Presenters: Everett McKay, UX Design Edge and Kent Sullivan, Be Curious With Us		Grand Caribbean 2
T-6	3D Ergonomic Product Development and Assessment Presenter: Denis Coelho, University of Beira Interior		Grand Caribbean 3
T-7	Design, User Experience and Usability (DUXU) Presenter: Javed Sheikh, University of Lahore		Grand Caribbean 4

SUNDAY, JULY 22

8:00 - 12:00		COFFEE BREAK: 10:30 AT GRAND CARIBBEAN 5	ROOM
T-9	A Practical Guide to Doing Task Analysis Presenter: Neville Stanton, University of Southampton		Grand Caribbean 2
T-10	Lean User Experience: Getting the Benefits of Lean, with Techniques Your Manager Will Actually Let You Use Presenter: Everett McKay, UX Design Edge		Grand Caribbean 3
T-11	How to Design User-Friendly Dashboards? Presenter: Abbas Moallem, San Jose State University		Grand Caribbean 4
13:00 - 17:00		COFFEE BREAK: 15:30 AT GRAND CARIBBEAN 5	ROOM
T-2	Digital Human Models (DHMs) in Today's and Future Product and Production Design Presenter: Thomas Alexander, Fraunhofer-FKIE		Grand Caribbean 1
T-12	Agile Project Management with Effective Minimal Viable Products Presenter: Everett McKay, UX Design Edge		Grand Caribbean 2
T-15	Human Factors in Safety-Critical Systems Presenter: Anna-Maria Teperi, Finnish Institute of Occupational Health		Grand Caribbean 3

Conference at a Glance

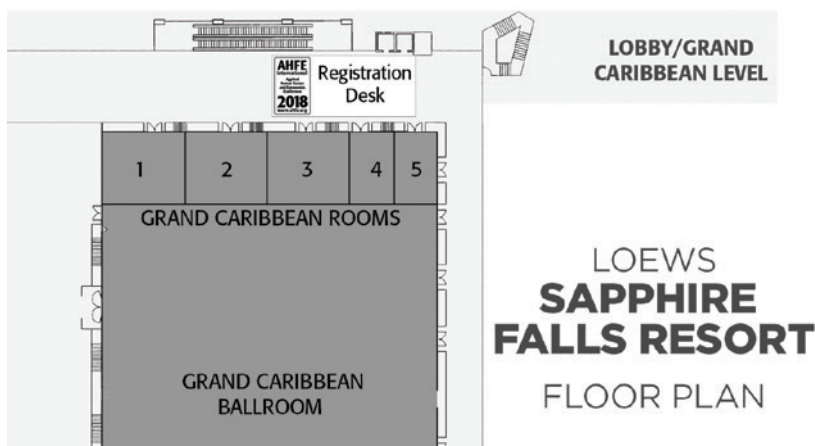
**AHFE 2018 REGISTRATION DESK
LOCATED AT GRAND CARIBBEAN
(LOBBY LEVEL)**

**CONFERENCE
RECEPTION/BANQUET
SUNDAY, JULY 22 • 19:00**

GRAND CARIBBEAN BALLROOM
Loews Sapphire Falls Resort
Universal Studios Orlando™
(AHFE 2018 BADGE REQUIRED)
Dress is business casual

REGISTRATION DESK OPEN:

Friday, July 20.....13:00 - 18:00
Saturday, July 21.....7:00 - 18:00
Sunday, July 22.....7:00 - 18:00
Monday, July 23.....7:00 - 18:00
Tuesday, July 24.....7:30 - 16:00
Wednesday, July 25.....7:30 - 16:00



**SCIENTIFIC ADVISORY BOARD (SAB) MEETINGS (SIMULTANEOUS)
TUESDAY, JULY 24, 13:30-14:00**

CONFERENCE/TRACK	ACRONYM	ROOM
Human Factors in Aging and Gerontology	AGE	Grand Caribbean 1
Healthcare and Medical Devices	EHMD	Grand Caribbean 2
Human Factors in Management and Leadership	HFML	Grand Caribbean 3
Human Factors in Robots and Unmanned Systems	HFRUS	Grand Caribbean 4
Human Factors and Simulation	HFSIM	Grand Caribbean 5
The Human Side of Service Engineering	HSSE	Grand Caribbean 8
Physical Ergonomics & Human Factors	PEHF	Grand Caribbean 9
Safety Management and Human Factors	SMHF	Grand Caribbean 10
Human Factors and Systems Interaction	SYSI	Grand Caribbean 11
Human Factors in Training, Education, and Learning Sciences	TELS	Grand Caribbean 12
Human Factors, Sustainable Urban Planning and Infrastructure	SUPI	Turks 1
Interdisciplinary Practice in Industrial Design	IPID	Turks 2
Digital Human Modeling and Applied Optimization	DHMAO	Turks 3
Social and Occupational Ergonomics	SOE	Turks 4
The Human Aspects of Advanced Manufacturing: Managing Enterprise of the Future	MFG	Turks 5
Human Error, Reliability, Resilience, and Performance	HERRP	Turks 6
Design for Inclusion	DI	Caicos 1
Transportation: Aviation, Maritime, Road & Rail, Space	AVI/MAR/RR/SPACE	Caicos 2

#	SESSION TITLE	ROOM	TRACK
Session Time: 8:00 - 10:00 (pages 11 - 17)			
1	Plenary: Neuroergonomics and Cognitive Engineering	Grand Caribbean 1	CN
2	Plenary: Human Factors in Robots and Unmanned Systems	Grand Caribbean 2	HFRUS
3	Plenary: Human Error, Reliability, Resilience, and Performance	Grand Caribbean 3	HERRP
4	Methods for Analyzing Flight Deck and Aviation Systems	Grand Caribbean 4	AVI
5	Advancing Smart Service Systems: The Contributions of AI and T-Shape Paradigm	Grand Caribbean 5	HSSE
6	Communication with Patients and Systems for Disease Detection	Grand Caribbean 8	EHMD
7	Occupational Exposure and Safety in High-Risk and Complex Environments	Grand Caribbean 9	SMHF
8	Public Transport I	Grand Caribbean 10	RR
9	Ergonomics and Material Environment Design	Grand Caribbean 11	SUPI
10	Usability and User Experience I	Grand Caribbean 12	UUE
11	Virtual Environments	Turks 1	UUE
12	Human Factors and System Interactions I	Turks 2	SYSI
13	Artificial Intelligence and Social Computing I	Turks 3	AISC
14	Human Factors and Wearable Technologies I	Turks 4	HFWT
15	Game Design for Education, Learning and Training	Turks 5	HFGD
16	Design for Inclusive Environments	Turks 6	DI
17	Human Factors in Aging: Bridging Science and Support Policies for Elderly	Caicos 1	AGE
18	Modeling and Control Approaches in Large Scale Manufacturing Systems	Caicos 2	APMPC
19	Cross-Cultural Decision Making I	Caicos 3	CCDM
20	User Experience within Visual Communication	Caicos 4	ED
21	Affective Value and Kawaii Engineering	Caicos 5	APD
22	Human Factors in Production Systems	Caicos 6	MFG
10:00 - 10:30 Refreshments will be provided in Grand Caribbean Ballroom			
Session Time: 10:30 - 12:30 (pages 18 - 24)			
23	Trends in Cognition and Performance I	Grand Caribbean 1	CN
24	Maritime	Grand Caribbean 2	MAR
25	Every Design Tells a Story	Grand Caribbean 3	IPID
26	Emotion and Design I	Grand Caribbean 4	APD
27	Safety and Prevention in Construction/Mining Sector I	Grand Caribbean 5	SMHF
28	Healthy and Active Aging	Grand Caribbean 8	PEHF
29	Public Transport II	Grand Caribbean 9	RR
30	Human Machine Interfaces	Grand Caribbean 10	UUE
31	Usability and User Experience II	Grand Caribbean 11	UUE
32	Human Factors, Efficiency, Business Management	Grand Caribbean 12	HFBMS
33	Human Factors and System Interactions II	Turks 1	SYSI
34	Artificial Intelligence and Social Computing II	Turks 2	AISC
35	Assistive Devices and Systems	Turks 3	HFAT
36	Human Interaction with Robotic Systems and Vehicles	Turks 4	HFRUS
37	Designing the Learning Experience and Learning Strategies	Turks 5	TELS
38	Production Planning, Inspection and Process Control	Turks 6	APMPC
39	Design for Inclusive Daily Life	Caicos 1	DI
40	Socio-Political Modeling	Caicos 2	HFSIM
41	Preventing Accidents	Caicos 3	HERRP

#	SESSION TITLE	ROOM	TRACK
Session Time: 14:00-16:00 (pages 24 - 30)			
42	Systemic-Structural Activity Theory	Grand Caribbean 1	CN
43	Biomechanics and Human Modeling	Grand Caribbean 2	DHMAO
44	Design and Applied Anthropometry I	Grand Caribbean 3	ED
45	Innovations in Service Delivery and Assessment	Grand Caribbean 4	HSSE
46	Safety Management in SMEs	Grand Caribbean 5	SMHF
47	Work-Related Musculoskeletal Disorders	Grand Caribbean 8	PEHF
48	Virtual Reality and Interaction Design	Grand Caribbean 9	UUE
49	Usability and User Experience III	Grand Caribbean 10	UUE
50	Human Factors, Business Management and Society I	Grand Caribbean 11	HFBMS
51	Scientific Concepts in Educational Science	Grand Caribbean 12	TELS
52	Human Factors in Communication of Design I	Turks 1	HFCD
53	Space Human Factors and Habitability	Turks 2	SPACE
54	Design for Human Diversity: Childhood	Turks 3	DI
55	Improving Situational Awareness in the Cyber Domain	Turks 4	HFRUS
56	Systems Engineering Applications I	Turks 5	HFSSE
57	Game Design Applications I	Turks 6	HFGD
58	Human Factors and Wearable Technologies II	Caicos 1	HFWT
59	Virtual Reality	Caicos 2	HFSIM
60	Advanced Topics in Human Reliability Analysis	Caicos 3	HERRP
16:00-16:30 Refreshments will be provided in Grand Caribbean Ballroom			
Session Time: 16:30-18:30 (pages 30 - 37)			
61	Emotion, Culture and Community I	Grand Caribbean 1	APD
62	Biometric Devices: Research, Training, and Operations	Grand Caribbean 2	CN
63	Ergonomics in Design in India	Grand Caribbean 3	ED
64	Design and Applied Anthropometry II	Grand Caribbean 4	ED
65	Human Aspects of Advanced Manufacturing	Grand Caribbean 5	MFG
66	Safety and Prevention in Construction/Mining Sector II	Grand Caribbean 8	SMHF
67	Trends in Ergonomic Interventions	Grand Caribbean 9	PEHF
68	Social and Occupational Ergonomics in Small- and Medium-Sized Enterprises	Grand Caribbean 10	SOE
69	Human Factors, Sustainable Urban Planning and Infrastructure I	Grand Caribbean 11	SUPI
70	UX Evaluation and Design Thinking	Grand Caribbean 12	UUE
71	Usability and User Experience IV	Turks 1	UUE
72	Human Factors in Nuclear Industry	Turks 2	ENERGY
73	Panel: Machine Learning and the Impact to Humans Along the Way	Turks 3	SYSI
74	Emotional Intelligence in Human-Centered Design	Turks 4	IPID
75	2D/3D Digital Modeling for Crafting	Turks 5	AMMSP
76	Cultural and Social Factors in Cybersecurity	Turks 6	CYBER
77	Education in Medicine and Rehabilitation	Caicos 1	TELS
78	Design for Inclusive Digttech	Caicos 2	DI
79	Human Factors in Organizations	Caicos 3	HFML
80	Human Factors and Simulated Agents and Vehicles	Caicos 4	HFSIM/ HFRUS
81	New Tools for Human Error Research	Caicos 5	HERRP
82	Public Transport III	Caicos 6	RR

#	SESSION TITLE	ROOM	TRACK
Session Time: 8:00 - 10:00 (pages 38 - 44)			
83	Trends in Cognition and Performance II	Grand Caribbean 1	CN
84	DHM Applications and Shape Modeling	Grand Caribbean 2	DHMAO
85	Inclusive Design	Grand Caribbean 3	ED
87	Human Factors on Security and Crises Management	Grand Caribbean 5	SYSI
88	Organizational Safety and Risk Management	Grand Caribbean 8	SMHF
89	New Technologies in Safety Management	Grand Caribbean 9	SMHF
90	Design for People	Grand Caribbean 10	PEHF
91	Driver Skill	Grand Caribbean 11	RR
92	Interfaces and Interaction I	Grand Caribbean 12	RR
93	The Present and Future of Macroergonomic Systems	Turks 1	SOE
94	Usability Evaluation	Turks 2	UUE
95	Usability and User Experience V	Turks 3	UUE
96	Novel Research and Applications for 3D Printing I	Turks 4	AMMSP
97	Cybersecurity Tools and Analytics I	Turks 5	CYBER
98	Organizational Learning in Occupational Safety	Turks 6	TELS
99	Human Factors and Wearable Technologies III	Caicos 1	HFWT
100	Game Design User Experience	Caicos 2	HFGD
101	Safety and Process Control Management	Caicos 3	APMPC
102	Leadership Styles and Social Aspects	Caicos 4	HFML
10:00 - 10:30 Refreshments will be provided in Grand Caribbean Ballroom			
Session Time: 10:30 - 12:30 (pages 44 - 51)			
103	Emotional Engineering in Healthcare	Grand Caribbean 1	APD
104	Teamwork, Situation Awareness and Fatigue	Grand Caribbean 2	AVI
105	Biofeedback Training and Self-Regulation	Grand Caribbean 3	CN
106	Human Factors in Design	Grand Caribbean 4	ED
107	Healthcare Workers Ergonomics: Musculoskeletal Disorders	Grand Caribbean 5	EHMD
108	Current Approaches for Risk Management and Assessment	Grand Caribbean 8	SMHF
109	Emotion and Well-Being	Grand Caribbean 9	PEHF
110	Driver Behavior and Performance	Grand Caribbean 10	RR
111	Interfaces and Interaction II	Grand Caribbean 11	RR
112	Novel Research and Applications for 3D Printing II	Grand Caribbean 12	AMMSP
113	Ergonomics in Building and Architecture I	Turks 1	SUPI
114	User Experience in Healthcare and Learning	Turks 2	UUE
115	Usability and User Experience VI	Turks 3	UUE
116	Human Factors, Business Management and Society II	Turks 4	HFBMS
117	Interaction with Therapeutic and Educative Systems	Turks 5	SYSI
118	Assistive Design Solutions and Prosthetic Environments	Turks 6	HFAT
119	Interdisciplinary Discourse in Service Design	Caicos 1	IPID
120	Collective Creativity In Design	Caicos 2	IPID
121	Technology-Based Training	Caicos 3	TELS
122	Design for Inclusive ICT	Caicos 4	DI
123	Work Stress and Cognitive Evaluation for Organizational Performance	Caicos 5	APMPC
124	Driving Simulators	Caicos 6	HFSIM

#	SESSION TITLE	ROOM	TRACK
Session Time: 14:00-16:00 (pages 52 - 59)			
125	User Research in Design	Grand Caribbean 1	ED
126	Trends in Portable Neuroimaging	Grand Caribbean 2	CN
127	Extreme Environments	Grand Caribbean 3	HFSIM
128	Healthcare Workers Ergonomics: Environmental Factors	Grand Caribbean 4	EHMD
129	Human Factors in Complex Systems	Grand Caribbean 5	MFG
130	Accident Prevention	Grand Caribbean 8	SMHF
131	Ergonomics in Design and Human Factors	Grand Caribbean 9	PEHF
132	Driver Safety and Comfort	Grand Caribbean 10	RR
133	Human Factors, Sustainable Urban Planning and Infrastructure II	Grand Caribbean 11	SUPI
134	Human Factors Applications in Energy	Grand Caribbean 12	ENERGY
135	Human Factors, Business Management and Society III	Turks 1	HFBMS
136	Human Factors in Complex Systems	Turks 2	SYSI
137	Interdisciplinary Practice in Industrial Design	Turks 3	IPID
138	Kansei Engineering: Product Design, Cognitive Studies and Methodologies	Turks 4	KE
139	Cybersecurity Tools and Analytics II	Turks 5	CYBER
140	Designing the Learning Experience	Turks 6	TELS
141	Human Factors and Wearable Technologies IV	Caicos 1	HFWT
142	Human Factors in Communication of Design II	Caicos 2	HFCD
143	Social-Organizational Work Environment	Caicos 3	HFML
144	Augmented Reality	Caicos 4	HFSIM
145	New Research on Team Performance	Caicos 5	HERRP
146	Systems Engineering Applications II	Caicos 6	HFSSE
16:00-16:30 Refreshments will be provided in Grand Caribbean Ballroom			
Session Time: 16:30-18:30 (pages 59 - 65)			
147	Emotion, Culture and Community II	Grand Caribbean 1	APD
148	Aviation: Accidents and Incidents	Grand Caribbean 2	AVI
149	Trends in Neurophysiological Sensing	Grand Caribbean 3	CN
150	Healthcare Processes and Systems	Grand Caribbean 4	EHMD
151	Panel: User Experience Design in Inclusive Service Design	Grand Caribbean 5	HSSE
152	Ergonomics Evaluations in Industry	Grand Caribbean 8	PEHF
153	Eco-Driving, Electric Hybrid and Autonomous Vehicles	Grand Caribbean 9	RR
154	Interfaces and Interaction III	Grand Caribbean 10	RR
155	Social and Occupational Ergonomics: Evaluation, Optimization and Job Design	Grand Caribbean 11	SOE
156	Ergonomics in Building and Architecture II	Grand Caribbean 12	SUPI
157	Human Factors, Sustainable Urban Planning and Infrastructure III	Turks 1	SUPI
158	Human Factors in Sports, Injury Prevention and Outdoor Recreation I	Turks 2	SIPOR
159	Artificial Intelligence and Social Computing III	Turks 3	AISC
160	Inclusive Approaches in Interdisciplinary Design Education	Turks 4	IPID
161	Interactive Multimedia and eLearning	Turks 5	TELS
162	Design for Inclusive Transportation	Turks 6	DI
163	HFRUS in the Naval Environment	Caicos 1	HFRUS
164	Virtual Reality and Digital Environments in Design	Caicos 2	ED
165	Modelling and Systems in Occupational Ergonomics	Caicos 3	SOE
166	Human Factors in Aging and Gerontology	Caicos 4	AGE

#	SESSION TITLE	ROOM	TRACK
Session Time: 8:00 - 10:00 (pages 66 - 72)			
167	New Flight Deck Concepts and Interfaces	Grand Caribbean 1	AVI
168	Brain-Computer Interface for Rehabilitation and Neuroergonomics	Grand Caribbean 2	CN
169	Innovative Medical Devices	Grand Caribbean 3	EHMD
170	Ergonomics and Safety I	Grand Caribbean 4	SMHF
171	Evaluation Methods	Grand Caribbean 5	PEHF
172	Modelling Drivers and Driving	Grand Caribbean 8	RR
173	Automated Driving I	Grand Caribbean 9	RR
174	Human Factors, Sustainable Urban Planning and Infrastructure IV	Grand Caribbean 10	SUPI
175	User Experience and Visualization in Automotive Industry	Grand Caribbean 11	UUE
176	Human Factors in Sports, Injury Prevention and Outdoor Recreation II	Grand Caribbean 12	SIPOR
177	Human Factors, Business Management and Society IV	Turks 1	HFBMS
178	Management of Productivity in Smart Manufacturing/Industry 4.0	Turks 2	SYSI
179	Assistive Technology I	Turks 3	HFAT
180	Future of Training, Education and Learning Sciences	Turks 4	TELS
181	Design for Inclusive Education	Turks 5	DI
182	Organizational Complexity and Leadership Management	Turks 6	HFML
183	Human Interaction with Unmanned Aerial Systems	Caicos 1	HFRUS
184	Kansei Engineering in VR, AI, HCI and Miscellaneous	Caicos 2	KE
185	Assistive Technology II	Caicos 3	HFAT
186	Military Applications	Caicos 4	HFSIM
187	Game Design Applications II	Caicos 5	HFGD
10:00 - 10:30 Refreshments will be provided in Grand Caribbean Ballroom			
Session Time: 10:30 - 12:30 (pages 72 - 80)			
188	Integrated Arrival, Departure and Surface (IADS) Systems	Grand Caribbean 1	AVI
189	Emotion and Design II	Grand Caribbean 2	APD
190	Neuroergonomics for Business Solutions	Grand Caribbean 3	CN
191	Product Design and Packaging	Grand Caribbean 4	ED
192	Medical Devices: Development and Results	Grand Caribbean 5	EHMD
193	Development and Implementation of Human Knowledge	Grand Caribbean 8	MFG
194	Automated Driving II	Grand Caribbean 9	RR
195	Simulators and Human-Vehicle Interface	Grand Caribbean 10	RR
196	Human Factors, Sustainable Urban Planning and Infrastructure V	Grand Caribbean 11	SUPI
197	Usability and User Experience: Applications	Grand Caribbean 12	UUE
198	Human-Machine Interaction for Continuous Biomedical Monitoring and Intervention	Turks 1	SYSI
199	Concepts, Simulations and Selected Applications in Industrial Processes	Turks 2	APMPC
200	Human Factors, Software, and Systems Engineering	Turks 3	HFSSE
201	Privacy and Cybersecurity	Turks 4	CYBER
202	Usability of Learning Technology	Turks 5	TELS
203	Inclusive Service Design and Ageing	Turks 6	DI
204	Human-Robot Collaborations and Interactions	Caicos 1	HFRUS
205	Human-Autonomy Teaming	Caicos 2	HFSIM/ HFRUS
206	Cognitive Modeling	Caicos 3	HFSIM
207	Understanding and Preventing Errors in Safety-Critical Environments	Caicos 4	HERRP
208	Occupational Safety	Caicos 5	HFSIM

#	SESSION TITLE	ROOM	TRACK
Session Time: 14:00-16:00 (pages 81 - 86)			
209	Sensory Engineering and Emotion	Grand Caribbean 1	APD
210	Cross-Cultural Decision Making II	Grand Caribbean 2	CCDM
211	Persistent Monitoring Within a Work Environment	Grand Caribbean 3	CN
212	Digital Human Modeling in a Virtual World	Grand Caribbean 4	DHMAO
213	Design for User Experience	Grand Caribbean 5	ED
214	Patient Safety	Grand Caribbean 8	EHMD
215	Cognitive Computing and Internet of Things (IoT)	Grand Caribbean 9	CClot
216	Ergonomics and Safety II	Grand Caribbean 10	SMHF
217	Ubiquitous Ergonomics	Grand Caribbean 11	PEHF
218	Automated Driving III	Grand Caribbean 12	RR
219	Social and Occupational Factors of Comfort, Discomfort and Pain	Turks 1	SOE
220	Human Factors, Sustainable Urban Planning and Infrastructure VI	Turks 2	SUPI
221	Usability and User Experience: Eye Tracking and Visualization	Turks 3	UUE
222	Human Factors in Sustainable Manufacturing	Turks 4	SYSI
223	Human Factors in Communication of Design III	Turks 5	HFCD
224	Design for Inclusion: Materials and Multisensory	Turks 6	DI
225	Medical Simulations	Caicos 1	HFSIM
226	Determining and Classifying Causes of Human Error	Caicos 2	HERRP
16:00-16:30 Refreshments will be provided in Grand Caribbean Ballroom			
Session Time: 16:30-18:30 (pages 87 - 92)			
227	Cognitive Design	Grand Caribbean 1	CN
228	Workspace and Learning Environments	Grand Caribbean 2	ED
229	Training and Benefits of Exercise and Simulation and Cultural Effects on Healthcare	Grand Caribbean 3	EHMD
230	Safety Management Miscellaneous	Grand Caribbean 4	SMHF
231	Fit, Anthropometry and Posture	Grand Caribbean 5	PEHF
232	Driving Safety	Grand Caribbean 8	RR
233	Social and Occupational Ergonomics Stress, Mental Factors and Musculoskeletal Disorders	Grand Caribbean 9	SOE
234	Human Factors, Sustainable Urban Planning and Infrastructure VII	Grand Caribbean 10	SUPI
235	Usability and User Experience VII	Grand Caribbean 11	UUE
236	Human Factors, Business Management and Society V	Grand Caribbean 12	HFBMS
237	Understanding and Transforming Human-System Interactions - Practical Applications	Turks 1	SYSI
238	Social Network Modeling	Turks 2	AISC
239	Assistive Technology III	Turks 3	HFAT
240	Technology and Aging: Innovation for Enhanced Quality of Life	Turks 4	AGE
241	Hands & Feet: How Modern Anthropometric Technology Can Inform Performance Design	Turks 5	IPID
242	Collaborative Human-Centered Design	Turks 6	IPID
243	Human Factors and Wearable Technologies V	Caicos 1	HFWT

Conference at a Glance

ACRONYM	TRACK
AGE	Human Factors in Aging and Gerontology
AISC	Human Factors in Artificial Intelligence and Social Computing
AMMSP	Additive Manufacturing, Modeling Systems and 3D Prototyping
APD	Affective and Pleasurable Design
APMPC	Advanced Production Management and Process Control
AVI	Transportation: Aviation
CCDM	Cross-Cultural Decision Making
CCIoT	Cognitive Computing and Internet of Things (IoT)
CN	Neuroergonomics & Cognitive Engineering
CYBER	Human Factors in Cybersecurity
DHMAO	Digital Human Modeling and Applied Optimization
DI	Design for Inclusion
ED	Ergonomics in Design
EHMD	Human Factors and Ergonomics in Healthcare and Medical Devices
ENERGY	Human Factors in Energy: Oil, Gas, Nuclear and Electric Power Industries
HERRP	Human Error, Reliability, Resilience, and Performance
HFAT	Human Factors and Assistive Technology
HFBMS	Human Factors, Business Management and Society
HFCD	Human Factors in Communication of Design
HFGD	Human Factors in Game Design and Virtual Environments
HFML	Human Factors in Management and Leadership
HFRUS	Human Factors in Robots and Unmanned Systems
HFSIM	Human Factors and Simulation
HFSSE	Human Factors, Software, and Systems Engineering
HFWT	Human Factors and Wearable Technologies
HSSE	Human Side of Service Engineering
IPID	Interdisciplinary Practice in Industrial Design
KE	Kansei Engineering
MAR	Transportation: Maritime
MFG	The Human Aspects of Advanced Manufacturing
PEHF	Physical Ergonomics & Human Factors
RR	Transportation: Road & Rail
SIPOR	Human Factors in Sports, Injury Prevention and Outdoor Recreation
SMHF	Safety Management and Human Factors
SOE	Social & Occupational Ergonomics
SPACE	Transportation: Space
SUPI	Human Factors, Sustainable Urban Planning and Infrastructure
SYSI	Human Factors and Systems Interaction
TELS	Human Factors in Training, Education, and Learning Sciences
UUE	Usability and User Experience

1	<p>Plenary: Neuroergonomics and Cognitive Engineering Co-Chairs: Hasan Ayaz and Lukasz Mazur, USA Neuroergonomics: What neuroscience can tell us about human error? Frederic Dehais, France</p>	CN
8:00-10:00 - GRAND CARIBBEAN 1		
2	<p>Plenary: Human Factors in Robots and Unmanned Systems Chair: Jessie Chen, USA Watch one, do one, teach one: Robots as students, collaborators, and teachers Brian Scassellati, USA</p>	HFRUS
8:00-10:00 - GRAND CARIBBEAN 2		
3	<p>Plenary: Human Error, Reliability, Resilience, and Performance Chair: Ronald Boring, USA Applying classic human reliability techniques across industries: Key tenets Harold Blackman, USA</p>	HERRP
8:00-10:00 - GRAND CARIBBEAN 3		
4	<p>Methods for Analyzing Flight Deck and Aviation Systems Co-Chairs: Katie Plant and Daniela Schmid, UK/Germany</p>	AVI
8:00-10:00 - GRAND CARIBBEAN 4	<p>Pilot homicide-suicide: A system-theoretic process analysis (STPA) of Germanwings GW118G Daniela Schmid, Germany</p> <p>Preparing for usability evaluations on the flight deck: The development of a methods toolkit Katie Plant, Victoria Banks and Neville Stanton, UK</p> <p>The impact of management decisions on the efficiency of FRMS in ATM: Afield study in European air traffic service providers Fabrice Drogoul, Mauro Marchitto and Philippe Cabon, Belgium</p> <p>CASPR: Engaging with human factors throughout the design lifecycle Victoria Banks, Katie Plant and Neville Stanton, UK</p> <p>An exploratory study of pilot observations, decisions, and actions during traffic pattern approach operations Tiziano Bernard and Lucas Stephane, USA</p> <p>Intercultural communication on the flight deck: A review of studies in aviation Simon Cookson, Japan</p>	
5	<p>Advancing Smart Service Systems: The Contributions of AI and T-Shape Paradigm Co-Chairs: James C. Spohrer and Clara Bassano, USA/Italy</p>	HSSE
8:00-10:00 - GRAND CARIBBEAN 5	<p>Re-defining the role of artificial intelligence in wiser service systems Sergio Barile, Paolo Picocchi, Clara Bassano, Jim Spohrer and Maria Cristina Pietronudo, Italy</p> <p>An approach for a quality-based test of industrial smart service concepts Jens Neuhüttler, Dieter Spath, Walter Ganz and Inka Woyke, Germany</p> <p>Smart services conditions and preferences – An analysis of Chinese and German manufacturing markets Jens Neuhüttler, Wenjuan Zhang, Ming Chen and Walter Ganz, Germany</p> <p>Smart services in manufacturing companies – Survival of the biggest? Thomas Meiren and Ilyas Khan, Germany</p> <p>Using digital trace analytics to understand and enhance scientific collaboration Laura C. Anderson and Cheryl A. Kieliszewski, USA</p> <p>Smart University for sustainable governance in smart local service systems Clara Bassano, Alberto Carotenuto, Marco Ferretti, Maria Cristina Pietronudo and Hüseyin Emre Coşkun, Italy</p> <p>AI trends: Wiser service systems and T-shaped people Jim Spohrer, USA</p>	

<p>6</p>	<p>Communication with Patients and Systems for Disease Detection Co-Chairs: Ann Willemsen-Dunlap and Don Halpin, USA</p>	<p>EHMD</p>
<p>8:00-10:00 - GRAND CARIBBEAN 8</p>	<p>Patients' views on clinic visit notes sections and their importance in self-care Martina Clarke, Richelle Koopman, Linsey Steege, Shannon Canfield, Min Kim, Joi Moore and Jeffery Belden, USA</p> <p>Patient perceptions of the use of a technology-augmented healthcare system for the self-care of type 2 diabetes mellitus and/or hypertension Mian Yan, China</p> <p>Simulation through the lens of neurodynamics Ann Willemsen-Dunlap, Trysha Galloway, Jamie Gorman and Don Halpin, USA</p> <p>An exploration of interactive wayfinding displays in hospitals: Considerations for future design Christy Harper, Angela Avera, Andrea Crosser, Tyler Duke and Spencer Jefferies, USA</p> <p>Using design to connect patients, providers, and researchers: A cognitive assessment and monitoring platform for integrative research (CAMPFIRE) Paula Jacobs, Dominic Anello and Seth Elkin-Frankston, USA</p> <p>Glaucoma and short-wavelength light sensitivity (blue light) Sandra Preto and Cristina Caramelo Gomes, Portugal</p> <p>Healthcare digital transformation in the UAE Mazin Gadir, UAE</p>	
<p>7</p>	<p>Occupational Exposure and Safety in High-Risk and Complex Environments Co-Chairs: Marie Nilsen and Adrian Fazekas, Norway/Germany</p>	<p>SMHF</p>
<p>8:00-10:00 - GRAND CARIBBEAN 9</p>	<p>Handing over the safety baton in high-risk systems Marie Nilsen, Martin Rasmussen and Jens Royrvik, Norway</p> <p>Highly automated tunnel surveillance for catastrophe management and regular operation Adrian Fazekas, Thomas Jürgensohn, Volker Strehle and Markus Oeser, Germany</p> <p>Risks related to the application of hydrogen propulsion technology in cars Juraj Sinay, Tomáš Brestovi , Marián Lázár, Natália Jasminská and Branislav Konecny, Slovakia</p> <p>Younger generation safety: Hearing loss and academic performance degradation among college student headphone users Bankole Fasanya and Jeffery Strong, USA</p> <p>Application of statistical process control to guarantee the safety in the operation of a sterilization chamber with ethylene oxide gas Luis Cuautle, Sonia Cervantes, Irais Valderrabano, Ana Lilia Ruiz and Ivette Avila, Mexico</p> <p>Modelling safety criticality in aviation maintenance operations to support mastery of human factors Anna-Maria Teperi, Ilkka Asikainen, Arja Ala-Laurinaho, Teppo Valtonen and Teemu Paajanen, Finland</p> <p>Benefits of integrating human and organizational factor with technological risk assessment: The ATEX (Explosive Atmosphere) case Elisabetta de Cillis, Paolo Fargione, Luisa Maida, Micaela Demichela, Gabriele Baldissoni, Salvina Muré and Jie Geng, Italy</p>	

8	Public Transport I Co-Chairs: Craig Allison and Srinivas Peeta, UK/USA	RR
8:00-10:00 - GRAND CARIBBEAN 10	<p>Enforcement strategies to discourage light vehicle drivers from using dedicated truck roads Mohammed Al Eisaei, Mohammed Kishta and Nuha Al Busaeedi, UAE</p> <p>Placebo effects of real-time travel information: Satisfaction with travel experience beyond travel time savings Dong Yoon Song and Srinivas Peeta, USA</p> <p>Evaluating the impacts of driver cognitive and physiological states on route choice behavior under real-time travel information Srinivas Peeta, Shubham Agrawal and Irina Benedyk, USA</p> <p>A proactive risk analysis framework to enhance safety and reliability in railroad operations: Assessment of the positive safety culture traits Maryam Tabibzadeh, Yalda Khashe and Parin Somaiya, USA</p> <p>Analysis of the effectiveness of the visual and auditory station indicators used in a rapid transit system in the Philippines Mary Criselle Dizon, Maria Angela Pabua, Donna Camille Garcia and Benette Custodio, Philippines</p> <p>Mobility delayed is mobility denied: Studying the impact of transport-poverty on working-women in Karachi, Pakistan Sana Iqbal, UK</p>	
9	Ergonomics and Material Environment Design Co-Chairs: Dorota Winnicka-Jasłowska and Wojciech Bonenberg, Poland	SUPI
8:00-10:00 - GRAND CARIBBEAN 11	<p>Open-air work zones for students at the faculty of architecture depicted on the basis of pilot student projects Dorota Winnicka-Jasłowska, Joanna Tymkiewicz and Klaudiusz Fross, Poland</p> <p>The campus space in research and student projects Joanna Tymkiewicz, Dorota Winnicka-Jasłowska and Klaudiusz Fross, Poland</p> <p>Public spaces - for people or not for people? Klaudiusz Fross, Joanna Tymkiewicz and Dorota Winnicka-Jasłowska, Poland</p> <p>Success analysis in architectural design competitions in terms of design quality Wojciech Bonenberg, Poland</p> <p>Urban green spaces: An element of a city's balance between the built and natural environments Wojciech Bonenberg, Mo Zhou and Shoufang Liu, Poland</p> <p>BIM in prefabrication and modular building Wojciech Bonenberg, Xia Wei and Mo Zhou, Poland</p> <p>Architectural design in the context of sustainable development Beata Majerska-Palubicka, Poland</p>	
10	Usability and User Experience I Co-Chairs: Friederice Schröder and Francesca Tosi, Germany/Italy	UUE
8:00-10:00 - GRAND CARIBBEAN 12	<p>The effects of grid and list design of e-Commerce result lists on search efficiency and perceived aesthetics Friederice Schröder, Anica Kleinjan and Stefan Brandenburg, Germany</p> <p>UX evaluation of a new rowing ergometer: The case study of the techno-gym "SKILLROW" Alessia Brischetto, Mattia Pistoletti, Giuseppe Fedele and Francesca Tosi, Italy</p> <p>User skill characteristics analysis by mouse operation log analysis based on algebraic method Takeshi Matsuda, Michio Sonoda, Masashi Eto, Hironobu Satoh, Tomohiro Hanada, Nobuhiro Kanahama and Hiroki Ishikawa, Japan</p> <p>Automated smartphone keyboard error corrections Vered Aharonson, Rotem Roussea and Eran Aharonson, South Africa</p> <p>Neck flexion angle and user experience compared on iPhone X and iPhone 7 plus Saishyam Akurke and Yueqing Li, USA</p> <p>May we use the social media success story on e-government platforms? The case of elderly people Katherine Durán Sanzana, Chile</p> <p>User oriented research on perception indicators of smartphone interaction performance Xiao Tan and Zhengyu Tan, China</p>	

<p>11</p>	<p>Virtual Environments Co-Chairs: Norma Antunano and Victoria Dulchinos, USA</p>	<p>UUE</p>
<p>8:00-10:00 - TURKS 1</p>	<p>In the journey of user center design for inclusive virtual environment Norma Antunano, USA</p> <p>Virtual reality for training treatment skills in anorexia nervosa: Simulator sickness and usability Jose Gutierrez-Maldonado, Antoni Talarn and Joseba Achotegui, Spain</p> <p>Evaluation of usability and workload associated with paper strips as compared to virtual flight strips used for ramp operations Victoria Dulchinos, USA</p> <p>A comparative study of user interfaces in medium fidelity virtual reality (VR) environment Naila Bushra, Daniel Carruth and Shuchisnigdha Deb, USA</p>	
<p>12</p>	<p>Human Factors and System Interactions I Co-Chairs: Isabel Lopes Nunes and Thanh Pham, Portugal/USA</p>	<p>SYSI</p>
<p>8:00-10:00 - TURKS 2</p>	<p>Pedestrian perception of autonomous vehicles with external interacting features Christopher R. Hudson, Shuchisnigdha Deb, Daniel Carruth, Darren Frey and John McGinley, USA</p> <p>Information and communication technology (ICT) impact on education and achievement Mahnoor Dar, Fatima Masood, Muhammad Ahmed, Maryam Afzaal, Asad Ali, Zarina Bibi, Imran Kabir and Hafiz Usman Zia, Pakistan</p> <p>Analysis of trust in automation survey instruments using semantic network analysis Byung Cheol (Bruce) Lee, Jangwoon Park, Heejin Jeong, Jaehyun Park and Thanh Pham, USA</p> <p>The use of task-flow observation to map users' experience and interaction touchpoints Adriano Renzi, Brazil</p>	
<p>13</p>	<p>Artificial Intelligence and Social Computing I Co-Chairs: Sherif Ishak and Sylvain Hourlier, USA</p>	<p>AISC</p>
<p>8:00-10:00 - TURKS 3</p>	<p>New Intelligence coming to the cockpit...again? Sylvain Hourlier, France</p> <p>A bi-level machine learning classification for identification of types of secondary tasks from observed driving behavior data: A SHRP2 NDS study Osama Osman, Mustafa Hajji, Sogand Karbalaieali and Sherif Ishak, USA</p> <p>A comparative analysis of similarity metrics on sparse data for clustering in recommender systems Rodolfo Bojorque, Remigio Hurtado and Andrés Inga, Ecuador</p> <p>Development of an integrated AI platform and an eco-system for daily life, business and social problems Kota Takaoka, Keisuke Yamazaki, Eiichi Sakurai, Kazuya Yamashita and Yoichi Motomura, Japan</p> <p>Entropy and algorithm of the decision tree obtaining approximated to the natural intelligence Olga Popova, Yury Shevtsov, Boris Popov, Vladimir Karandey, Vladimir Klyuchko and Alexander Gerashchenko, Russia</p>	

<p>14</p>	<p>Human Factors and Wearable Technologies I Co-Chairs: Liuxing Tsao and Chantal Lidynia, China/Germany</p>	<p>HFWT</p>
<p>8:00-10:00 - TURKS 4</p>	<p>Can personal activity trackers be used to provide insight into sit-to-stand workstation usage and benefits? Daniel Autenrieth, Theresa Stack and Trace Forkan, USA</p> <p>What are you waiting for? Perceived barriers to the adoption of fitness-applications and wearables Chantal Lidynia, Eva-Maria Schomakers and Martina Ziefle, Germany</p> <p>Exploring the acceptance of mHealth applications - do acceptance patterns vary depending on context? Eva-Maria Schomakers, Chantal Lidynia and Martina Ziefle, Germany</p> <p>Using non-invasive wearable sensors to estimate perceived fatigue level in manual material handling tasks Liuxing Tsao, Liang Ma and Christian-Thomas Papp, China</p> <p>Crafting usable quantified self-wearable technologies for older people Jayden Khakurel, Antti Knutas, Helinä Melkas, Birgit Penzenstadler and Jari Porras, Finland/USA</p> <p>Activity level and body mass index as predictors of physical workload during working career Satu Manttari, Juha Oksa, Julia Pietila, Elina Helander and Jussi Virkkala, Finland</p>	
<p>15</p>	<p>Game Design for Education, Learning and Training Co-Chairs: Sandro Ropelato and Yidan Men, Switzerland/China</p>	<p>HFGD</p>
<p>8:00-10:00 - TURKS 5</p>	<p>Using an intelligent tutoring system for efficient training of micromanipulation skills Sandro Ropelato, Marino Menozzi and Ying-Yin Huang, Switzerland</p> <p>Experience from indoor fire search and rescue game design for technology testing Jaziar Radianti, Norway</p> <p>A study to improve education through gamification multimedia in museum Yidan Men, China</p> <p>Minecrafting virtual education Nicholas Caporusso and Stuart Lenig, USA</p> <p>Videogames, motivation and history of Peru: Designing an educational game about Mariano Melgar Claudia Zapata, Vanessa Vega, Enrique Chiroque and Ricardo Navarro, Peru</p>	
<p>16</p>	<p>Design for Inclusive Environments Co-Chairs: Avril Accolla and Jiaxin Xiao, China/Hong Kong</p>	<p>DI</p>
<p>8:00-10:00 - TURKS 6</p>	<p>The co-creation of an inclusive and participatory way-finding for all Avril Accolla and Jixiang Jiang, China</p> <p>Inclusive design of open space for visually impaired persons: A comparative study of Beijing and Hong Kong Kin Wai Michael Siu and Jiaxin Xiao, Hong Kong</p> <p>Lighting in the workplace: Recommended illuminance (lux) at workplace environs Sandra Preto and Cristina Caramelo Gomes, Portugal</p> <p>Investigating accuracy of eye-tracking cognitive load estimation of information visualization Azam Majooni, Mona Masood and Amir Akhavan, Malaysia</p> <p>Regenerative design in tourism: A research on the design of social innovation for rural villages in China Tiziano Cattaneo, China</p>	

Monday, July 23

<p>17</p>	<p>Human Factors in Aging: Bridging Science and Support Policies for Elderly Co-Chairs: Jay Kalra and Gianni Montagna, Canada/Portugal</p>	<p>AGE</p>
<p>8:00-10:00 - CAICOS 1</p>	<p>Aging and functional changes in polymorphonuclear leukocytes Jay Kalra, Avani Saxena, Nasim Rostampour and Erik Vantomme, Canada</p> <p>The study of O2O urban community service platform design based on the elderly demands Yi Zhang, China</p> <p>The new concept of aging: Fitness and leisure sporting apparel adequacy for the ageless generation Ekaterina Emmanuil Inglesis Barcellos, Galdenoro Botura, Jr., Ana Cristina Broega, Livia Inglesis Barcellos and Monica Moura, Brazil</p> <p>Human factors for aging consumers Gianni Montagna, Laura Piccinini, Sílvia Pereira and Cristina Carvalho, Portugal</p> <p>Research on differences of social adaptability between urban and rural empty-nesters Yuting Lin, China</p> <p>A study on the design of mutual support for the elderly communication platform based on the urban elderly habitats Yi Zhang, China</p>	
<p>18</p>	<p>Modeling and Control Approaches in Large Scale Manufacturing Systems Co-Chairs: Yusuf Tansel and Doğukan Aktaş, Turkey</p>	<p>APMPC</p>
<p>8:00-10:00 - CAICOS 2</p>	<p>Understanding the effect of assignment of importance scores of evaluation criteria randomly in the application of DOE-TOPSIS in decision making Yusuf Tansel Ic and Mustafa Yurdakul, Turkey</p> <p>Application of cellular manufacturing and simulation approaches for performance improvement in an aerospace company's manufacturing activities Yusuf Tansel Ic, Mustafa Yurdakul, Mehmet Gulsen, Gizem Dalcan, Didem Kırdar, Meriç Kale, Zeynep Altinkaya and Doğukan Aktaş, Turkey</p> <p>Resource constrained multi-project scheduling: Application in a software company Pelin Akyil Kurt and Baris Kececi, Turkey</p>	
<p>19</p>	<p>Cross-Cultural Decision Making I Co-Chairs: Atsuo Murata and Anna L. Buczak, Japan/USA</p>	<p>CCDM</p>
<p>8:00-10:00 - CAICOS 3</p>	<p>Towards cross-cultural design of interfaces: Preferences in interface design between Japanese and European users Jacqueline Urakami, Japan</p> <p>Cross-cultural comparison of German and Japanese mobile messenger communication Jacqueline Urakami and Ting Sheng Lim, Japan</p> <p>The proposal of cross-cultural understanding model using place-oriented audio guide system Ayaka Ito and Katsuhiko Ogawa, Japan</p> <p>Crystal cube: Multidisciplinary approach to disruptive events prediction Anna L. Buczak, Nathan Parrish, Jared Zook, James Howard and Brian Ellison, USA</p> <p>Research on the characteristics of body height and weight in eight countries Jing Zhao, Zhang Fan, Haitao Wang, Zhao Chao, Xinyu Cao and Gang Wu, China</p> <p>Cognitive biases and distorted decision making that prevent rational and efficient sports management cross-cultural difference between MLB and NPB Atsuo Murata, Japan</p> <p>Decision-making after disasters in China: How group cognition of experts influence on group decision making in emergency response? Ting Zhou, China</p>	

20	User Experience within Visual Communication Co-Chairs: Marco Neves and Cristina Santos, Portugal	ED
8:00-10:00 - CAICOS 4	<p>Design for (inter) actions: A teaching experience in graphic design Marco Neves, Portugal</p> <p>Interaction and digital infographics in Portuguese media: When news is made of things we cannot see Rita Salomé Esteves and Marco Neves, Portugal</p> <p>The italic style: Getting it straight João Brandão and Catarina Almeida, Portugal</p> <p>Project decisions in magazine design Elisabete Rolo and Inês Pequito Valente, Portugal</p> <p>Communication design against child sexual violence Teresa Cabral and Inês Laureano, Portugal</p> <p>The contribution of information design to age friendly cities: A case study on Coimbra and public transport Maria Luísa Costa, Inês Amaral and Fernanda Daniel, Portugal</p> <p>The influence of infographics in accessing information: Multidimensionality in visual representation and configuration of different media Cristina Santos, Maria João Neto Pereira and Marco Neves, Portugal</p>	
21	Affective Value and Kawaii Engineering Co-Chairs: Michiko Ohkura and Ayako Hashizume, Japan	APD
8:00-10:00 - CAICOS 5	<p>Affective taste evaluation system using sound symbolic words Jinhwan Kwon, Kohei Suzuki, Tomohiko Inazumi and Maki Sakamoto, Japan</p> <p>Competences required for user surveys on affectivity Ayako Hashizume and Masaaki Kurosu, Japan</p> <p>Affective evaluation while listening to music with vibrations to the body Ryohei Yamazaki and Michiko Ohkura, Japan</p> <p>Evaluation of kawaii feelings caused by looking at stuffed animals using ECG Takafumi Tombe, Kodai Ito and Michiko Ohkura, Japan</p> <p>Cuteness in Japanese design: Investigating perceptions of kawaii among American college students David Berque, Hiroko Chiba, Ayako Hashizume, Masaaki Kurosu and Samuel Showalter, USA/Japan</p> <p>Evaluation of feeling of the like in watching pictures by physiological signals Takuma Hashimoto, Kensaku Fukumoto, Tomomi Takashina, Yoshikazu Hirayama, Michiko Ohkura and Ryota Horie, Japan</p>	
22	Human Factors in Production Systems Co-Chairs: Zbigniew Wisniewski and Aleksandra Polak-Sopinska, Poland	MFG
8:00-10:00 - CAICOS 6	<p>Human factors in maintenance management Anna Maczewska, Aleksandra Polak-Sopinska and Paulina Krasoń, Poland</p> <p>Requirements for IT systems of maintenance management Zbigniew Wisniewski and Artur Blaszczyk, Poland</p> <p>Physical work intensity of in-plant milk run operator. Part I - guidelines for assessment Aleksandra Polak-Sopinska, Magdalena Wrobel-Lachowska, Zbigniew Wisniewski and Irena Jalmuzna, Poland</p> <p>Physical work intensity of in-plant milk run operator. Part II – case study Aleksandra Polak-Sopinska, Poland</p> <p>Beyond imaging - Interactive tabletop system for tomographic data visualisation and analysis Mikołaj Wozniak, Aleksandra Polak-Sopinska, Andrzej Romanowski, Krzysztof Grudzień, Zbigniew Chaniecki, Aleksandra Kowalska and Magdalena Wrobel-Lachowska, Poland</p>	
10:00 - 10:30 Refreshments will be provided in Grand Caribbean Ballroom		

<p>23</p>	<p>Trends in Cognition and Performance I Co-Chairs: Colin Elkin and Mark Miller, USA</p>	<p>CN</p>
<p>10:30-12:30 - GRAND CARIBBEAN 1</p>	<p>Beyond 2020 NextGen compliance: Human factors and cognitive loading issues for commercial and general aviation pilots Sam Holley and Mark Miller, USA</p> <p>Workload strain induction: Verification testing Lauren Reinerman-Jones, Gerald Matthews and Scott Grigsby, USA</p> <p>Linear or curvilinear relationship between mental workload and effort mobilization Charlotte Mallat, Julien Cegarra and Rémi Capa, France</p> <p>Use of dry electrode electroencephalography (EEG) to monitor pilot workload and distraction based on p300 responses to an auditory oddball task Zara Gibson, Joseph Butterfield, Matthew Rodger, Brian Murphy and Adelaide Marzano, UK</p> <p>Analysis of alternatives for neural network training techniques in assessing cognitive workload Colin Elkin and Vijay Devabhaktuni, USA</p> <p>Research and analysis on the influence factors of visual reaction time Minxia Liu, China</p>	
<p>24</p>	<p>Maritime Co-Chairs: Neville Stanton and Aaron Roberts, UK</p>	<p>MAR</p>
<p>10:30-12:30 - GRAND CARIBBEAN 2</p>	<p>Exploring ecological interface design for future ROV capabilities in maritime command and control Daniel Fay, Neville Stanton and Aaron Roberts, UK</p> <p>Investigating temporal implications of information transition in submarine command teams Kiome Pope, Aaron Roberts and Neville Stanton, UK</p> <p>Facing the new technology landscape in the maritime domain: Knowledge mobilization, networks and management in human-machine collaboration Yemao Man, Monica Lundh and Scott MacKinnon, Sweden</p> <p>Just in Time product design: Case study of a high-customizable chase boat Andrea Vallicelli, Massimo Di Nicolantonio, Jessica Lagatta and Alessio Biagi, Italy</p> <p>Designing an ergonomic tourist boat in Taal Lake, Talisay, Philippines Ma. Angelica Capulong, Isabella Nicole Monteclaro, Aida Sabrina Semon and Keneth Sedilla, Philippines</p>	
<p>25</p>	<p>Every Design Tells a Story Co-Chairs: Suresh Sethi and Shrikrishna Kulkarni, USA/India</p>	<p>IPID</p>
<p>10:30-12:30 GRAND CARIBBEAN 3</p>	<p>Narratives as design Suresh Sethi, USA</p> <p>Activities for designers in the architecture of generative design system Liqun Zhang and Shu Heng Zhang, China</p> <p>Role of art and crafts heritage in contemporary design Shrikrishna Kulkarni, India</p> <p>User participatory design research based on the Hall three-dimensional structure Chicheng Lu and Shaoping Guan, China</p>	

26	Emotion and Design I Co-Chairs: Cliff Shin and Shuichi Fukuda, USA/Japan	APD
10:30-12:30 - GRAND CARIBBEAN 4	<p>Development and design of plastic products embedded with Japan-specific traditional sense of beauty Tetsuo Kikuchi, Japan</p> <p>Analysis of intuitive thinking in five-sense design: An example of auditory design Tao Xiong, Jianxin Cheng, Tengye Li, Wenjia Ding and Zhang Zhang, China</p> <p>Applying intuitive thinking in smart home design based on semantic association Tengye Li, Jianxin Cheng, Tao Xiong, Wenjia Ding, Zhang Zhang and Xinyu Yang, China</p> <p>Influence of art museum exhibition space design on the emotion of viewer: Case Study Binli Gu and Yasuyuki Hirai, Japan</p> <p>Analysis of changes in personal fashion choices owing to situational constraints Miu Sato, Toshikazu Kato and Takashi Sakamoto, Japan</p> <p>"We Dream our Life Could Be:" An undergraduate course aimed at bringing intelligent flexible materials in its breakthrough applications Qian Ji and Min Wan, China</p>	
27	Safety and Prevention in Construction/Mining Sector I Co-Chairs: Wellington Thwala and Dylan Smibert, South Africa/Canada	SMHF
10:30-12:30 - GRAND CARIBBEAN 5	<p>Contractors' health and safety practices model Wellington Didi Thwala, Zakari Mustupha and Clinton Aigbavboa, South Africa</p> <p>Framework for small- and medium-sized contractors growth Wellington Didi Thwala, Zakari Mustupha and Clinton Aigbavboa, South Africa</p> <p>Safety culture in Canada's construction industry: A journey of development, assessment, and improvement Bruce Collins, Jonathan Dixon and Dylan Smibert, Canada</p> <p>Construction safety: A new framework for safety culture model in Malaysian construction industry Mohd Rafee Baharudin, Abd Mutalib Abd Gapar, Manikam Pillay, Anisah Baharom and Hayati Kadir Sahar, Malaysia/Australia</p>	
28	Healthy and Active Aging Co-Chairs: Shuping Xiong and Gwi-Ryung Hong, South Korea	PEHF
10:30-12:30 - GRAND CARIBBEAN 8	<p>Feasibility of wrist-worn device and ecological momentary assessment of depressive mood among community-dwelling older adults living alone Heejung Kim, Soyun Hong and Sooyoung Kwon, South Korea</p> <p>Usability evaluations of a newly developed wearable inertial sensing system for assessing elderly fall risk Rana Zia Ur Rehman, Shuping Xiong and Jihyeok Jang, South Korea</p> <p>Relationship between socio-economic factors and fall risk for elder Koreans Taekyoung Kim, Sang Choi and Shuping Xiong, South Korea</p> <p>Differences in negative emotional expressions for people with dementia according to general characteristics Eunmi Oh, Seol Hwa Moon, Jeong Eun Yang, Yeji Hwang and Gwi-Ryung Hong, South Korea</p> <p>Research on the contact force of fingers when grasping bottles Zhelin Li, Yongyi Zhu, Zunfu Wang, Lijun Jiang and Yuguang Shao, China</p> <p>Effects of upper limb fatigue on gait stability Xingda Qu, China</p>	

29	Public Transport II Co-Chairs: Craig Allison and Guillaume Craveur, UK/France	RR
10:30-12:30 - GRAND CARIBBEAN 9	<p>Train schedule delays leading to overcrowding, injuries and fatalities Mbali Myeni, Kehinde Sobiyi and Junior Mabiza, South Africa</p> <p>Who is going to ride the upcoming Metro in Qatar? Khaled Shaaban, Qatar</p> <p>Where is Qatar from Complete Streets? Khaled Shaaban and Rania Khalil, Qatar</p> <p>Evacuation modelling for the railway industry: The impact of stalled doors on rolling stock evacuation Guillaume Craveur, France</p>	
30	Human Machine Interfaces Co-Chairs: Rebecca Cook and Timo Schempp, USA/Germany	UUE
10:30-12:30 - GRAND CARIBBEAN 10	<p>Standardization of human machine interfaces for automated systems Rebecca Cook, USA</p> <p>Research on interface design of full windshield head-up display based on user experience Ting Deng, Wei Sun, Ruiqiu Zhang and Yu Zhang, China</p> <p>Adaptive control elements to improve the HMI of an agricultural tractor Timo Schempp, Andreas Kaufmann, Ingmar Stoehr, Markus Schmid and Stefan Boettinger, Germany</p> <p>Study on human-computer interaction in the design of public self-service equipment Huaming Peng, Shuxian Liu and Tengfei Zhang, China</p> <p>Evaluating the usability of a head-up display while driving a vehicle Jose Castañon, Maria Teresa Barbosa, Patrícia Caetano Bara and Guilherme Bara, Brazil</p> <p>Determining the effect of training on uncertainty visualization evaluations Stephen M. Fiore, Jihye Song, Olivia B. Newton, Corey Pittman, Samantha F. Warta and Joseph J. LaViola, USA</p>	
31	Usability and User Experience II Co-Chairs: Young-Hee Lee and Yuka Sugiyama, South Korea/Japan	UUE
10:30-12:30 - GRAND CARIBBEAN 11	<p>Estimation of the smartphone user' satisfaction and customer intention on the social networking service Young-Hee Lee and Ryang-Hee Kim, South Korea</p> <p>Adding cognitive data collection to smartphone usability evaluation: A comparison between eye tracking processes and traditional techniques Marcos Souza and Fracimar Maciel, Brazil</p> <p>Usability evaluation of self-service laundry system in universities Meiyu Zhou, Chao Li and Can Zhao, China</p> <p>Agile project management: Better deliveries to the end user in software projects with a management model by Scrum Hugo Almeida and Walter Franklin Marques Correia, Brazil</p> <p>The contribution of design in the waiting experience of applicants to parents in the process of adoption in Recife Haidée Cristina Câmara Lima, Walquíria Castelo Branco Lins, José Carlos Porto Arcoverde, Jr. and Walter Franklin Marques Correia, Brazil</p> <p>Improvement method for business operations using user experience adaptive information sharing terminals Yuka Sugiyama, Toshikazu Kato and Takashi Sakamoto, Japan</p> <p>Evaluation of user interface control design based on mental workload: An experimental study Cong Chi Tran, Shengyuan Yan and Yingying Wei, China</p>	

32	<p>Human Factors, Efficiency, Business Management Co-Chairs: Henrijs Kalkis and Zenija Roja, Latvia</p>	HFBMS
10:30-12:30 - GRAND CARIBBEAN 12	<p>Successful creation and communication of human resources strategies in Germany Tom Sander, Biruta Sloka and Henrijs Kalkis, Latvia</p> <p>New innovation identification approach development matrix Anda Batraga, Jelena Salkovska, Liga Braslina, Aija Legzdina and Henrijs Kalkis, Latvia</p> <p>Human factor and LEAN analysis at industrial manufacturing plant Henrijs Kalkis, Sandis Babris and Zenija Roja, Latvia</p> <p>Exploring the role of service eco-system in developing countries: A case study of ride hailing service in Pakistan Ahson Javaid and Youji Kohda, Japan</p> <p>The effect of oil resource investment on Iraqi-Kurdistan Jabir Hassan, Iraq</p> <p>The role of the startup competition and entrepreneurial ecosystem in the integration of entrepreneurship education within the Algerian universities Aicha Dif, Bourane Soumia and Benziane Abdelbaki, Algeria</p>	
33	<p>Human Factors and System Interactions II Co-Chairs: N. Tuğbagül Altan Akin and Jangwoon Park, Turkey/USA</p>	SYSI
10:30-12:30 - TURKS 1	<p>Relationships between cognitive workload and physiological response under reliable and unreliable automation Jangwoon Park, Heejin Jeong, Jaehyun Park and Byung Cheol Lee, USA</p> <p>Visual capability estimation using motor action pattern Yanyu Lu, Lu Ding and Shan Fu, China</p> <p>Comparison of theory of mind tests in augmented reality and 2D environments for children with neurodevelopmental disorders Nigar Tuğbagül Altan Akin and Mehmet Gokturk, Turkey</p>	
34	<p>Artificial Intelligence and Social Computing II Co-Chairs: Jon Temple and Claude Elie, USA</p>	AISC
10:30-12:30 - TURKS 2	<p>Beyond the ChatBot: Enhancing search with cognitive capabilities Jon Temple and Claude Elie, USA</p> <p>Business intelligence analysis: The new role of enhancing and complementing the internship of students from information technology program Shutchapol Chopvitayakun, Thailand</p> <p>Clustering-based recommender system: Bundle recommendation using matrix factorization to single user and user communities Remigio Hurtado Ortiz, Rodolfo Bojorque Chasi and César Inga Chalco, Ecuador</p> <p>Artificial neural networks based effluent profiling and community contamination analysis through MFC technology Pranavi Jalapati and Satya Naraparaju, India</p>	

35	Assistive Devices and Systems Co-Chairs: Claire Davies and Volkan Aksu, Canada/Germany	HFAT
10:30-12:30 - TURKS 3	<p>A digital assistance system providing step-by-step support for people with disabilities in production tasks Volkan Aksu, Sascha Jenderny, Björn Kroll and Carsten Röcker, Germany</p> <p>My intelligent home (MIHOME) project Ipek Caliskanelli, Samia Nefti-Meziani, Jonathan Drake and Anthony Hodgson, UK</p> <p>Co-Designing: Working with braille users in the design of a device to teach braille Rhianne Lopez, Shane Pinder and Claire Davies, Canada</p> <p>We have built it, but they have not come: Examining the adoption and use of assistive technologies for informal family caregivers Pamela Wisniewski, Celia Linton, Aditi Chokshi, Brielle Perlingieri, Varadraj Gurupur and Meghan Gabriel, USA</p> <p>Development of a tracking sound game system for exercise support of the visually impaired using Kinect Kazuki Miyamoto, Michiko Ohkura and Kodai Ito, Japan</p> <p>On assistive devices for lower limbs under mechanism of neuromodulation and blood circulation Hui-I Yin, Taiwan</p>	
36	Human Interaction with Robotic Systems and Vehicles Co-Chairs: Kyle Behymer and Ryan Scott, USA	HFRUS
10:30-12:30 - TURKS 4	<p>Intuitive interfaces for teleoperation of continuum robotics Ryan Scott, Apoorva Kapadia and Ian Walker, USA</p> <p>Presentation of autonomy-generated plans: Determining ideal number and extent differ Kyle Behymer, Heath Ruff, Gloria Calhoun, Jessica Bartik and Elizabeth Frost, USA</p> <p>Autonomous ground vehicle error prediction modeling to facilitate human-machine cooperation Praveen Damacharla, Ruthwik R. Junuthula, Ahmad Javaid and Vijay Devabhaktuni, USA</p> <p>Using a virtual world for visual comprehension David Benjamin, Gunjan Asrani, Yaobin Liang, Haitao Luo, Peiyi Shen and Xiaodong Xu, USA</p> <p>Continuous learning for robots deployed in public spaces Xiaohua Sun and Jan Dornig, China</p> <p>Path planning based on A* algorithm for unmanned surface vehicle Kang Hou and Jinlin Shi, China</p> <p>Motion planning based on artificial potential field for unmanned tractor in farmland Kang Hou, Jinlin Shi, Yucheng Zhang and Yili Zheng, China</p>	
37	Designing the Learning Experience and Learning Strategies Co-Chairs: Hamid Parsaei and Aleksandra Polak-Sopińska, Qatar/Poland	TELS
10:30-12:30 - TURKS 5	<p>Capacity building through strengthening professional skills in engineering graduates Albertus Retnanto, Hamid Parsaei and Boback Parsaei, Qatar</p> <p>A physically immersive platform for training emergency responders and law enforcement officers Nicholas Caporusso and Gordon Carlson, USA</p> <p>Assessing the role of behavioral markers in adaptive learning for emergency medical services Kimberly Stowers, Lisa Brady, Youjeong Huh and Robert Wray, USA</p> <p>Name tags and pipes: Assessing the role of metaphors in students' early exposure to computer programming using Emoticoning Angelos Barmpoutis and Kim Huynh, USA</p> <p>Extending the sentence verification technique to tables and node-link diagrams Mark Livingston, Derek Brock, Tucker Maney and Dennis Perzanowski, USA</p> <p>E-Ucumari: A multimedia device based on ontologies for pedagogical support of children with multiple disabilities Christian Arévalo-Illescas, Gabriela Tigre-Andrade, Daniela Ochoa-Fajardo, Zobeida Robles-Bykbaev, Julio Martínez-Gutiérrez, Vladimir Robles-Bykbaev, Fernando Pesántez and Diego Quisi-Peralta, Ecuador</p>	

38	<p>Production Planning, Inspection and Process Control Co-Chairs: Beata Mrugalska and Stefanie Findeisen, Poland/Germany</p>	APMPC
10:30-12:30 - TURKS 6	<p>Production Assessment 4.0 – Methods for the development and evaluation of Industry 4.0 use cases Wilhelm Bauer, Bastian Pokorni and Stefanie Findeisen, Germany</p> <p>Preventive approach to machinery and equipment maintenance in manufacturing companies Beata Mrugalska, Barbara Zasada and Magdalena K. Wyrwicka, Poland</p> <p>MPE-Mental Protective Equipment for a shared perception of occupational disease prevention Emma Bagnato, Davide Mauro and Silvana Bagnato, Italy</p> <p>Improving quality control of mechatronic systems using KPI-based statistical process control Benedict Wohlers, Stefan Dziwok, David Schmelter, Wadim Lorenz and Diebold Nixdorf, Germany</p> <p>A systematic literature review of TRIZ used in eco-design Shqipe Buzuku and Iuliia Shnai, Finland</p>	
39	<p>Design for Inclusive Daily Life Co-Chairs: Miguel Carvalho and Terje Gjøsæter, Portugal/Norway</p>	DI
10:30-12:30 - CAICOS 1	<p>Providing context-sensitive mobile assistance for people with disabilities in the workplace Volkan Aksu, Sascha Jenderny, Sascha Martinetz and Carsten Röcker, Germany</p> <p>Assessment of how inclusive are shopping centers for blind people Mariana Uribe-Fernandez, Natalia Santa Cruz-Gonzalez, Carlos Aceves-Gonzalez and Alberto Rossa-Sierra, Mexico</p> <p>Design for all in healthcare service-scapes: Uncovering multisensory experiences among visually impaired users to enhance user intimacy Carmen Martens, Jasmien Herssens and Cécile Delcourt, Belgium</p> <p>Evaluation of design recommendations for the development of wheelchair rugby sports-wear Sara Braganca, Ignacio Castellucci, Simeon Gill, Miguel Carvalho and Pedro Arezes, UK/Portugal</p> <p>Wellness for all: Novel design scenarios and concepts of products-systems for an inclusive user experience in indoor physical activity Francesca Tosi, Giuseppe Fedele, Alessia Brischetto, Mattia Pistolesi and Alessandra Rinaldi, Italy</p> <p>Research for office chair performance and effect on lumbar and hip in forward sitting positions Ligang Luo, Wenhan Zhong and Tianyi Hu, China</p>	
40	<p>Socio-Political Modeling Co-Chairs: Zining Yang and Manuel Lindorfer, USA/Austria</p>	HFSIM
10:30-12:30 - CAICOS 2	<p>Simulation of financial systemic risk and contagion in the U. S. housing market Faizan Khan and Zining Yang, USA</p> <p>Micro-simulation model as a tool for evaluating the reform of China's personal income tax Xiangyu Wan, China</p> <p>Investigating the large-scale effects of human driving behavior on vehicular traffic flow Manuel Lindorfer, Christian Backfrieder, Christoph Mecklenbräuker and Gerald Ostermayer, Austria</p> <p>Assessment of air traffic controller's mental workload Thorsten Mühlhausen, Thea Radüntz and André Tews, Germany</p> <p>Human development dynamics: A study of agent-environment co-evolution with agent-based modeling and evolutionary gaming experiment Jessica Gu, Zining Yang, Mark Abdollahian and Yu Chen, USA/Japan</p>	

41	Preventing Accidents Co-Chairs: Jonas Lundberg and J. D. Solomon, Sweden/USA	HERRP
10:30-12:30 - CAICOS 3	<p>It could not be seen because it could not be believed - June 30, 2013 Fred Schoeffler and Lance Honda, USA</p> <p>Human factors analysis in reliability and risk assessments following a catastrophic failure J. D. Solomon, USA</p> <p>Human error in accident investigation Elias Nikolaidis, R. Alberto Bernabeo and Kirk Webster, UAE</p> <p>A pragmatic approach to uncover blind spots in accident investigation in ultra-safe organizations: A case study from air traffic management Jonas Lundberg and Billy Josefsson, Sweden</p> <p>A comparison of the common causes of maritime accidents in Canada, Indonesia, Japan, Australia, and England Ludfi Pratiwi Bowo and Masao Furusho, Indonesia</p> <p>Handling quality evaluation method in aircraft cockpit based on pilot performance Xia Zhang, Youchao Sun, Yanjun Zhang and Huiqun Zhu, China</p> <p>A study on safety integrity improvement of oxidation reactor on propylene oxide process by installed safety instrumented system (SIS) Byoung-Chan Lee, Hyung-Sub Lee and Jong Kuk Rhim, South Korea</p>	
Lunch Break 12:30 - 14:00 • Enjoy lunch at the restaurant of your choice		
42	Systemic-Structural Activity Theory Co-Chairs: Gregory Bedny and Alexander Yemelyanov, USA	CN
14:00-16:00 - GRAND CARIBBEAN 1	<p>Time study in ergonomics and psychology Inna Bedny, Gregory Bedny and Waldemar Karwowski, USA</p> <p>Decision support of mental model formation in self-regulation process of goal-directed decision making under uncertainty and risk Alexander Yemelyanov, USA</p> <p>Approach to safety analysis in the framework of the systemic-structural activity theory Gregory Bedny and Inna Bedny, USA</p> <p>Express decision – mobile application for quick decisions: An overview of implementations Alexander Yemelyanov, Simon Baev and Alla Yemelyanov, USA</p> <p>Dichotomy of historicity and subjective perception of complexity in individuals' activity goal formation and decision outcomes Mohammed-Aminu Sanda, Ghana</p> <p>A systemic approach to implementing psychological factors in management Fred Voskoboynikov, Russia</p>	
43	Biomechanics and Human Modeling Co-Chairs: Thomas Alexander and Jazmin Cruz, Germany/USA	DHMAO
14:00-16:00 - GRAND CARIBBEAN 2	<p>Development of a tendon driven finger joint model using finite element method Gregor Harih, Slovenia</p> <p>Muscle force prediction method considering the role of antagonistic muscle Yuki Daijyu, Isamu Nishida and Keiichi Shirase, Japan</p> <p>Repetitive task ankle joint injury assessment using artificial neural network Sultan Sultan, Karim Abdel-Malek, Jasbir Arora and Rajan Bhatt, USA</p> <p>Approaches to study spine biomechanics: A literature review Jazmin Cruz, James Yang and Yujiang Xiang, USA</p> <p>The effects of object surfaces and shapes on hand grip function for heavy objects Mario Garcia, Jazmin Cruz, Cecilia Garza, James Yang and Patricia DeLucia, USA</p> <p>Automatic learning of climbing configuration space for digital human children model Tsubasa Nose, Koji Kitamura, Mikiko Oono, Yoshifumi Nishida and Michiko Ohkura, Japan</p> <p>Measurement system of the temporomandibular joint André Solon de Carvalho and Eduardo Ferro dos Santos, Brazil</p>	

44	Design and Applied Anthropometry I Co-Chairs: Miguel Carvalho, Mónica Ordóñez-Ríos and Jiahui Xu, Portugal/Ecuador/China	ED
14:00-16:00 - GRAND CARIBBEAN 3	<p>Garment sizing in Portuguese children's fashion brands Germana Bezerra, Miguel Carvalho, Juliana Pessoa and Maria Alice Rocha, Portugal</p> <p>Design requirements of mastectomy bra for formal dress Chi Liu, Xueqing Zheng and Bugao Xu, China</p> <p>Foot anthropometric data for young Chinese population Zhang Fan, Jing Zhao, Zhao Chao, Gang Wu, Wenxing Ding and Haitao Wang, China</p> <p>Anthropometric evaluation and operation room design analysis for laparoscopic surgeries in Cuenca, Ecuador Mónica Ordóñez-Ríos, Juan C. Salamea and Vladimir Robles-Bykbaev, Ecuador</p> <p>Analysis and designs on human-oriented sanitation workers overall Jiahui Xu and Xiaoping Hu, China</p> <p>Design and development of the plus size bra Cristina Carvalho, Ana Brígida Filipe and Gianni Montagna, Portugal</p> <p>The recent anthropometry of Chinese adult population Chaoyi Zhao, China</p>	
45	Innovations in Service Delivery and Assessment Co-Chairs: Freimut Bodendorf and Christian Zagel, Germany	HSSE
14:00-16:00 - GRAND CARIBBEAN 4	<p>Using augmented reality and gamification to empower rehabilitation activities and elderly persons. A study applying design thinking Oliver Korn, Lea Buchweitz, Adrian Rees, Gerald Bieber, Christian Werner and Klaus Hauer, Germany</p> <p>Method Cards – A new concept for teaching in academia and to innovate in SMEs Christian Zagel, Lena Grimm and Xun Luo, Germany</p> <p>The hinge factor – or the limits of probabilities Josef Loeffl, Germany</p> <p>Correlations between computer-related causal attributions and user persistence Adelka Niels, Sophie Jent, Monique Janneck and Christian Zagel, Germany</p> <p>Emotionalizing e-commerce pages: Empirical evaluation of design strategies for increasing the affective customer response Alexander Piazza, Corinna Lutz, Daniela Schuckay, Christian Zagel and Freimut Bodendorf, Germany</p> <p>Patient-centered design of an e-Mental health app Leonhard Glomann, Viktoria Hager, Christian A. Lukas and Matthias Berking, Germany</p>	
46	Safety Management in SMEs Co-Chairs: Alec Tremblay and Guido J. L. Micheli, France/Italy	SMHF
14:00-16:00 - GRAND CARIBBEAN 5	<p>A new way to evaluate occupational health and safety performance in Quebec small- and medium-sized enterprises Alec Tremblay and Adel Badri, France/Canada</p> <p>Barriers, drivers and impact of a simplified occupational safety and health management system in micro and small enterprises Guido J. L. Micheli, Maria Grazia Gnoni, Diego De Merich, Guido Sala, Andrea Rosso, Fabiana Tornese, Giusi Piga and Brunella Malorgio, Italy</p> <p>Quality management in healthcare: Assessment tools in clinical diagnostic laboratories Jay Kalra, Ajay Nayar, Karen Nogier and Ashish Kopargaonkar, Canada</p> <p>Improvement of safety culture in industry: A systematic review Francisco Duarte, Carolina Alonso, Ulysse Gallier and Marina Mercado, Brazil</p> <p>Occupational health and safety and employee engagement: Evidence from the SMEs sector in Ghana Michael Asiedu Gyensare, Olivia Anku-Tsedee, Kwame Owusu Boakye and Evelyn Twumasi, Ghana</p>	

47	Work-Related Musculoskeletal Disorders Co-Chairs: Aide Aracely Maldonado-Macías, Zenija Roja and Luz Mercedes Sáenz Zapata, Mexico/Latvia/Colombia	PEHF
14:00-16:00 - GRAND CARIBBEAN 8	<p>Work-related musculoskeletal disorders (WMSDs) among construction workers using hand drilling machine in Ghana Emmanuel Bamfo-Agyei and Lawrence Atepor, Ghana</p> <p>Determining the occupational risk level in the task of welding railings in a manufacturing company by means of RULA Arturo Realyvásquez, Brandon Delfin, Guadalupe Hernández-Escobedo, Jorge González and Aide Maldonado, Mexico</p> <p>Stress at work and physical load in professional sport Zenija Roja, Henrijs Kalkis, Ieva Tetere and Inara Roja, Latvia</p> <p>Investigation of musculoskeletal disorders and their associated risk factors among Indian railway Coolies - A cross-sectional study Abhyuday Singh Thakur, Kaushal Joshi, Vishrut Parikh and Vinay Vakharia, India</p> <p>Ergonomics in construction: Where does it hurt? John Smallwood and Claire Deacon, South Africa</p> <p>Assessment of postures and ergonomic interventions among handloom weavers in Western Odisha, India Ratri Parida, India</p> <p>The relationship between disability and health related quality of life in office workers with neck pain Gonca Bumin and Burcu Kilic, Turkey</p>	
48	Virtual Reality and Interaction Design Co-Chairs: Meng Ding and Michael Hubler, USA	UUE
14:00-16:00 - GRAND CARIBBEAN 9	<p>Analysis of the relationship between content and interaction in the usability design of 360° videos Nicholas Caporusso, Gordon Carlson, Matthew Clarke, Vitoantonio Bevilacqua, Gianpaolo Francesco Trotta and Meng Ding, USA</p> <p>Accessibility in ChatBots: The state of the art in favor of users with visual impairment Cecília Torres, Walter Franklin Marques Correia and Laura Bezerra Martins, Brazil</p> <p>The development of an online questionnaire for end users about the visual perception of informational ergonomics and its attributes in graphic brands João Carlos R Placido da Silva, Valeria Ramos Friso, Luis Carlos Paschoarelli and José Carlos Placido da Silva, Brazil</p> <p>Adaptive user interfaces: Fitting form and function to dynamic users and environments Michael Hubler, USA</p>	
49	Usability and User Experience III Co-Chairs: Yunyan Zhang and Walter Franklin Marques Correia, China/Brazil	UUE
14:00-16:00 - GRAND CARIBBEAN 10	<p>Research on the model construction of intelligent home product service based on user value Yunyan Zhang, Weiwei Wang and Ting Wei, China</p> <p>The effects of response time on user perception in smartphone interaction Zhengyu Tan, Jieru Zhu, Jun Chen and Fusheng Li, China</p> <p>User's behavior under review: The use of instrument's to evaluate perception of users Marina Barros, Walter Franklin Marques Correia and Fabio Campos, Brazil</p> <p>A study on determining the heuristics for evaluating the usability of hot drink preparation devices by elderly users Aybegum Numanoglu and Ekrem Cem Alppay, Turkey</p> <p>Comparative study on reading performance of different electronic ink screens Yunhong Zhang, Yuan Lyu, Wei Li, Zhongting Wang and Lou Ding, China</p> <p>Research on interactive innovation design of barrier-free products for visually impaired groups Zijie Xie, China</p> <p>Influence of color perception on consumer behavior Ren Long and Yun Chen, China</p>	

50	Human Factors, Business Management and Society I Co-Chairs: Vesa Salminen and Tero Reunanen, Finland	HFBMS
14:00-16:00 - GRAND CARIBBEAN 11	<p>Happiness in fashion Eyal Eckhaus, Israel</p> <p>Methods of ergonomics and social technologies application in small business Yulia Salnikova, Antonina Pakhomova and Larisa Namestnikova, Russia</p> <p>Regional development based on digital driven symbiosis Heikki Ruohomaa, Vesa Salminen and Anne-Mari Järvenpää, Finland</p> <p>Valorizing the human capital within organizations: A competency based approach Federica Polo and Jussi Kantola, Finland</p> <p>How does current legislation support the emergence of industrial symbiosis in the EU? Anne-Mari Järvenpää, Vesa Salminen and Heikki Ruohomaa, Finland</p> <p>LeanGame: A digital training tool to implement lean philosophy Jasperina Mattsson, Raija Nurminen and Tero Reunanen, Finland</p> <p>Organizational development: Lean thinking through the LeanGame learning game Saija Klimoff, Raija Nurminen and Tero Reunanen, Finland</p>	
51	Scientific Concepts in Educational Science Co-Chairs: Juan Cristobal Castro-Alonso and Valeria Cabello Gonzalez, Chile	TELS
14:00-16:00 - GRAND CARIBBEAN 12	<p>Spatial ability for university biology education Juan Cristóbal Castro-Alonso and David H. Uttal, Chile/USA</p> <p>Teacher training, mentoring or performance support systems? Roberto Araya, Chile</p> <p>An academic system based on ontological networks to support the inference of new knowledge in micro and macro curriculum in higher education Roberto García-Vélez, Jorge Galan-Mena, Martín López-Nores, Vladimir Robles-Bykbaev, Daniel Calle-López and Fernando Pesántez, Ecuador</p> <p>Expanding student teachers' implicit theories about explanations for the science classrooms Valeria Cabello Gonzalez, Maria Antonietta Impedovo and Keith J. Topping, Chile/France/UK</p> <p>Challenges for logistics education in Industry 4.0 Magdalena Wrobel-Lachowska, Aleksandra Polak-Sopinska and Zbigniew Wisniewski, Poland</p>	
52	Human Factors in Communication of Design I Co-Chairs: Amic G. Ho and Lei Liu, Hong Kong/China	HFCD
14:00-16:00 - TURKS 1	<p>Research of behavior style based on cognitive conflict during interaction design Zhengyu Tan, Lei Liu and Yangchen Jiang, China</p> <p>An exploration of domain-dependent design theories for the designing of advertising functions and contents on new media Edward C. K. Hung, China</p> <p>A study of rules, structures, features, and biases in the new media for digital advertising for the development of new media ontology Edward C. K. Hung, Yan Tung Chan and Chin Yee Chan, China</p> <p>Philosophy of design based on spiritual hierarchy theory Wenjia Ding, Jianxin Cheng, Tao Xiong, Tengye Li and Zhang Zhang, China</p> <p>Analysis of comprehensibility and influencing factors of healthcare symbols Chuanyu Zou, Xuefei Long and Yongquan Chen, China</p> <p>Improving the usability of academic communication platforms Pui Wa Chau and Amic Ho, China</p> <p>A study on exhibition marketing of rural field from the interactive experience Jheng-Yan Wang and Lishu Lu, Taiwan</p>	

<p>53</p>	<p>Space Human Factors and Habitability Co-Chairs: Giorgio Musso, Elizabeth Mezzacappa and Nicole Schoenstein, Italy/USA</p>	<p>SPACE</p>
<p>14:00-16:00 - TURKS 2</p>	<p>Human factors engineering activities for past, present and future manned space habitats Giorgio Musso, Roberta Capra, Raffaella Ricci and Adriana Salatino, Italy</p> <p>Stress and human factors from Antarctica to Mars Alessandro Alcibiade, Antonio Del Mastro, Irene Lia Schlacht, Federico Monaco, Francesco Finazzi, Amir Notea, Mouzzam Mehmood Mukadam, Melchiorre Masali and Giorgio Musso, Italy/Germany</p> <p>Astronaut crew selection: Group cohesiveness, deviation, stress, and conformity Elizabeth Mezzacappa, USA</p> <p>A cognitive task analysis of safety-critical launch termination systems Ronald Daiker, Rania Ghatas, Michael Vincent, Jon Holbrook and Lisa Rippy, USA</p> <p>Expertise, arousal, and automation effects on complacency errors during Mars missions Jason Kring, Jay Barrett and Michael Sawyer, USA</p> <p>Comparing automated vs. manual data analytic processing of long duration international space station post mission crew feedback Cody Bryant, Nicole Schoenstein, Susan Schuh and David Meza, USA</p>	
<p>54</p>	<p>Design for Human Diversity: Childhood Co-Chairs: Alessia Brischetto and Miguel Carvalho, Italy/Portugal</p>	<p>DI</p>
<p>14:00-16:00 - TURKS 3</p>	<p>Playgrounds for all: Practical strategies and guidelines for designing inclusive play areas for children Alessia Brischetto, Alessandra Rinaldi and Francesca Tosi, Italy</p> <p>Device design for the learning processes of children with cerebral palsy Gustavo Sevilla and Angela Maria Echeverri-Jaramillo, Colombia</p> <p>Anthropometric data collection of Portuguese overweight and obese children using a Kinect body image system: Preliminary results Raquel de Campos, Miguel Carvalho and Bugao Xu, Portugal/USA</p> <p>The inclusion of children with total visual impairment in learning activities of daily living, especially the act of eating independently Johana Hoyos Ruiz, Katherine Zuluaga Aristizabal and Susana Isaza, Colombia</p>	
<p>55</p>	<p>Improving Situational Awareness in the Cyber Domain Co-Chairs: Tal Oron-Gilad, Ilit Oppenheim and Yisrael Parmet, Israel</p>	<p>HFRUS</p>
<p>14:00-16:00 - TURKS 4</p>	<p>Cyber situational awareness in intelligence preparation of battlespace Tal Oron-Gilad, Ilit Oppenheim, Nir Nissim and Yisrael Parmet, Israel</p> <p>User-centered design of interfaces for cyber operators Kristen Liggett, USA</p> <p>An informed discussion of improving situational awareness in the cyber domain Eric Holder, USA</p> <p>Re-centering human centered visualization Lane Harrison, USA</p> <p>Improving situational awareness in the cyber domain Ritesh Patel, USA</p>	

56	Systems Engineering Applications I Co-Chairs: Benjamin Strenge and Daniel Ziegler, USA/Germany	HFSSE
14:00-16:00 - TURKS 5	<p>Agile worth-centered systems engineering: A methodology for incorporating ethical aspects in development processes Benjamin Strenge and Thomas Schack, Germany</p> <p>Development of a web based framework to objectively compare and evaluate software solutions Maximilian Barta, Sigmund Schimanski, Julian Buchhorn and Adalbert Nawrot, Germany</p> <p>A case study of user adherence and software project performance barriers from a sociotechnical viewpoint Nicole Costa, Florian Vesting, Joakim Dahlman and Scott MacKinnon, Sweden</p> <p>Objectification of assembly planning for the implementation of human-robot cooperation Rainer Müller, Ortwin Mailahn and Richard Peifer, Germany</p> <p>DevOps for containerized applications Adam Biener and Andrea Crawford, USA</p> <p>Modelling of polymorphic user interfaces at the appropriate level of abstraction Daniel Ziegler and Matthias Peissner, Germany</p>	
57	Game Design Applications I Co-Chairs: Masashi Yamada and Jennie Ablanedo, Japan/USA	HFGD
14:00-16:00 - TURKS 6	<p>Games & business: Human factors in gamified applications Luis Filipe Rodrigues, Abilio Oliveira, Carlos Costa and Helena Rodrigues, Portugal</p> <p>Disruptive games: Power and control or fantasy and entertainment Ekaterina Emmanuil Inglesis Barcellos, Galdenoro Botura, Jr., Eric Inglesis Barcellos, Milton Koji Nakata and Livia Inglesis Barcellos, Brazil</p> <p>Semantic congruency between music and video in game contents Natsuhiko Marumo, Yuji TsuTsui and Masashi Yamada, Japan</p> <p>A usability review of the Learning Master serious game in support of the US Army Jumpmaster's Course Tamara Griffith, Crystal Maraj, Jeremy Flynn and Jennie Ablanedo, USA</p> <p>Designing educational games based on intangible cultural heritage for rural children: A case study on "Logic Huayao" Yuanyuan Yang, Tie Ji, Duoduo Zhang and Lerong Li, China</p>	
58	Human Factors and Wearable Technologies II Co-Chairs: Nicholas Caporusso and Cassandra Bräuer, USA/Germany	HFWT
14:00-16:00 - CAICOS 1	<p>Application of wearable technology for the acquisition of learning motivation in an adaptive e-learning platform Mathias Bauer, Moritz Niemann, Jacqueline Schuldt, Cassandra Bräuer and Heidi Krömker, Germany</p> <p>An immersive environment for experiential training and remote control in hazardous industrial tasks Nicholas Caporusso, Vitoantonio Bevilacqua, Luigi Biasi and Giovanni Cinquepalmi, USA/Italy</p> <p>User discomfort evaluation research on the weight and wearing mode of head-wearable device Jun Zhang, Yue Liu, Yanyang Jia and Yisong Huang, China</p> <p>Preliminary therapeutic knee band development for knee osteoarthritis (KOA) relief in the elderly: A pilot study Zidan Gong, Rong Liu, Winnie Yu, Thomas Wong and Yuanqi Guo, China</p>	

<p>59</p>	<p>Virtual Reality Co-Chairs: Debra Patton and Larissa Cahill, USA/Australia</p>	<p>HFSIM</p>
<p>14:00-16:00 - CAICOS 2</p>	<p>Determining the ecological validity of simulation environments in support of human competency development Glenn Hodges, USA</p> <p>A test protocol for advancing behavioral modeling and simulation in the army soldier systems engineering architecture Joan H. Johnston, Samantha Napier, Clay Burford, Shanell Henry, Bill Ross and Colleen Patton, USA</p> <p>What do you say to a virtual human? William Swartout, USA</p> <p>Exploring cognitive performance of dismounted combatants using augmented night vision systems Larissa Cahill, Australia</p> <p>A virtual-reality based intervention leads to improved visual search performance: A behavioral study Ronnie V. Daniel, K. Raghav Bhat, Akash K. Rao, Vrinda Prajapati, Sushil Chandra, Vishal Pandey and RamSingh Negi, India</p> <p>A virtual environment-based spatial navigation module for effective transfer of visuo-spatial memory and cognitive enhancement Akash Rao, Raghav Bhat, Vishal Pandey, Greeshma Sharma, Sushil Chandra and Ronnie Daniel, India</p> <p>Virtual environment to improve non-technical skills in medical domain Jessy Barre, Daphne Michelet and Anais Job, France</p>	
<p>60</p>	<p>Advanced Topics in Human Reliability Analysis Co-Chairs: Rajiv Nandan Rai and Roger Lew, India/USA</p>	<p>HERRP</p>
<p>14:00-16:00 - CAICOS 3</p>	<p>Human reliability analysis technique selection for life support systems maintenance of orbital space stations using fuzzy AHP and ANN Rajiv Nandan Rai and Garima Sharma, India</p> <p>Applicability of current HRA quantification techniques to human failures related to digital control systems Harold Blackman, USA</p> <p>Towards enhanced comprehension of human errors in cybersecurity attacks Mohammad Algarni, Saad Almesalm and Muntaser Syed, USA</p> <p>Applications of dynamic human reliability analysis (dHRA) for context aware operations Roger Lew, Ronald Boring and Thomas Ulrich, USA</p> <p>Parts and wholes: Scenarios and simulators for human performance studies Ronald Boring, Thomas Ulrich and Roger Lew, USA</p> <p>Individual differences in domain-independent cue acquisition Nadya Yuris, Mark Wiggins and Jaime Auton, Australia</p> <p>Use of human error data in the Integrated Human Event Analysis System (IDHEAS) to inform human reliability analysis Jing Xing, USA</p>	
<p>16:00-16:30 Refreshments will be provided in Grand Caribbean Ballroom</p>		
<p>61</p>	<p>Emotion, Culture and Community I Co-Chairs: Shuichi Fukuda and Anton Nijholt, Japan/The Netherlands</p>	<p>APD</p>
<p>16:30-18:30 GRAND CARIBBEAN 1</p>	<p>Increasing importance of emotion in the connected society Shuichi Fukuda, Japan</p> <p>Playable cities for children? Anton Nijholt, The Netherlands</p> <p>Shanghai Shikumen cultural and creative product design based on design thinking Qianqian Wu, Zhang Zhang and Li Xu, China</p> <p>Research on the user's perceptual preference of automobile styling Zhengtang Tan, Zhu Yi and Jianghong Zhao, China</p> <p>Modeling subjective temperature using physiological index Tatsuya Amano, Toshikazu Kato, Toru Nakata and Takashi Sakamoto, Japan</p>	

62	Biometric Devices: Research, Training, and Operations Co-Chairs: Brent Winslow and Robert Furberg, USA	CN
16:30-18:30 - GRAND CARIBBEAN 2	<p>Stress measurement in research, training, and operational environments Brent Winslow and Zach Huber, USA</p> <p>Acquisition and analysis of psychophysiological signals Robert Furberg, USA</p> <p>A framework for real-world evaluation of wearable sensing devices Edgar Lobaton, USA</p> <p>Continuous cognitive workload assessment and combined metrics of performance in the multi-attribute task battery Calvin Leather, Noa Palmon and Bethany Bracken, USA</p> <p>Seeing and feeling: Insights from a UI case study Nam Nguyen, USA</p> <p>Systems approach to heart rate sensors Chris Eschbach and Steven Leboeuf, USA</p> <p>Lessons learned integrating heart rate data collection for the biofeedback-assisted resilience training (BART) study Randall Eckhoff, Paul Kizakevich, Laurel Hourani, Maria Davila and Gregory Lewis, USA</p>	
63	Ergonomics in Design in India Co-Chairs: Ratri Parida and Bibha Chetia Borah, India	ED
16:30-18:30 - GRAND CARIBBEAN 3	<p>Attention of viewers while viewing paintings depends on different types of exhibition light: A quantitative approach with eye-tracking method Amrita Bhattacharjee and Swati Pal, India</p> <p>Ergonomic hazards associated with freshwater aquaculture and possible mitigation measures Bibha Chetia Borah, India</p> <p>Analysis using linkograph to identify product features for innovation-a human centered usability engineering approach Pradeep Yammiyavar and Ravi Lingannavar, India</p> <p>Muscular fatigue during repetitive manual tasks using surface electromyography (sEMG) - workplace design perspective Ashok Pushparaj, Madhan Mohan, S. Sudhersan and N. Nevhetha, India</p> <p>Ergonomic considerations in designing emergency escape systems (EES) of a naval warship Ripon Paul, India</p>	
64	Design and Applied Anthropometry II Co-Chairs: Jangwoon Park, Marcelo Soares and Shuangshuang Zhang, USA/China	ED
16:30-18:30 - GRAND CARIBBEAN 4	<p>Bra fitting – a Brazilian mastectomized women experience Lucia Regina and Jose Aguiomar Foggianto, Brazil</p> <p>Development of a design protocol for customized swimming goggles using 2D facial image data Jangwoon Park, Mehrube Mehrubeoglu, José Baca, Kyle Rylance, Haytham Almoosa, Gregory Salazar, Cordarius Franks and Sassan Falahati, USA</p> <p>Application of digital infrared thermography for emotional evaluation: A study of the gestural interface applied to 3D modeling software Marcelo Soares, Danilo Vitorino and Marcio Marçal, China</p> <p>Head size investigation of Chinese adults and analysis of influencing factors Linghua Ran, China</p> <p>A study on young men’s upper body characteristic indexes in China considering human ergonomics Jing Zhao, Gang Wu, Zhang Fan, Haitao Wang, Wenxing Ding, Zhao Chao and Xinyu Cao, China</p> <p>The effects of weight on comfort of virtual reality devices Yan Yan, Ke Chen, Yu Xie, Yiming Song and Yonghong Liu, China</p> <p>Study on human - machine interface design of construction machinery Canqun He and Shuangshuang Zhang, China</p>	

65	Human Aspects of Advanced Manufacturing Co-Chairs: Zbigniew Wisniewski and Nela Murauer, Poland/Germany	MFG
16:30-18:30 - GRAND CARIBBEAN 5	<p>Analysis and transfer of human engineering skills for adaptive robotic additive manufacturing in the aerospace repair and overhaul industry Richard French, Hector Marin-Reyes and Michalis Benakis, UK</p> <p>A test platform for the evaluation of augmented reality head mounted displays in industrial applications Volker Paelke, Carsten Röcker and Jendrik Bulk, Germany</p> <p>Sociotechnical design of industrial transport vehicle and its interaction with humans in manufacturing systems Jana Jost, Thomas Kirks, Michael Fiolka and Stuart Chapman, Germany</p> <p>Strategy and structure in public organization Joanna Mnich and Zbigniew Wisniewski, Poland</p> <p>Evaluation of order picking processes regarding the suitability of smart glasses-based assistance using Rasmussen's skills-rules-knowledge framework Nela Murauer and Steffi Gehrlicher, Germany</p> <p>Formulation of field data based on models to correlate the performance of manual stirrup manufacturing activity Himanshu Shukla, India</p> <p>The agile improvement of transport vehicles manufacturing processes Joanna Kałkowska, Poland</p>	
66	Safety and Prevention in Construction/Mining Sector II Co-Chairs: Mohammad Tanvi Newaz and Juan Carlos Rubio Romero, Australia/Spain	SMHF
16:30-18:30 GRAND CARIBBEAN 8	<p>Role of psychological contract to influence safety behavior in construction sites Mohammad Tanvi Newaz, Peter Davis, Manikam Pillay and Marcus C. Jefferies, Australia</p> <p>Measuring resilient safety culture of construction projects Minh Tri Trinh and Yingbin Feng, Australia</p> <p>Analyzing the impact of group norms on workers' safety behaviors in a construction team Xiaoli Gong, Qingting Xiang, Gui Ye, Qinjun Liu and Yuhe Wang, China</p> <p>Influential factors of unsafe acts of contractors in Cape Coast metropolis Wellington Didi Thwala, Zakari Mustupha and Clinton Aigbavboa, South Africa</p>	
67	Trends in Ergonomic Interventions Co-Chairs: Bankole Fasanya and Byungjoon Kim, USA	PEHF
16:30-18:30 - GRAND CARIBBEAN 9	<p>Occupational ergonomics: Emerging approaches toward improved worker productivity and injury reduction Bankole Fasanya and Musibau Shofoluwe, USA</p> <p>Biofeedback for training pelvic floor muscles with EMG signals of synergistic muscles Hikaru Hasegawa, Tanaka Takayuki, Tomohiro Wakaiki, Koji Shimatani and Yuichi Kurita, Japan</p> <p>Postural control for unexpected perturbation in diabetic neuropathy people Byungjoon Kim, USA</p> <p>Analysis of muscular fatigue and foot discomfort while wearing different types of men's formal shoes Nirupom Paul, Mohammed Fnu, Sahitya Julapally, Yueqing Li and Brian Craig, USA</p> <p>Ergonomic work analysis at plant nurseries of a Portuguese municipality Rui B. Melo and Filipa Carvalho, Portugal</p>	

<p>68</p>	<p>Social and Occupational Ergonomics in Small- and Medium-Sized Enterprises Co-Chairs: Hebert Roberto da Silva and Wenjuan Zhang, Brazil/USA</p>	<p>SOE</p>
<p>16:30-18:30 GRAND CARIBBEAN 10</p>	<p>Intuitionistic fuzzy REBA method and its application in a manufacturing company Nihal Erginel and Sura Toptanci, Turkey</p> <p>Ergonomic risk assessment of gas delivery operations and stretching program design Olivia Morejon, Amy Wadeson, Melissa White, Wenjuan Zhang and David Kaber, USA</p> <p>Occupational health and safety challenges among small and medium sized enterprise contractors in South Africa Nokulunga Mashwama, South Africa</p> <p>Ergonomics in reuse and recycling of solid materials: Demand analysis Hebert Roberto da Silva, Brazil</p> <p>Exploring the effect of workspace design on advice seeking behaviour Tamzin Nagy, Helen Hughes, Mark Robinson and Matthew Davis, UK</p> <p>Requirements management: An investigation of process improvement in an aerospace organisation Alice Buckley and Desmond Leach, UK</p> <p>Fuzzy model evaluation of vehicles ergonomics and its influence on occupational diseases Riad Taha Al-Kasasbeh, Nikolay Korenevskiy, Sofia Korenevskya, Etab Taha Al-Kasasbeh, Ilyash Maksim and Mahdi Alshamasin, Jordan/Russia</p>	
<p>69</p>	<p>Human Factors, Sustainable Urban Planning and Infrastructure I Co-Chairs: Clinton Aigbavboa and Christianne Falcão, South Africa/Brazil</p>	<p>SUPI</p>
<p>16:30-18:30 - GRAND CARIBBEAN 11</p>	<p>An assessment of lean construction practices in the construction industry Olusegun Oguntona and Clinton Aigbavboa, South Africa</p> <p>Environmental impacts of construction activities: A case of Lusaka, Zambia Chanda Musenga and Clinton Aigbavboa, South Africa</p> <p>An investigation of government support influence on low-income housing construction quality in South Africa Chiezie Eke, Akidi Grace Ezinne, Clinton Aigbavboa and Wellington Didibhuku Thwala, South Africa</p> <p>Measuring labour productivity in labour intensive works on the road construction in Ghana Emmanuel Bamfo-Agyei, Clinton Aigbavboa and Thwala Wellington Didibhuku, Ghana</p> <p>Benefits of biomimicry adoption and implementation in the construction industry Olusegun Oguntona and Clinton Aigbavboa, South Africa</p> <p>Reviewing the negative impacts of building construction activities on the environment: The case of Congo Mbuyamba Mbala, Clinton Aigbavboa and John Aliu, South Africa</p> <p>Causes of delay in various construction projects: A literature review Mbuyamba Mbala, Clinton Aigbavboa and John Aliu, South Africa</p>	
<p>70</p>	<p>UX Evaluation and Design Thinking Co-Chairs: Julian Brinkley and Gabriela Viana, USA/Canada</p>	<p>UUE</p>
<p>16:30-18:30 - GRAND CARIBBEAN 12</p>	<p>Increasing engagement in participatory design workshops with a crash course in design thinking Julian Brinkley and Juan Gilbert, USA</p> <p>Empirical study on the documentation phase in the human-centered design process Gabriela Viana, Dory Azar and Kristin Morin, Canada</p> <p>Disrespectful technologies. Social norm conflicts in digital worlds Sarah Diefenbach and Daniel Ullrich, Germany</p> <p>Idealization effects in UX evaluation at early concept stages: Challenges of low-fidelity prototyping Lara Christoforakos and Sarah Diefenbach, Germany</p> <p>The effects of icon characteristics on search time Kara Smythwood and Mirsad Hadzikadic, USA</p> <p>The limited rationale in decision making, impacts on the evaluation of artifacts in the design process Walquir Fernandes, Walter Franklin Marques Correia and Fabio Campos, Brazil</p>	

71	Usability and User Experience IV Co-Chairs: Pu Hong and Xin Zhang, China	UUE
16:30-18:30 - TURKS 1	<p>Preferred height and angle of touch screen Yahui Bai, Yinxia Li, Huimin Hu, Na Lin and Haimei Wu, China</p> <p>Design of proton therapy procedure based on service design theory Wanru Wang and Xinxiong Liu, China</p> <p>Appropriate operating force of knob in certain conditions Huimin Hu, Pu Hong, Aiping Yang, Hong Luo, Yahui Bai and Yinxia Li, China</p> <p>Study on the handle test sample of furniture for ergonomics experiment Zhiyu Xu, Na Yu, Huimin Hu, Yahui Bai and Pu Hong, China</p> <p>Research on the standard of refrigerator noise quality evaluation Xin Zhang, Linghua Ran and Huimin Hu, China</p> <p>Getting the complete picture: Using surveys as a complementary method for assessing usability Courtney Titus, Mary Gordon, Krisanne Graves and Curt Braun, USA</p> <p>Research on usability evaluation method of smart phone based on eye movement and interactive data Yu Zhang, China</p>	
72	Human Factors in Nuclear Industry Co-Chairs: Ronald Boring and Casey Kovesdi, USA	ENERGY
16:30-18:30 - TURKS 2	<p>Quantifying the contribution of individual display features on fixation duration to support human-system interface design in nuclear power plants Casey Kovesdi, Katya Le Blanc, Zachary Spielman, Rachael Hill and Johanna Oxstrand, USA</p> <p>A guide for selecting appropriate human factors methods and measures in control room modernization efforts in nuclear power plants Casey Kovesdi, Jeffrey Joe and Ronald Boring, USA</p> <p>An investigation into the feasibility of monitoring a worker's psychological distress Young A. Suh, Jung Hwan Kim and Man-Sung Yim, South Korea</p> <p>The graded evaluation approach in control room modernization Ronald Boring, Nathan Lau, Thomas Ulrich and Roger Lew, USA</p> <p>Autonomous algorithm for start-up operation of nuclear power plants by using LSTM Deail Lee and Jonghyun Kim, South Korea</p> <p>Accident diagnosis and autonomous control of safety functions during the startup operation of nuclear power plants using LSTM Jaemin Yang, Jonghyun Kim and Daeil Lee, South Korea</p> <p>Research on method for verification and validation and evaluation system of designing control room in nuclear power plant Yan Feng, China</p>	
73	Panel: Machine Learning and the Impact to Humans Along the Way Co-Chairs: Nina Berry, William Prugh, Kelly-Marie Carter and Leo Garciga, USA	SYSI
16:30-18:30 - TURKS 3	<p>Quality AI applications with a human in the loop Michael Gurlitz, USA</p> <p>The role of training and education during introduction of artificial intelligence and machine learning capabilities Benjamin Riley, USA</p> <p>Machine learning and the impact on humans along the way William Prugh, Nina Berry and John Masterson, USA</p> <p>Automating the secure development operations process Leonel Garciga and Nina Berry, USA</p> <p>Understanding the progress and limits of current AI and machine learning approaches for face recognition Marios Savvides, Chandrasekhar Bhagavatula, Kha Gia Quach, Khoa Luu, Chi Nhan Duong, Ngan Le, Dipan Pal, Ran Tao, Raied Aljadaany, Yutong Zheng, Felix Juefei-Xu, Chenchen Zhu, Uzair Ahmed and Hai Phan, USA</p> <p>Human and automated systems challenges from three perspectives Nadya Bliss, Wes Herche and Nancy Cooke, USA</p>	

74	Emotional Intelligence in Human-Centered Design Co-Chairs: Young Ae Kim and Cory Knedler, USA	IPID
16:30-18:30 - TURKS 4	<p>Controversy in art and design Cory Knedler, USA</p> <p>The evolution of facial emotion recognition technology and its effectiveness in human interaction Qiuwen Li and Young Ae Kim, USA</p> <p>Relationship between creative mindsets and emotional intelligence in design education Joungyun Choi, USA</p> <p>Emotional evidence: Influences on happiness from the frequent positive visual exposure Young Ae Kim, USA</p> <p>Design and business: Growing up as a separate couple Isabel Duarte de Almeida, Maria João Delgado, JM Vilas-Boas da Silva, Gianni Montagna and João Pardal Monteiro, Portugal</p>	
75	2D/3D Digital Modeling for Crafting Co-Chairs: Eric Moyer and Frode Eika Sandnes, USA/Norway	AMMSP
16:30-18:30 - TURKS 5	<p>Modelling 3D objects using 2D sketches through radial renderings of curvature maps Frode Eika Sandnes and Evelyn Eika, Norway</p> <p>Assessing human performance for model-based engineering Eric Moyer, USA</p> <p>Towards a digital healthcare revolution: Views and researches of the Milanese Fablab community Barbara Di Prete and Davide Crippa, Italy</p> <p>Image Processing of artworks for construction of 3D models accessible to the visually impaired Jordan Boaz Rodrigues, Alinne Ferreira, Ivana Maia, Geraldo Braz, Jr., João Dallyson Sousa de Almeida and Anselmo Paiva, Brazil</p> <p>Digi-craft: A form finding process beyond the accuracy of 3D printing Chor-Kheng Lim, Taiwan</p> <p>Direct control of 3D models through user input to simulate the behavior of mechatronic systems Oleg Anokhin and Reiner Anderl, Germany</p>	
76	Cultural and Social Factors in Cybersecurity Co-Chairs: Bruce Caulkins and Isabella Corradini, USA/Italy	CYBER
16:30-18:30 - TURKS 6	<p>Cybersecurity skills to address today's threats Bruce Caulkins, USA</p> <p>Building organizational risk culture in cyber security: The role of human factors Isabella Corradini and Enrico Nardelli, Italy</p> <p>Study of social networks as research entities under the threat of identity and information vulnerability Mariuxi Flores-Urgiles, Luis Serpa-Andrade, Cristhian Flores-Urgiles, José Caiza-Caizabuano, Martín Ortiz-Amoroso, Henry Narvaez-Calle, Marlon Santander-Paz and Saul Guamán-Guamán, Ecuador</p> <p>Designing an effective course to improve cybersecurity awareness for engineering faculties Ghaidaa Shaabany, Germany</p> <p>Recommendation across many learning systems to optimize teaching and training Kelly Neville and Jeremiah Folsom-Kovarik, USA</p> <p>Ransomware-its inception to prevention Sonali Chandel, Bian Yao and Xiansheng Zhu, China</p>	

77	Education in Medicine and Rehabilitation Co-Chairs: Joanna Bartnicka and Salman Nazir, Poland/Norway	TELS
16:30-18:30 - CAICOS 1	<p>OVOMAX online course as a way to improve competencies and qualifications for designing and manufacturing of custom-made orthopaedic implants Jaroslaw Tokarczyk, Marek Dudek, Olga Jorda, Elkin Martinez, Andres Penuelas and Victor-Javier Primo-Capella, Poland</p> <p>Specialized training in 3D printing and practical use of acquired knowledge – 3DSPEC online course Dariusz Michalak, Magdalena Rozmus, Juan Gomez, Miran Papež, Viljem Osojnik, Diana R. Bueno, Grzegorz Świerczek and Ewelina Limanowska, Poland</p> <p>Educational needs in neurological rehabilitation – “Brain4Train” survey outcomes from European countries Joanna Bartnicka, Cristina Herrera, Raquel Portilla, Agnieszka Zietkiewicz, Katarzyna Mleczo, Esteban Pavan, Enrique Varela Donoso and David Garrido, Poland</p> <p>The role of virtual reality and biomechanical technologies in stroke rehabilitation Joanna Bartnicka, Cristina Herrera, Robert Michnik, Esteban Pavan, Paolo Vercesi, Enrique Varela-Donoso and David Garrido, Poland</p> <p>Investigating the learning experiences of students for investing into learning quality in higher education, service design based project in Hungary Tibor Barath, Hungary</p>	
78	Design for Inclusive Digitech Co-Chairs: Matteo Zallio and Anna Williams, Ireland/USA	DI
16:30-18:30 - CAICOS 2	<p>Design for enabling technologies. A framework to empower multi-level user engagement Paula Kelly, Matteo Zallio, Bruna Duarte and Damon Berry, Ireland</p> <p>User perceptions of haptic fidgets on mobile devices for attention and task performance Anna Williams, Brianna Posadas, Diandra Prioleau, Isabel Laurenceau and Juan Gilbert, USA</p> <p>Preprocessing the structural optimization of the SPELTRA robotic assistant by numerical simulation based on finite elements Graciela Serpa-Andrade, Vladimir Robles-Bykbaev and Luis Serpa-Andrade, Ecuador</p>	
79	Human Factors in Organizations Co-Chairs: Salman Nazir and Vasilica Maria Margalina, Norway/Mexico	HFML
16:30-18:30 - CAICOS 3	<p>An exploratory study of mentoring effects on graduate retention strategies in the construction industry: A literature review William Nkomo, Wellington Didibhuku Thwala and Clinton Aigbavboa, South Africa</p> <p>Work team, lean manufacturing production and information systems transform an enterprise Velia Herminia Castillo Pérez, Liliana Carrasco-Armendariz, Mario Corral-Chacón and Ramon Elizondo-Ríos, Mexico</p> <p>Relational coordination in the footwear manufacturing value chain of the province of Tungurahua, Ecuador Vasilica Maria Margalina, Marcela Karina Benitez Gaibor, Juan Pablo Martínez Mesias and Estefanía de las Mercedes Zurita Meza, Ecuador</p> <p>Design activates six values for cities: A report of the “design for county” programme Wei Ding and Xinyu Yang, China</p> <p>Conceptual approach to integrated human-centered performance management on the shop floor Thomas Hellebrandt, Ina Heine, Robert Schmitt and Maximilian Ruessmann, Germany</p> <p>Command of vessels in the era of digitalization Momoko Kitada, Jens-Uwe Schröder-Hinrichs, Raphael Baumler, Michael Baldauf, Dimitrios Dalaklis, Adrienne Mannov, Xiaoning Shi, Tiago Fonseca, Khanssa Lagdami and Peter Aske Svendsen, Sweden</p> <p>Old and wise? Linking age, intrapreneurship, social capital and production Galit Klein and Batia Ben-Hador, Israel</p>	

<p>80</p>	<p>Human Factors and Simulated Agents and Vehicles Co-Chairs: Julia Wright and Lauren Reinerman-Jones, USA</p>	<p>HFSIM/ HFRUS</p>
<p>16:30 - 18:30 - CAICOS 4</p>	<p>The use of immersive virtual reality for the test and evaluation of interactions with simulated agents Gabrielle Vasquez, Rhyse Bendell, Andrew Talone, Blake Nguyen and Florian Jentsch, USA</p> <p>Merging live and virtual multimodal interfaces for human-robot teaming Daniel Barber, USA</p> <p>Classification algorithms in adaptive systems for neuro-ergonomic applications Grace Teo and Lauren Reinerman-Jones, USA</p> <p>Effects of dynamic automation on situation awareness and workload in UAV control decision tasks Wenjuan Zhang, James Shirley, Yulin Deng, Na Young Kim and David Kaber, USA</p> <p>An exploration of human-agent communication when using simulated agents Shan Lakhmani, Michael Schwartz, Julia Wright and Jessie Chen, USA</p> <p>Mixed reality-based platform for smart cockpit design and user study for autonomous vehicles Shiyu Wu, Xiaohua Sun, Shengchen Zhang and Hanlin Wang, China</p> <p>Applications for augmented and virtual reality for human-robot interaction Elizabeth Phillips, USA</p>	
<p>81</p>	<p>New Tools for Human Error Research Co-Chairs: Antoni Kopyt and Reicelis Casares, Poland/Canada</p>	<p>HERRP</p>
<p>16:30-18:30 - CAICOS 5</p>	<p>A modified FMEA model with repair effectiveness index (REI) using fuzzy AHP for life support systems of space stations Garima Sharma and Rajiv Nandan Rai, India</p> <p>A methodology for improved helicopter performance measurement - an objective assessment tool (gOAT) system flight Antoni Kopyt, Przemysław Bibik and Grzegorz Świętoń, Poland</p> <p>Knowledge patterns to support ergonomic treatment of human error: Technology TErEH Reicelis Casares, Aida G. Rodríguez Hernández and Silvio J. Viña Brito, Canada</p> <p>Eureka: Data quality improvement for human-in-the-loop-research through hypotheses conformity substitution Philip Walter Cuthbert, Maria Lutécia da Riva Gonzalez and Conrad Samuel Frey, Canada</p>	
<p>82</p>	<p>Public Transport III Co-Chairs: Yiqi Xiao and Toshihisa Sato, China/Japan</p>	<p>RR</p>
<p>16:30-18:30 - CAICOS 6</p>	<p>Influence of driver's drowsiness on driving behaviors in transition from automated system to manual driving Toshihisa Sato, Japan</p> <p>The handlebar as an input field: Evaluating finger gestures designed for bicycle riders Yiqi Xiao and Renke He, China</p> <p>Investigating the effectiveness of a traffic enforcement camera system on the road safety in Saudi Arabia Hammad Alshammari and Chen Ling, Saudi Arabia</p>	

83	Trends in Cognition and Performance II Co-Chairs: Frederic Dehais and Hiroshi Hagiwara, France/Japan	CN
8:00-10:00 - GRAND CARIBBEAN 1	<p>Research on the brain mechanism of visual-audio interface channel modes affecting user cognition Wenqing Xi, Lei Zhou, Huijuan Chen, Jian Ma and Yueting Chen, China</p> <p>Changes in physiological condition in open versus closed eyes Kazuya Onishi and Hiroshi Hagiwara, Japan</p> <p>The effect of mental fatigue on response processes: An ERP study in Go/NoGo task Xiaoli Fan, Chaoyi Zhao, Hong Luo and Wei Zhang, China</p> <p>Quantification of interaction strategies using eye behavior: Assessing the relationship with physicians' performance during interaction with EHRS Prithima Reddy Mosaly, USA</p> <p>Experimental research on the relationship between user cognition and ERP technique for digital interface visual element Yafeng Niu, Yi Xie, Chengqi Xue, Haiyan Wang, Xian Li, Lei Zhou, Wenyu Wu and Tao Jin, China</p>	
84	DHM Applications and Shape Modeling Co-Chairs: Thomas Alexander and Lars Hanson, Germany/Sweden	DHMAO
8:00-10:00 - GRAND CARIBBEAN 2	<p>Articulating statistical shape model of the human hand Jeroen Van Houtte, Kristina Stanković, Brian G. Booth, Femke Danckaers, Véronique Bertrand, Frederik Verstreken, Jan Sijbers and Toon Huysmans, Belgium</p> <p>Ergonomics simulation and evaluation application for the wheelhouse on large ships Yumei Zhang, China</p> <p>Assembly verification of a pedal car with the digital human modelling tool IPS IMMA Lars Hanson, Sweden</p> <p>Design of new setup for the dynamic analysis of the recoil-shoulder interaction Elie Truyen, Patrik Hosek, Niels Maddens and Johan Gallant, Belgium</p> <p>Size North America: The new North American anthropometric survey and progress report Thorsten Kuebler and Andre Luebke, USA</p>	
85	Inclusive Design Co-Chairs: Anne-Marie Hebert and Maria Lilian Barbosa, Brazil	ED
8:00-10:00 - GRAND CARIBBEAN 3	<p>Maglev technology review for improving urban mobility Wilian Amaral, Guilherme Brandão and Jose Castañon, Brazil</p> <p>Accessible packaging: A study for inclusive models for visual impairment people Maria Lilian Araújo Barbosa, Maria Lucia Okimoto, Isabel Soares and Gisele Yumi Arabori Ribeiro, Brazil</p> <p>Variations in vital signs associated with the postural changes when using a stand-up wheelchair in patients with spinal cord injury Thalía San Antonio, Fernando Urrutia, Anita Larrea, Víctor Espín and María Augusta Latta, Ecuador</p> <p>Terrestrial autonomous vehicles: Exploratory study and perspectives of the interaction of blind people in the urban environment Fernanda Silva and Maria Lucia Okimoto, Brazil</p> <p>Proposal for model of assistance technology orthosis with parametric modeling Márcio Catapan, Gustavo Rohrbacher, Flávio Queiroz, Maria Lucia Okimoto and Fabio Evangelista Santana, Brazil</p>	

<p>87</p>	<p>Human Factors on Security and Crises Management Co-Chairs: Mário Simões-Marques and James Bliss, Portugal/USA</p>	<p>SYSI</p>
<p>8:00-10:00 - GRAND CARIBBEAN 5</p>	<p>How can AI help reduce the burden of disaster management decision-making Mário Simões-Marques and José R. Figueira, Portugal Design and realization of shooting training system for police force Bo Shi, China An examination of close calls reported within the International Association of Fire Chiefs database James Bliss and Lauren Tiller, USA Spontaneous ad-hoc network participation speeds crisis response and recovery Kelly Carter, USA</p>	
<p>88</p>	<p>Organizational Safety and Risk Management Co-Chairs: Andrew Enya, Wonder Nyoni and Mohammad Shahriari, Australia/Turkey</p>	<p>SMHF</p>
<p>8:00-10:00 - GRAND CARIBBEAN 8</p>	<p>Organizational factors, residual risk management and accident causation in the mining industry: A systematic literature review Wonder Nyoni, Manikam Pillay, Mark Rubin and Marcus Jefferies, Australia High reliability organisation (HRO) principles of collective mindfulness: An opportunity to improve construction safety management Andrew Enya, Shane Dempsey and Manikam Pillay, Australia Approach of a risk weighting method of ergonomic tools based on the combination of the concepts of FMEA, risk matrix and company specifications Omar Ferreira da Silva, Brazil Organizational management, human resources and mobbing. Findings in Colombia Carlos Marín and Olga Piñeros, Colombia Study on the related problems of the organizational factors of behavioral safety Runze Jiao, Xuebo Chen and Qiubai Sun, China Reducing injuries by applying behavior based safety Mohammad Shahriari and Mehmet Emin Aydin, Turkey Effect of risk factors on musculoskeletal disorders among the school teachers in district Hoshiarpur (Punjab) India: A case study Veenus Kaler, Rajinder Moom and Kuldip Kaler, India</p>	
<p>89</p>	<p>New Technologies in Safety Management Co-Chairs: Walter Eichendorf and Maryanne Mariyaselvam, Germany/UK</p>	<p>SMHF</p>
<p>8:00-10:00 - GRAND CARIBBEAN 9</p>	<p>New technologies and occupational health and safety Walter Eichendorf, Germany Control of collective security equipment by RFID in the construction site Victor Oliveira and Sheyla Serra, Brazil Comparative study of the application of risk assessment methodologies and risk matrix in collaborative robots Alberto Fonseca, Claudia Pires and Isabel Lopes, Portugal Development of enterprise accident early warning system based on IOT Wei Liu, Xuebo Chen and Qiubai Sun, China A CIT-AHP method for identification of communication skill factors in metro traffic dispatching system Yihang Du and Weining Fang, China Preventing never events during chest drain insertion using forced error simulation Peter Young and Maryanne Mariyaselvam, UK</p>	

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90	Design for People Co-Chairs: Yan Luximon and Kimberly Anne Sheen, Hong Kong	PEHF
8:00-10:00 - GRAND CARIBBEAN 10	<p>Rethinking ergonomics design Yan Luximon, Ameersing Luximon and Fang Fu, Hong Kong</p> <p>Gauging the student learning experience of a mobile application using iBeacon technology Kimberly Anne Sheen, Man Sing Wong, Roy Kam, Coco Y. T. Kwok and Keru Lu, Hong Kong</p> <p>Essentiality of safety sign for children: A case study of safety issues in Hong Kong playgrounds Yi Lin Wong, Mei Seung Lam and Kin Wai Michael Siu, Hong Kong</p> <p>Ergonomic performance evaluation of date stripping process Hemanatha Jayasuriya and Alaa Al Hinai, Oman</p> <p>Usability study and redesign for the food tray Kimberly Anne Sheen, Yan Luximon, Kar Hei Fung, Shun Him Chak, Wai Yi Chiu and Wing Sang Chan, Hong Kong</p> <p>Classifications of body size for Chinese females in three areas Linghua Ran, Hong Luo, Xin Zhang, Huimin Hu, Chaoyi Zhao and Tajjie Liu, China</p> <p>Comparison and ergonomic analysis of different types of moving straps Jaswanth Makarla and Yueqing Li, USA</p>	
91	Driver Skill Co-Chairs: Katie Plant and Patricia Delhomme, UK/France	RR
8:00-10:00 - GRAND CARIBBEAN 11	<p>Young driver rule compliance: Predictors of and comparisons between speeding, phone use while driving and graduated driver licensing violations Verity Truelove, James Freeman and Jeremy Davey, Australia</p> <p>How do newly qualified motorists become safer over their first months of driving? A mixed methods approach Damian Poulter, Richard Rowe, Andrew Thompson, Chris Stride and Marianne Day, UK</p> <p>Feature classification of skilled and unskilled persons in car driving operation Takuro Sugita, Reiko Mitsuya, Hiroki Dobashi, Kohei Sugawara, Takashi Kawai, Akiko Sugiyama and Takeshi Torii, Japan</p> <p>Explaining senior drivers' road near misses using both self-reported and automatic collected data Patricia Delhomme, Anabela Simoes, Blazej Palat, Guillaume Saint Pierre and José Carvalhais, France</p> <p>Driver distraction: Confusing cause with effect John Meyer and David Curry, USA</p> <p>Quantifying driver eye glance behavior and levels of distracted driving in the SHRP2 nest driving database Peter Bakhit, Osama Osman and Sherif Ishak, USA</p>	
92	Interfaces and Interaction I Co-Chairs: Patrick Langdon and Florian Weidner, UK/Germany	RR
8:00-10:00 - GRAND CARIBBEAN 12	<p>Development of full-windshield head-up display simulator for ergonomics design YanJun Zhang, Zhufeng Li, Youchao Sun, Qun Liu and Wei Tan, China</p> <p>Exploring large stereoscopic 3D dashboards for future automotive user interfaces Florian Weidner and Wolfgang Broll, Germany</p> <p>Probabilistic modelling of demand of pointing tasks while driving Bashar Ahmad, Patrick Langdon, Lee Skrypchuk and Simon Godsill, UK</p> <p>A review of the physical, psychological and psychophysiological effects of motorsport on drivers and their potential influences on cockpit interface design James Brown, Neville Stanton and Kirsten Revell, UK</p> <p>Camera monitor systems as replacement of side mirror in rearward monitoring Toshihisa Doi, Atsuo Murata, Makoto Moriwaka and Takumi Osagami, Japan</p> <p>A baseline experiment for the effect of virtual immersion on vehicle passenger risk perception Nicholas Dow, Sean Brennan and Matthew Parkinson, USA</p>	

93	The Present and Future of Macroergonomic Systems Co-Chairs: Leszek Pacholski and Robert Waszkowski, Poland	SOE
8:00-10:00 - TURKS 1	<p>Virtual simulation for the optimization of the ergonomic properties of the firefighting vehicle Tadeusz Nowicki, Andrzej Walczak, Jaroslaw Koszela, Roman Wantoch-Rekowski and Lukasz Matuszelański, Poland</p> <p>Improvement method of subcontract phase of production process in IT production management system – case study Maciej Siemieniak, Katarzyna Siemieniak and Leszek Pacholski, Poland</p> <p>Clothing distribution optimization for the rental company warehouse Robert Waszkowski, Tadeusz Nowicki and Anna Saniuk, Poland</p> <p>Impact of office design on satisfaction of government employees in Laguna Provincial Capitol, Philippines Marc Edelbert Villanueva, Maria Liezel Caroché, Angelo Ani and Micah Ramirez, Philippines</p> <p>The future of macroergonomic manufacturing systems Joanna Kałkowska, Maciej Siemieniak and Leszek Pacholski, Poland</p> <p>Macroergonomics factors generating working time losses in interpretation of grey systems theory Katarzyna Siemieniak, Maciej Siemieniak, Bogna Mateja and Leszek Pacholski, Poland</p>	
94	Usability Evaluation Co-Chairs: Samar Swaid and Dosun Shin, USA	UUE
8:00-10:00 - TURKS 2	<p>Usability heuristics for M-Commerce apps Samar I. Swaid and Taima Z. Suid, USA</p> <p>Usability and design guideline for designing single handle faucet’s and handle shape Riku Takagi, Noriko Hashida and Hiroyuki Takeuchi, Japan</p> <p>A comparative study of product usability and ergonomic assessment of server lifts Dosun Shin, USA</p> <p>In search of the user’s language: Natural language processing, computational ethnography, and error-tolerant interface design Timothy Arnold and Helen Fuller, USA</p> <p>Measuring undergraduate science students satisfaction for the services provided by chemistry laboratories in Thailand Chanyapat Sangsuwon, Thailand</p> <p>User density estimation system using inaudible signal in a specific closed space Myoungbeom Chung, South Korea</p>	
95	Usability and User Experience V Co-Chairs: Theresa Matthews and Jaruwan Chutrtong, USA/Thailand	UUE
8:00-10:00 - TURKS 3	<p>User evaluation of MyStudentScope a web portal for parental management of their children’s educational information Theresa Matthews, Ying Zheng, Jinjuan Feng and Zhijiang Chen, USA</p> <p>Harnessing music to enhance speech recognition Vered Aharonson, Shani Mualem and Eran Aharonson, South Africa</p> <p>Heuristic evaluation for mobile applications: Extending a map of the literature Ger Joyce, Mariana Lilley, Trevor Barker and Amanda Jefferies, UK</p> <p>A decade of evolution in smartphone era: A literature review on Chinese Pinyin input method Guanlong Li, USA</p>	

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96	Novel Research and Applications for 3D Printing I Co-Chairs: Emilio Rossi and Peter Coutts, Italy/USA	AMMSP
8:00-10:00 - TURKS 4	<p>Applying the programmable modeling tool to support the hospital infection control staff in customizing the filtering face-piece respirators for health care worker Jianyou Li, Hiroya Tanaka and Shoko Miyagawa, Japan</p> <p>Hybrid manufacturing control system for functionally graded materials Frederick Lia, Sanjay Joshi, Rich Martukanitz and Peter Coutts, USA</p> <p>Novel way to design the 3D printing path and its applications Soko Koda and Hiroya Tanaka, Japan</p> <p>Reverse engineering and digital archives as a resource for practical craft-based manufacturing process Elisabetta Cianfanelli, Gabriele Goretti and Margherita Tufarelli, Italy</p> <p>Use of digital modeling and 3D printing for the inclusive valorisation of cultural heritage Emilio Rossi and Paola Barcarolo, Italy</p>	
97	Cybersecurity Tools and Analytics I Co-Chairs: Christopher Horn and Phillip Morgan, USA	CYBER
8:00-10:00 - TURKS 5	<p>Biometric electronic signature security Phillip Griffin, USA</p> <p>Standardizing information security definitions supporting organizationally-relevant policy content and compliance requirements Theresa Curran, USA</p> <p>Measuring application security Christopher Horn and Anita D'Amico, USA</p> <p>Cyber security awareness among college students Abbas Moallem, USA</p> <p>Exploring older adult susceptibility to fraudulent computer pop-up interruptions Phillip Morgan, Emma Williams, Nancy Zook and Gary Christopher, UK</p> <p>Engaging non-cyber professionals in cyber security: Cyber awareness training for operations personnel Kelly J. Neville, Robert E. Wray, Denise Nicholson and Lauren Massey, USA</p> <p>Factors of socially engineering citizens in critical situations Birgy Lorenz, Kaido Kikkas and Kairi Osula, Estonia</p>	
98	Organizational Learning in Occupational Safety Co-Chairs: Anna-Maria Teperi and Aleksandra Polak-Sopińska, Finland/Poland	TELS
8:00-10:00 - TURKS 6	<p>The management of occupational health and safety in vocational education and training Sari Tappura, Anna-Maria Teperi, Anna-Leena Kurki and Jouni Kivistö-Rahnasto, Finland</p> <p>Incidents in schools – incident analysis in developing safety management Eila Lindfors and Anna-Maria Teperi, Finland</p> <p>Upscaling construction education: The role of construction site experiential learning John Aliu and Clinton Aigbavboa, South Africa</p> <p>Mobile subject-oriented learning considering individual human peculiarities and ergonomics Tamara Maliarchuk, Ukraine</p>	

99	Human Factors and Wearable Technologies III Co-Chairs: Chantal Lidynia and Nicola Francesco Lopomo, Germany/Italy	HFWT
8:00-10:00 - CAICOS 1	<p>Step by step - users and non-users of life-logging technologies Chantal Lidynia, Philipp Brauner, Laura Burbach, and Martina Ziefle, Germany</p> <p>Comparison among standard method, dedicated toolbox and kinematic-based approach in assessing risk of developing upper limb musculoskeletal disorders Stefano Elio Lenzi, Carlo Emilio Standoli, Giuseppe Andreoni, Paolo Perego and Nicola Francesco Lopomo, Italy</p> <p>The virtual penetrating the physical and the implication for augmented reality head-up displays Matthias Walter, Vanessa Seitz and Klaus Bengler, Germany</p> <p>Determining comfortable pressure ranges for wearable EEG headsets Stijn Verwulgen, Daniël Lacko, Justine Hoppenbrouwers, Siemon Kustermans, Stine Moons, Falk Thys, Sander Zelck, Kristof Vaes, Toon Huysmans, Jochen Vleugels and Steven Truijen, Belgium</p> <p>The empirical research on the effects of user's inter-pupillary distance (IPD) and HMD configurations on simulator sickness Joong Ho Lee, Hyunjeong Kim and Ji-Hyung Park, South Korea</p>	
100	Game Design User Experience Co-Chairs: Tamotsu Murakami and Fatima Masood, Japan/Pakistan	HFGD
8:00-10:00 - CAICOS 2	<p>Game design methodology considering user experience in comprehensive contexts: Trial on inducing player to terminate game contentedly by motivation control Eisuke Hironaka and Tamotsu Murakami, Japan</p> <p>Enhancing usability and user experience of children learning by playing games Fatima Masood, Mahnoor Dar, Muhammad Sohaib Shakir, Muhammad Ahmed, Imran Kabir, Muhammad Hassan Shafiq, Zaheer Mehmood Dar and Hamna Zakriya, Pakistan</p> <p>User engagement through multimodal feedback and involvement in game design with a wearable interface Carlos Arce-Lopera and Arturo Gomez, Colombia</p> <p>How popular game engine is helping improving academic research: The DesignLab case André Salomão, Milton Luiz Horn Vieira and Flavio Andalo, Brazil</p> <p>The relation of attention between player profiles: A study on the eye-tracking and profile BrainHex Victor Moreira and Maria Lucia Okimoto, Brazil</p>	
101	Safety and Process Control Management Co-Chairs: Salvador Ávila Filho and Ivone Cerqueira, Brazil	APMPC
8:00-10:00 - CAICOS 3	<p>Failure analysis cases in operational control and recommendations for task criteria in the man-process interface design Maria Lorena Souza, Salvador Ávila Filho, Ivone Cerqueira, Amanda Ramos Oliveira and Carine Nogueira Santino, Brazil</p> <p>Alarms management criteria and cognitive limits for the chemical industry Maria Lorena Souza, Salvador Ávila Filho, Rafael Brito, Ivone Cerqueira and Jade Avila, Brazil</p> <p>C4T: Safe behavior performance tool Ivone Cerqueira, Salvador Ávila Filho, Edmara Drigo and Michel Gagliano, Brazil</p> <p>Energy loss risk (ELOS R) in supply chain, micro-processes to decrease greenhouse gas emissions Salvador Ávila Filho, Ivone Cerqueira and Jade Avila, Brazil</p> <p>Cognitive, intuitive and educational intervention strategies for behavior change in high-risk activities, SARS Salvador Ávila Filho, Ivone Cerqueira and Edmara Drigo, Brazil</p> <p>Practical verification of a logistic Lean model for small enterprises operating in Poland Mariusz Bednarek and Rafał Kucharczyk, Poland/Chile</p>	

102	Leadership Styles and Social Aspects Co-Chairs: Tibor Barath and Mohammed-Aminu Sanda, Hungary/Ghana	HFML
8:00-10:00 - CAICOS 4	<p>The importance of strategic human resource development practices among multinational companies in Malaysia Roziانا Shaari, Azizah Rajab, Azlineer Sarip, Hamidah Abdul Rahman and Farahnurhidayah Mohamed Fadil, Malaysia</p> <p>Understanding the effect of emotional exhaustion on tellers' satisfaction with teller-task activities and its managerial implications Mohammed-Aminu Sanda and Emmanuel Mawuenah, Ghana</p> <p>Regulations and employees' commitment to change: Does emotional intelligence matter? Olivia Anku-Tsede, Aaron Ametorwo and Alhassan Akudugu, Ghana</p> <p>How does personal social capital affect managerial position? Batia Ben-Hador and Eyal Eckhaus, Israel</p> <p>A transformation in practice Christine White, Ronda Caswell and Laura Romero, USA</p> <p>Contractors' organisational structure elements for controlling project cost in the construction industry Kofi Owusu Adjei, South Africa</p> <p>Constraints to the successful implementation of building projects in technical universities in Ghana Osei Yaw Safo-Kantanka, Clinton Aigbavboa and Bernard Martin Arthur-Aidoo, South Africa</p>	
10:00 - 10:30 Refreshments will be provided in Grand Caribbean Ballroom		
103	Emotional Engineering in Healthcare Co-Chairs: Keiichi Muramatsu and Lei Hou, Japan/China	APD
10:30-12:30 - GRAND CARIBBEAN 1	<p>Evaluation of the effect of the amount of information on cognitive load by using a physiological index and the Stroop task Yushi Hashimoto, Keiichi Watanuki, Kazunori Kaede and Keiichi Muramatsu, Japan</p> <p>Examination of the brain areas related to cognitive performance during the Stroop task using deep neural network Tomohiro Nishikawa, Yushi Hashimoto, Kosei Minami, Keiichi Watanuki, Kazunori Kaede and Keiichi Muramatsu, Japan</p> <p>Experimental study on presenting gaze information in multi-party dialogue Keiichi Muramatsu, Shunsuke Sekine, Kazunori Kaede and Keiichi Watanuki, Japan</p> <p>An analysis of a human-exoskeleton system for gait rehabilitation Lei Hou, YiLin Wang, Jing Qiu, Lu Wang, XiaoJuan Zheng and Hong Cheng, China</p> <p>Using social sharing interaction in rehabilitation to improve stroke patients motivation Fu-Yu Liu and Chien-Hsu Chen, Taiwan</p> <p>Application to help engage young people in elderly care Xueying Mei, Yuting Lin, Yi Zhang and Yu Zhao, China</p>	
104	Teamwork, Situation Awareness and Fatigue Co-Chairs: Katie Plant and Ulrika Ohlander, UK/Sweden	AVI
10:30-12:30 - GRAND CARIBBEAN 2	<p>Informing the design of fighter aircraft cockpits using a teamwork perspective Ulrika Ohlander, Jens Alfredson, Maria Riveiro and Göran Falkman, Sweden</p> <p>Technology development framework for air traffic control assisted airport procedures in dynamic wake separations Julio Roa, USA</p> <p>Assessing the validity of subjective measures of human performance used in the aviation domain Katie Parnell, Katie Plant, Victoria Banks and Neville Stanton, UK</p> <p>RACOON (Remote Airport Concept Of OperatiON) Giovanni Riccardi, Daniele Teotino, Lindsay Hoto and Keith Penny, Italy</p> <p>Examining the effects of different situation awareness on visual performance and error Hongjun Xue, Hua Zhao and Xiaoyan Zhang, China</p> <p>Pilots as multi-modal operators: Does commuting by driving relate to fatigue and impaired performance? Alexandros Kontotasios, Stephen Wright, Edward Killan and Samantha Jamson, UK</p> <p>Neck and shoulder muscle fatigue in high performance Aircraft pilots: A case study Francesco Draicchio, Giorgia Chini, Alessio Silveti, Roberto Vitalone, Elena Lucertini and Marco Lucertini, Italy</p>	

105	Biofeedback Training and Self-Regulation Co-Chairs: Lukasz Mazur and Sinh Bui, USA/Canada	CN
10:30-12:30 - GRAND CARIBBEAN 3	<p>Autonomic nervous system approach to measure physiological arousal and scenario difficulty in simulation-based training environment Sinh Bui, Brian Veitch and Sarah Power, Canada</p> <p>Non-invasive brain modulation with real-time FMRI neurofeedback amygdala emotional regulation training with concurrent EEG recordings Jerzy Bodurka, USA</p> <p>Supervising SSSEP experiments with a Bluetooth Android remote control application José Rouillard, Francois Cabestaing, Jean-Marc Vannobel and Marie-Helene Bekaert, France</p> <p>Effect of neurofeedback intervention on medical residents' burnout Lukasz Mazur, USA</p>	
106	Human Factors in Design Co-Chairs: Paulo Maldonado and Yahui Bai, Portugal/China	ED
10:30-12:30 - GRAND CARIBBEAN 4	<p>Establishment of indexes system for bookcases ergonomic evaluation based on Delphi method Yinxia Li, Yahui Bai, Huimin Hu, Pu Hong, Mengjing Cai and Linkai Chen, China</p> <p>Design, a ready-made object or an object ready to be made Luis Miguel Francisco Ginja, Portugal</p> <p>Inspiration mining: Intersecting improbable connections in a new landscape of cultural reflection and influence Paulo Maldonado and Leonor Ferrão, Portugal</p> <p>Improving sleep headphone design using 3D Chinese head anthropometric data Haining Wang, Yi Li, Xinyi Li and Roger Ball, China</p> <p>The effects of center of mass on comfort of soft belts virtual reality devices Yiming Song, Yonghong Liu and Yan Yan, China</p> <p>DESIGNLAB4U: A laboratory of knowledge, experimentation and practical action Cátia Rijo, Portugal</p> <p>China design development based on trend-driven innovation strategy under the belt and road initiative Zhang Zhang, Jianxin Cheng, Tengye Li and Qianqian Wu, China</p>	
107	Healthcare Workers Ergonomics: Musculoskeletal Disorders Co-Chairs: Mohamad Hamzi Mohamad Noor and Nurul Husna Abd Ghani, Malaysia	EHMD
10:30-12:30 - GRAND CARIBBEAN 5	<p>Ergonomics risk assessment of musculoskeletal disorders (MSD) during simulated endotracheal intubation in Hospital Universiti Sains Malaysia (HUSM) Shaik Farid Abdull Wahab, Rohayu Othman and Mohamad Hamzi Mohamad Noor, Malaysia</p> <p>Risk of MSD in rescuer performing CPR at kneeling, standing and step-on-stool position Shaik Farid Abdull Wahab, Rohayu Othman and Nurul Husna Abd Ghani, Malaysia</p> <p>The ergonomic benefits of a laterally-tilting operating room table and friction-reducing devices in patient lateral transfers Saif Al-Qaisi and Adnan El Tannir, Lebanon</p> <p>Chest compression in cardiopulmonary resuscitation in ambulance: Are we at risk of MSD? Shaik Farid Abdull Wahab, Rohayu Othman, Mohd Hashairi Fauzi and Mohd Fariq Nusri, Malaysia</p> <p>Factors affecting occupational health of hospital personnel in Indian context Rahul Mondal and Pradip Kumar Ray, India</p>	

108	Current Approaches for Risk Management and Assessment Co-Chairs: Giulio Nisoli and Junqiao Zhang, Switzerland/China	SMHF
10:30-12:30 - GRAND CARIBBEAN 8	<p>Expert elicitation methodology in the risk analysis of an industrial machine Tony Venditti, Ahn Dung Ngô and Phuong Tran Nguyen Duy, Canada/Vietnam</p> <p>Improvement plan of fall risk assessment in medical institution Masayoshi Nitta and Yusaku Okada, Japan</p> <p>Proposal of field-oriented system to medical risk management. Support of risk managers in hospital Kimura Kana and Yusaku Okada, Japan</p> <p>Measure evaluation tool MET: Promoting safety by optimizing the human scope of action Toni Waefer, Giulio Nisoli and Rahel Gugerli, Switzerland</p> <p>Safety assessment for decommissioning worker HyungJun Kim and Seung Jun Lee, South Korea</p> <p>Application fuzzy evaluation methods on safety management of industrial enterprise Junqiao Zhang and Xuebo Chen, China</p> <p>Dynamic analysis of enterprise security system based on multi-level analysis and structural equation model Li Zeyu, Xuebo Chen and Qiubai Sun, China</p>	
109	Emotion and Well-Being Co-Chairs: Peng-Jyun Liu and Diogo Cunha dos Reis, Taiwan/Brazil	PEHF
10:30-12:30 - GRAND CARIBBEAN 9	<p>An ECG-based approach to pilots' instantaneous high stress Shuyu Shao, Qianxiang Zhou, Yanjing Wang and Zhongqi Liu, China</p> <p>Evaluation of worker satisfaction with the use of hand tools in a poultry slaughterhouse Adriana Seára Tirloni, Diogo Cunha dos Reis, Natália Fonseca Dias and Antônio Renato Pereira Moro, Brazil</p> <p>Application of Kano Model to explore insulation bag for breast milk Peng Jyun Liu, Hsing-Chi Chang and Chi-Wen Lung, Taiwan</p> <p>Research on cultural and creative products with Taiwan image: An example of puppet tourism products Peng-Jyun Liu, Shao-Chieh Lin and Yuan Shen, Taiwan</p>	
110	Driver Behavior and Performance Co-Chairs: Katie Parnell and Lee Vien Leong, UK/Malaysia	RR
10:30-12:30 - GRAND CARIBBEAN 10	<p>Platooning behavior at two-lane, two-way rural roads with level terrain in Malaysia Lee Vien Leong and Shafida Azyanti Mohd Shafie, Malaysia</p> <p>Listening to high tempo music behind the wheel: How the experienced emotion associated to music influences driving behavior Sharon Ouddiz, Pierre-Vincent Paubel and Céline Lemerrier, France</p> <p>Exploring the effect of sun glare on car motorist injury severity in the United Kingdom Shang-Ku Chen, Chin-Wei Pai and Ping-Ling Chen, Taiwan</p> <p>Long-haul trucking Richard Bee, Charles Junghans, Kelly Leimkuhler and Valerio Sanchez, USA</p> <p>The relationship between explicit and implicit attitudes towards drink driving Laila Martinussen and Laura Petranca, Denmark</p> <p>Using change blindness to assure the influence of cognitive load to driving performance Yang Haibo, China</p>	

111	Interfaces and Interaction II Co-Chairs: Patrick Langdon and David Kidd, UK/USA	RR
10:30-12:30 - GRAND CARIBBEAN 11	<p>Driver distraction: Determining the ideal location of a navigation device for transportation network vehicle services (TNVS) drivers in Metro Manila Reigniel Andrew Lim, Andre Bernan De Lumen, Kenneth Orosa, Dranreb Paralleon and Keneth Sedilla, Philippines</p> <p>Attributes of crash prevention systems that encourage drivers to leave them turned on David Kidd and Ian J. Reagan, USA</p> <p>Interaction patterns: The key to unlocking digital exclusion assessment? Mike Bradley, Per Ola Kristensson, Patrick Langdon and John Clarkson, UK</p> <p>Connected vehicle human-machine interface: Development and assessment Mohamed Ahmed, Guangchuan Yang and Sherif Gaweesh, USA</p> <p>Exploring seat movement while driving - what do drivers think? Maria Varela, Diane Gyi, Neil Mansfield, Bob Bateman, Akinari Hirao and Tomokazu Furuya, UK</p> <p>UCEID - the best of both worlds: Combining ecological interface design with user centered design in a novel HF method applied to automated driving Kirsten Revell, Pat Langdon, Ioannis Politis, Mike Bradley, James Brown, Simon Thompson, Lee Skrypchuk, Alexandros Mouzakitis and Neville Stanton, UK</p>	
112	Novel Research and Applications for 3D Printing II Co-Chairs: Anna Szopa and Alessandro Spennato, Poland/Italy	AMMSP
10:30-12:30 - GRAND CARIBBEAN 12	<p>Quickness of the time of things Gianpiero Alfarano, Jurji Filieri, Alessandro Spennato, Erika Lascialfari and Stefano Calza, Italy</p> <p>3D design process: Case study of megaproject analysis and 3D printing concept proposal in the field of fashion Massimo Di Nicolantonio, Antonio Marano, Andrea Vallicelli and Giulia Angeloni, Italy</p> <p>Research on the ambiguity of design sketch and variability in 3D modeling in automobile design Tingting Hu, Yi Zhu and Danhua Zhao, China</p> <p>Study of body shoulder shaping for Chinese females based on 3-D body measurement Linghua Ran, Xin Zhang, Chaoyi Zhao, Taijie Liu, Hong Luo, Huimin Hu and Zhongting Wang China</p> <p>An aid of 3D printing insole to increase the propulsion of the forefoot for stroke patients Wei-Te Tsai, Taiwan</p> <p>Research on material strength test method for 3D printed prosthetic leg Yutaka Tokushima, Japan</p>	
113	Ergonomics in Building and Architecture I Co-Chairs: Jerzy Charytonowicz and Anna Jaglarz, Poland	SUPI
10:30-12:30 - TURKS 1	<p>The impact of ergonomic guiding principles on the formation of modern monumental art Agnieszka Gebczynska-Janowicz, Poland</p> <p>Ergonomic aspects of development of architecture in the context of sanitary and hygiene safety Rafal Janowicz, Poland</p> <p>Architecture of public toilets in the landscape - disorder or integration Anna Jaglarz, Poland</p> <p>Human scale in architecture of schools located in dense urban fabric Andrzej Dudzinski, Poland</p> <p>Ergonomics as the common denominator and vital condition to achieve sustainability of buildings of different types on example of two built projects Pawel Horn, Poland</p>	

114	User Experience in Healthcare and Learning Co-Chairs: Manutchanok Jongprasithporn and Ling Luo, Thailand/China	UUE
10:30-12:30 - TURKS 2	<p>Usability assessment of a portable corneal topography device Carlos Aceves-Gonzalez, Zuli T. Galindo-Estupiñan, Irma C. Landa-Avila, Citlali Díaz-Gutiérrez and Stephanie Daphne Prado-Jiménez, Mexico</p> <p>Designing and developing a prototype of parents and teachers communication application for early childhood Manutchanok Jongprasithporn, Thailand</p> <p>Research on user comfort of intelligent toilet based on ergonomics Zhongting Wang, Haimei Wu, Wei Wang, Ling Luo, Yunhong Zhang and Chaoyi Zhao, China</p> <p>Satisfaction analysis of using an educational serious game for teaching wound treatment Gabriel Candido da Silva, Lúcia Paloma Freitas da Silva, Nicolau Calado Jofilsan, Alex Sandro Gomes, Walter Franklin Marques Correia and Amadeu Sa De Campos Filho, Brazil</p> <p>Development and experimental analysis of a Chinese customer satisfaction model for medical service industry Ng Jacky, Ruifeng Yu, Alan Chan and Yifan Tian, China</p> <p>Usability and user experience assessment of SeriousMD: A smartphone application telehealth system Ezekiel Bernardo, Angelica Joy Olan, Jazmin Tangsoc, Diosdado Santos and Tommy Lim, Philippines</p>	
115	Usability and User Experience VI Co-Chairs: Yeongchae Choi and Wenchao Zuo, Japan/China	UUE
10:30-12:30 - TURKS 3	<p>Difference of sensitiveness toward information based on user-role Yeongchae Choi and WonSeok Yang, Japan</p> <p>Usability evaluation of a state university grade encoding system John Paolo Isip and Hazel Caparas, Philippines</p> <p>How to get to know your customers better? A case analysis of smartphone users with Chinese input method based on Baidu index Wenchao Zuo, Yuhong Wang and Yueqing Li, USA</p> <p>Evaluation of aesthetic and emotional satisfaction of mobile phone users Young-Hee Lee and Ryang-Hee Kim, South Korea</p> <p>Usability and user experience in bullet screen Zhizheng Zhang, China</p> <p>Proactive car HMI user experience typical scenario based on intelligent interaction Jinglu Li and Xiaohua Sun, China</p>	
116	Human Factors, Business Management and Society II Co-Chairs: Tero Reunanen and Jussi Kantola, Finland	HFBMS
10:30-12:30 - TURKS 4	<p>Correlations between holistic awareness of time and innovativeness Tero Reunanen and Hannu Vanharanta, Finland</p> <p>Role ambiguity and trust repair of flight attendants: Emotional labor of human service employees Noriko Okabe, Japan</p> <p>Review of Industry 4.0 in the light of sociotechnical system theory and competence based view: A future research agenda for the Evolute approach Faisal Imran and Jussi Kantola, Finland</p> <p>Economic development of Kenya. Tourism industry impact Sassan Rismani, Jabir Hassan and Romana Gunkevych, Iraq</p> <p>Comparative analysis of Korean process safety management and United States of America risk based process safety Ok Gu Ju and Jong-Bae Baek, South Korea</p>	

<p>117</p>	<p>Interaction with Therapeutic and Educative Systems Co-Chairs: Yves Rybarczyk, Sandra Sánchez and Janio Jadán, Ecuador</p>	<p>SYSI</p>
<p>10:30-12:30 - TURKS 5</p>	<p>Analysis and improvement of the web accessibility of a tele-rehabilitation platform for hip arthroplasty patients Tania Calle-Jimenez, Sandra Sanchez-Gordon, Yves Rybarczyk, Janio Jadán, Santiago Villareal, Wilmer Esparza, Patricia Acosta, César Guevara and Isabel L. Nunes, Ecuador/Portugal</p> <p>Educational resources accessible on the tele-rehabilitation platform Patricia Acosta-Vargas, Wilmer Esparza Yánez, Yves Rybarczyk, Mario González, Santiago Villarreal, Janio Jadán, César Guevara, Sandra Sanchez-Gordon, Tania Calle-Jimenez, Jonathan Baldeon and Isabel L. Nunes, Ecuador/Portugal</p> <p>Analysis and improvement of the usability of a tele-rehabilitation platform for hip surgery patients Henry Pilco, Sandra Sanchez-Gordon, Tania Calle-Jimenez, Yves Rybarczyk, Janio Jadán, Santiago Villareal, Wilmer Esparza, Patricia Acosta, César Guevara and Isabel L. Nunes, Ecuador/Portugal</p> <p>Design of an architecture for accessible web maps for visually impaired users Tania Calle-Jimenez, Adrián Eguez-Sarzosa and Sergio Luján-Mora, Ecuador</p> <p>Interaction with a tele-rehabilitation platform through a natural user interface: A case study of hip arthroplasty patients Yves Rybarczyk, Santiago Villareal, Patricia Acosta, Wilmer Esparza, Janio Jadán, César Guevara, Sandra Sanchez-Gordon, Tania Calle-Jimenez and Isabel L. Nunes, Ecuador/Portugal</p> <p>A real-time algorithm for movement assessment using fuzzy logic of hip arthroplasty patients Janio Jadán, Yves Rybarczyk, Sandra Sanchez-Gordon, Tania Calle-Jimenez, Wilmer Esparza, Santiago Villareal, Isabel L. Nunes, Patricia Acosta and César Guevara, Ecuador/Portugal</p>	
<p>118</p>	<p>Assistive Design Solutions and Prosthetic Environments Co-Chairs: Gerald Scott and Eric Perfect, USA/Canada</p>	<p>HFAT</p>
<p>10:30-12:30 - TURKS 6</p>	<p>Empowering design solutions for orbital prostheses, avoiding the uncanny valley Julie Snykers, Yvonne Motzkus, Marieke Van Camp and Kristof Vaes, Belgium</p> <p>Biomechanical models of computerized prosthetic leg Nantakrit Yodpijit, Manutchanok Jongprasithporn, Penpetch Maneewong, Nanthanit Faksang and Teppakorn Sittiwanchai, Thailand</p> <p>Applying the principles of work domain analysis to inform the interface design of augmentative and alternative communication devices Erin Perfect and Claire Davies, Canada</p> <p>Open source AUDEO is a model for the development of low-cost assistive technology Shane Pinder and Claire Davies, Canada</p> <p>Human-centered design of computerized prosthetic leg: A questionnaire survey for user needs assessment Nantakrit Yodpijit, Manutchanok Jongprasithporn, Uttapon Khawnuan, Teppakorn Sittiwanchai and Juthamas Siriwatsopo, Thailand</p> <p>Workplace accommodation for autistics: Autistic autobiography and technology-enabled prosthetic environments Gerald Scott, USA</p>	

119	Interdisciplinary Discourse in Service Design Co-Chairs: Miso Kim and Yixuan Zhang, USA	IPID
10:30-12:30 - CAICOS 1	<p>Autonomy in residential care: Using TEAMWORK and the Deep Dive to facilitate interdisciplinary collaboration Yixuan Zhang, Rachel Pozzar, Xing Zhou, Miso Kim, Paul W. Fombelle and Valeria A. Ramdin, USA</p> <p>Cultivating values: A service platform design for the preschool children Xing Zhou, China</p> <p>Service storytelling: Exploring storytelling models in the context of the service design process Miso Kim and Youngsoo Lee, USA</p> <p>Design for serving: Developing stakeholders-centered design approach in assistive technology design Eunki Chung, USA</p> <p>The application status and development trend of biometrics identification in "internet+" age Shuxian Liu, Huaming Peng and Tengfei Zhang, China</p> <p>Production by rapid prototyping of samples for testing of self-produced starch-based bioplastics Carlo Santulli, Davide Paciotti and Paolo Cardorani, Italy</p>	
120	Collective Creativity In Design Co-Chairs: WonJoon Chung and Maham Farooq, Canada	IPID
10:30-12:30 - CAICOS 2	<p>User sensory emotional factor support system UI guidelines for non-expert designer-focusing on air purifier Hyunji Kim, Yunmo Park and Eui-Chul Jung, South Korea</p> <p>Effective ideation method for collective creativity WonJoon Chung, Canada</p> <p>A proposal for integrated collaborative design process driving innovation: Applying to design project on the product-service system using biometrics Eui Chul Jung, Jeongsub Lim, Chingwei Liu and Deok Chan Lee, South Korea</p> <p>Dr. Loupe: Development of iris recognition paramedic diagnosis and recording IoT device Eui Chul Jung, Huile Gao and Ji Hee Cho, South Korea</p> <p>AHP-based priority analysis of cognitive feedback methods by driver state in an autonomous vehicle Min Hyung Gu and Da Young Ju, South Korea</p> <p>Collective creativity for teaching Alisdair MacRae, Canada</p>	
121	Technology-Based Training Co-Chairs: Anna-Maria Teperi and Cassandra Bräuer, Finland/Germany	TELS
10:30-12:30 - CAICOS 3	<p>Achievement of sanitary learning by problem-based learning (PBL) Jarawan Chutrtong and Waradoon Chutrtong, Thailand</p> <p>Redesign of Chinese traditional culture: Take Longmen Grottoes as an example Zhang Sijia, Lei Tian, Nan Ni and Chen Ken, China</p> <p>Adaptive e-Learning for supporting motivation in the context of engineering science Mathias Bauer, Jacqueline Schuldt, Cassandra Bräuer and Heidi Krömker, Germany</p> <p>Language training in the Philippines: Measuring and exploring learner experiences Chihiro Tajima, Japan</p> <p>Agile for newbies: A Scrum workshop design and implementation process Julio Guzman, Gustavo Lopez and Brenda Aymerich, Costa Rica</p> <p>Reducing pilot training failures in the Canadian armed forces: The application of competencies Francesca Ruscito, Canada</p>	

122	Design for Inclusive ICT Co-Chairs: Giuseppe Di Bucchianico and Gottfried Zimmermann, Italy/Germany	DI
10:30-12:30 - CAICOS 4	Inclusive responsiveness – why responsive web design is not enough and what we can do about this Gottfried Zimmermann, Christophe Strobbe and Daniel Ziegler, Germany Social inclusion and territorial enhancement: A project of tourism interactive information system for bike users Giuseppe Di Bucchianico, Antonio Marano, Stefania Camplone and Emidio Antonio Villani, Italy Design guidelines for adaptable videos and video players on the web Damaris Rothfuss, Gottfried Zimmermann and Patrick Münster, Germany Evaluating accessibility and usability of an experimental situational awareness room Terje Gjørseter and Jaziar Radianti, Norway	
123	Work Stress and Cognitive Evaluation for Organizational Performance Co-Chairs: Aide Aracely Maldonado Macías and Arturo Realyvasquez-Vargas, Mexico	APMPC
10:30-12:30 - CAICOS 5	Human error identification and mental workload index setting during a computer power source change task: A case study Margarita Ortiz-Solís, Aide Maldonado, Manuel Alejandro Barajas-Bustillos, Karina Arredondo-Soto and Teresa Carrillo-Gutiérrez, Mexico Response to change and organizational culture, case study in the Mexican Maquiladora Karina Arredondo-Soto, Teresa Carrillo-Gutiérrez, Guadalupe Hernández-Escobedo, Elizabeth Romero-Samaniego, Aide Maldonado and Gustavo López-Badilla, Mexico Descriptive study about job strain index, physical activity and eating habits among employees of a Mexican manufacturing industry Aide Maldonado, Margarita Ortiz-Solís, Ozieli Armenta-Hernández, Jorge García-Alcaraz, Arturo Realyvasquez-Vargas and Liliana Avelar Sosa, Mexico Increase of efficiency in the optical fiber area in a manufacturing company Arturo Realyvásquez, Mexico Application of the NIOSH formula to improve the statistical process control in automotive inspection processes Sergio Montesinos, Ana Patricia García, Sebastian Quintero and Josue Alejandro Rodriguez, Mexico	
124	Driving Simulators Co-Chairs: Cathy Neubauer and Lois James, USA	HFSIM
10:30-12:30 - CAICOS 6	Manned-unmanned teaming: US Army robotic wingman vehicles Ralph Brewer, Eduardo Cerame, Eugene Pursel, Anthony Zimmermann and Kristin Schaefer, USA Monitoring task fatigue in contemporary and future vehicles: A review Gerald Matthews, Ryan Wohleber, Jinchao Lin, Greg Funke and Catherine Neubauer, USA Effects of fatigue and distraction on simulated driving performance in police officers Stephen James and Lois James, USA Estimating human state from simulated assisted driving with stochastic filtering techniques Gregory Gremillion, Daniel Donovanik, Catherine Neubauer, Justin Brody and Kristin Schaefer, USA Translating driving research from simulation to interstate driving with realistic traffic and passenger interactions Jean M. Vettel, Nina Lauharatanahirun, Nick Wasylshyn, Heather Roy, Robert Fernandez, Nicole Cooper, Alexandra Paul, Matthew Brook O'Donnell, Tony Johnson, Jason Metcalfe, Emily B. Falk and Javier O. Garcia, USA Challenges with developing driving simulation systems for robotic vehicles Kristin Schaefer, Ralph Brewer, Brandon Perelman, Eugene Pursel, Eduardo Cerame, Kim Drnec, Victor Paul, Ben Haynes, Daniel Donovanik, Gregory Gremillion and Jason Metcalfe, USA Developing a HMI test method of the intelligent driving car LDW function based on the driving simulator Yujia Liu, Wenjuan Wang, Jianmin Wang, Fang You and Preben Hansen, China/Sweden	

Lunch Break 12:30 - 14:00 • Enjoy lunch at the restaurant of your choice

125	User Research in Design Co-Chairs: Gerhard Rinkenauer and Guido De Bruyne, Germany/Belgium	ED
14:00-16:00 - GRAND CARIBBEAN 1 Tuesday, July 24	<p>Effect of body mass index on sitting pressure distribution on seat cushion Lingling Hu, Onder Tor, Pengzheng Duan, Jilei Zhang and Xiaohong Yu, China/USA</p> <p>The attentional perspective on smart devices: Empirical evidence for device-specific cognitive ergonomics Magali Kreutzfeldt, Johanna Renker and Gerhard Rinkenauer, Germany</p> <p>An evaluation method of temporal change on mental model Toshiki Yamaoka, Japan</p> <p>Effects of luminous intensity and color of LED light on ocular movement characteristics Toshihisa Doi, Atsuo Murata, Makoto Moriwaka and Tomohisa Takamoto, Japan</p> <p>Efficiency of cycling pads in reducing seat pressure during cycling Guido De Bruyne, Jean-Marie Aerts and Daniel Berckmans, Belgium</p> <p>Head sensitivity for designing bicycle helmets with improved physical comfort Ruben Broekhuizen, Tim De Rydt and Guido De Bruyne, Belgium</p> <p>SPARK: Promoting well-being by social media-triggered routine breaks Arminda Guerra Lopes, Pedro Campos and Jose Abdelnour Nocera, Portugal</p>	
126	Trends in Portable Neuroimaging Co-Chairs: Hasan Ayaz and Scott Bunce, USA	CN
14:00-16:00 - GRAND CARIBBEAN 2	<p>Objective measures of clinical outcomes: Predicting substance use disorder treatment outcomes with functional near-infrared spectroscopy Scott Bunce, Jonathan Harris, Andrew Huhn, Sarah Tilden, Erin Deneke, Jessica Parascando, Roger Meyer, Ed Bixler and Hasan Ayaz, USA</p> <p>The effect of alcohol-use and sleep deprivation on quantitative changes and EEG alterations for normal young adults during multitasking evaluation Young A Suh, Jung Hwan Kim and Man-Sung Yim, South Korea</p> <p>Comparison of machine learning approaches for motor imagery based optical brain computer interface Lei Wang, Adrian Curtin and Hasan Ayaz, USA</p> <p>Using wireless EEG and EDA to investigate body and brain dynamics during preparation and consumption of coffee Jan Watson, Amanda Sargent, Hongjun Ye, Rajneesh Suri and Hasan Ayaz, USA</p> <p>Brain-to-brain synchronization patterns during collaborative problem solving: An fNIRS hyperscanning study of team cognition Çağatay Taşçı and Murat Perit Çakır, Turkey</p>	
127	Extreme Environments Co-Chairs: Zining Yang and Didier Fass, USA/France	HFSIM
14:00-16:00 - GRAND CARIBBEAN 3	<p>Virtual environment design as automated physiological counter-measures in extreme environment: From intensive care to human space flight Didier Fass, Bruno Levy, Pierre Perez and Dominique Méry, France</p> <p>Why co-adaptation is mandatory in extreme environment human-system integration and co-evolution modelling? Didier Fass and Franck Gechter, France</p> <p>Agents in space: Validating ABM-GIS models Kristoffer Wikstrom, Hal Nelson and Zining Yang, USA</p> <p>Influence of indirect vision and virtual reality training under varying manned/unmanned interfaces in a complex search-and-shoot simulation Akash Rao, B. S. Pramod, Sushil Chandra and Varun Dutt, India</p>	

128	Healthcare Workers Ergonomics: Environmental Factors Co-Chairs: Shaik Farid Abdull Wahab and Rohayu Othman, Malaysia	EHMD
14:00-16:00 - GRAND CARIBBEAN 4	<p>Nurse station of accident and emergency department, USM Shaik Farid Abdull Wahab, Rohayu Othman and Ahmad Rasdan Ismail, Malaysia</p> <p>Lighting assessment at resuscitation area of accident and emergency department, USM Shaik Farid Abdull Wahab, Rohayu Othman and Ahmad Rasdan Ismail, Malaysia</p> <p>Characteristics of competence evaluation of resilience in the chronic diseases treatment: An examination of medical engineers who conduct hemodialysis Yoshitaka Maeda and Satoshi Suzuki, Japan</p> <p>Construction and analysis of database for outer packaging of identical medicine Michiko Ohkura, Yusuke Tanitsu, Masaomi Kimura and Fumito Tsuchiya, Japan</p> <p>Factors building commitment of healthcare workers Anna Stankiewicz-Mróz, Poland</p>	
129	Human Factors in Complex Systems Co-Chairs: Vesa Salminen and Carsten Röcker, Finland/Germany	MFG
14:00-16:00 - GRAND CARIBBEAN 5	<p>Addressing uncertainties in complex manufacturing environments: A multidisciplinary approach Hitesh Dhiman, Daniela Alina Plewe and Carsten Röcker, Germany</p> <p>Evaluating strategies to restore trust in decision support systems in cross-company cooperation Ralf Philipsen, Philipp Brauner, André Calero Valdez and Martina Ziefle, Germany</p> <p>Designing for the future factory: Exploring the co-evolution of manufacturing digital intensity and personas Faith McCreary and Irene Petrick, USA</p> <p>Ways to encourage re-manufacturing as Nigeria seeks to transition into a Green Economy Ifije Ohiomah, Clinton Aigbavboa and JanHarm Pretorius, South Africa</p> <p>Exoskeleton assistance assessment (EAA) tool Verena C. Knott and Klaus Bengler, Germany</p>	
130	Accident Prevention Co-Chairs: Mohammad Shahriari and Mehmet Emin Aydin, Turkey	SMHF
14:00-16:00 - GRAND CARIBBEAN 8	<p>A study on the quality of information in potential incident report Tatsuya Shimada and Yusaku Okada, Japan</p> <p>Analysis and investigation of work accidents at a Portuguese municipality Filipa Carvalho, Rui B. Melo and Paola G. Fonseca, Portugal</p> <p>Airport runway incursions and safety Mohammad Shahriari and Mehmet Emin Aydin, Turkey</p> <p>Accumulation of micro-pollutants in aqueous media and sediment, a risk assessment for Konya main drainage channel, Turkey Mehmet Emin Aydin, Senar Aydin, Fatma Beduk, Arzu Ulvi and Mufit Bahadir, Turkey</p> <p>Effect of experimental and mathematical modelling of spillway on dam safety Serife Yurdagul Kumcu and Muhammed Ucar, Turkey</p> <p>Effect of the starting time delay on the confluence pattern during staircase evacuation of a multi-story building Han Cheng, Yifan Zhuang, Lin Luo, DanYan Huang, Yong Ni and LiZhong Yang, China</p>	

Tuesday, July 24

131	Ergonomics in Design and Human Factors Co-Chairs: Melissa White and Chandra Nair, USA	PEHF
14:00-16:00 - GRAND CARIBBEAN 9	<p>Ergonomic design solution for reducing smoke build-up inside rural kitchens in Kenya Uwe Reischl and Olga Salinas, USA</p> <p>Human factors considerations for head mounted displays in the enterprise Chandra Nair, USA</p> <p>Design process for an ergonomic solution to the police officer duty belt Melissa White, David Kaber, Yulin Deng and Xu Xu, USA</p> <p>Study on the moderate thermal environment comfort evaluation using thermal manikin Mingzhou Zhao, Yifen Qiu, Chaoyi Zhao, Wang Rui and Huimin Hu, China</p> <p>Study on the relationship between BMI and body shape characteristics indicators Zhao Chao, Zhang Fan, Gang Wu, Jing Zhao, Haitao Wang and Wenxing Ding, China</p> <p>Teaching application-oriented ergonomics in design study programs Thomas Hofmann, Germany</p> <p>Real virtuality: The neurological information processing of real and virtual objects Thomas Gruber and Thomas Hofmann, Germany</p>	
132	Driver Safety and Comfort Co-Chairs: Katie Parnell and Stewart Birrell, UK	RR
14:00-16:00 - GRAND CARIBBEAN 10	<p>Development of simple detection method of involuntary movements to evaluate human discomfort in vehicle seat Junya Tatsuno and Setsuo Maeda, Japan</p> <p>The effect of whole body haptic feedback on curve negotiation of drivers' perception-responses Erfan Pakdamanian and Inki Kim, USA</p> <p>Assessment and reduction of whole-body vibration experienced by Jeepney drivers of "Sarao" Jeepneys using practical vibration dampeners Christian Earl Buna, Daniel James Villamil, Carlo Adug, Jericho Pena, Cyrus John Mendoza and Maria Liezel P. Carоче, Philippines</p> <p>An ergonomic assessment of the driver seat of common car models in the Philippines Carlos Miguel Fausto, Vhon Cedric Cua, Bryan Yutuc and Benette Custodio, Philippines</p> <p>Compliance analysis on traffic rules of roundabouts: A case study of Goyang, South Korea Kim Jong-Jin, Kim Seonjung, Younshik Chung and Tai-Jin Song, South Korea</p> <p>Learnability of traffic signs by non-driving teenagers Tamar Ben-Bassat, Israel</p> <p>First aid as a part of rehabilitation programs for traffic offenders Veronika Kureckova, Petr Zamecnik and Pavel Rezac, Czech Republic</p>	
133	Human Factors, Sustainable Urban Planning and Infrastructure II Co-Chairs: Agata Twardoch and Jerzy Charytonowicz, Poland	SUPI
14:00-16:00 - GRAND CARIBBEAN 11	<p>Shaping the space for persons with Autism Spectrum Disorder Maria Biela-Zasadzka and Agnieszka Bugno-Janik, Poland</p> <p>Quality of the built environment from the point of view of people with Autism Spectrum Disorder Agnieszka Bugno-Janik and Maria Biela-Zasadzka, Poland</p> <p>Human factors and the correlation with aesthetics and pro-ecological technology in modern architecture Anna Guminska, Poland</p> <p>Post-occupancy evaluation research method in architecture - conscious creation of safe living space Joanna Zabawa-Krzyzkowska, Poland</p> <p>Affordable housing as a spatial planning tool for shrinking cities. Case of Poland Agata Twardoch, Poland</p> <p>Computer lab - space organization and environmental conditions. Case study assessment compare to the theoretical model Michal Sitek, Poland</p>	

134	Human Factors Applications in Energy Co-Chairs: Craig Whittet and Victor K. Y. Chan, UK/China	ENERGY
14:00-16:00 - GRAND CARIBBEAN 12	<p>Exploring the potential of home energy monitors for transactive energy supply arrangements Andrea Taylor, Craig Whittet, Bruce Stephen and Stuart Galloway, UK</p> <p>A generalized ergonomic trade-off model for modularized battery systems particularly for ICT equipment Victor K. Y. Chan, China</p> <p>A theoretical assessment of the challenges facing power infrastructure development in low-income countries in Sub-Sahara, Africa Emmanuel Ayorinde, Clinton Aigbavboa and Ntebo Ncogbo, South Africa</p> <p>Safety management principles in electric power industry based on human factors Yang Song, China</p> <p>The operation of crude oil pipeline: Examination of wax thickness Fadi Alhaimat, Bobby Mathew and Mohammed Ziauddin, UAE</p> <p>Analysis of the dangers of professional situations for oil and gas workers of various professional groups in the arctic Yana Korneeva, Russia</p>	
135	Human Factors, Business Management and Society III Co-Chairs: Maria Dos-Santos and Timo Holopainen, Portugal/Finland	HFBMS
14:00-16:00 - TURKS 1	<p>Innovation and growth: Evidence from Mexico and Brazil Luis Alfredo Avila Lopez, Maria Marcela Solis-Quinteros, Carolina Zayas-Marquez and Jorge Alfonso Galvan-Leon, Mexico</p> <p>Sales competition as education method: The case of the European sales engineering team competition Timo Holopainen, Thomas Röhr, Mikael Tómasson, Marion Murzin and Maha Ben Amor, Finland/France/Germany</p> <p>Towards sustainability in European agricultural firms Maria Dos-Santos and Henrique Diz, Portugal</p> <p>Healthcare transformation through change management process for innovation Asiya Kazmi and Marja Naaranoja, Finland</p> <p>Social sustainability in healthcare Matloub Hussain, UAE</p>	
136	Human Factors in Complex Systems Co-Chairs: Aysen Taylor and Julia Falkowska, USA/Poland	SYSI
14:00-16:00 - TURKS 2	<p>Signal-processing transformation from smartwatch to arm movement gestures Franca-Alexandra Rupperecht, Bo Heck, Achim Ebert and Bernd Hamann, Germany</p> <p>Moving forward with autonomous systems: Ethical dilemmas Aysen K. Taylor and Sarah Bouazzaoui, USA</p> <p>Assessment of pilots mental fatigue status with the eye movement features Liwei Zhang, Qianxiang Zhou, Qingsong Yin and Zhongqi Liu, China</p> <p>Tackling autonomous driving challenges – how the design of autonomous vehicles is mirroring universal design Paulo Simões, Nelson Costa, Pedro Arezes, Nuno Ribeiro and Susana Costa, Portugal</p> <p>Effect of far infrared radiation therapy on improving microcirculation of the diabetic foot Chi-Wen Lung, Yung-Sheng Lin, Yih-Kuen Jan, Yu-Chou Lo, Chien-Liang Chen and Ben-Yi Liau, Taiwan/USA</p> <p>Microinteractions of forms in web based systems usability and eye tracking metrics analysis Julia Falkowska, Katarzyna Zerka, Janusz Sobecki and Barbara Kilijańska, Poland</p>	

137	Interdisciplinary Practice in Industrial Design Co-Chairs: Alisdair MacRae and XiaoLin Li, Canada/China	IPID
14:00-16:00 - TURKS 3	<p>The design conception of the parent-child education exhibition in the China Science and Technology Museum XiaoLin Li and Xinxiong Liu, China</p> <p>From industrial design education to practice: Creating discipline through design sprints Joyce Thomas and Megan Strickfaden, USA/Canada</p> <p>Reduction of oil uptake in rice cracker during deep fat frying Nuntaporn Aukkanit, Jureerat Naowakul and Unchaleeporn Jamsang, Thailand</p> <p>The development of urban pilotless personal aerial vehicle and significant considerations as a design project Haebin Lee, Muhammad Tufail and KwanMyung Kim, South Korea</p> <p>An ergonomic based postural control and balance body exercise design for young martial art trainees Muhammad Tufail, Myungjin Kim, Sangjin Park, Yang Gyu Moon and KwanMyung Kim, South Korea</p> <p>A multi-disciplinary approach to design in education applied to medical systems problems Wendell Wilson and Young Mi Choi, USA</p>	
138	Kansei Engineering: Product Design, Cognitive Studies and Methodologies Co-Chairs: Shigekazu Ishihara, Keitaro Sato and Yang Chen, Japan/China	KE
14:00-16:00 - TURKS 4	<p>Kansei engineering applied to the study of leg prosthetic cover design Shigekazu Ishihara, Keiko Ishihara, Kosuke Morinaga, Atsushi Kanbe and Mitsuo Nagamachi, Japan</p> <p>A Kansei engineering based method for automobile family design Huai Cao and Yang Chen, China</p> <p>Examining the relationship between lean adoption and housing finance in Ghana Ibrahim Salifu Osumanu, C.O. Aigbavboa and D. W. Thwala, Ghana</p> <p>Creating an affective design typology for basketball shoes using Kansei engineering methods Alexandra Green and Veena Chattaraman, USA</p> <p>The influence of the mechanism of the acoustic sound amplifier on sound transmission Keitaro Sato and WonSeok Yang, Japan</p> <p>Comparison of relaxation effect from watching images between 2D and head-mounted displays Yoshiki Koinuma and Michiko Ohkura, Japan</p> <p>The influence of fixation point movement on visually induced motion sickness suppression effect Naoki Miura, Hiroyasu Ujike and Michiko Ohkura, Japan</p>	
139	Cybersecurity Tools and Analytics II Co-Chairs: Wayne Patterson and Richard Steinberg, USA	CYBER
14:00-16:00 - TURKS 5	<p>A metric to assess cyberattacks Wayne Patterson, USA</p> <p>Incorporating the human into design of machine learning algorithms for cyber anomaly detection Richard Steinberg and Gary W. Strunk, USA</p> <p>A game-theoretic model of ransomware Nicholas Caporusso, Singhtaraksme Chea and Raied Abukhaled, USA</p> <p>Convenience or strength? Aiding optimal strategies in password generation Nicholas Caporusso and Michael Stainbrook, USA</p> <p>Graphical authentication schemes: Balancing amount of image distortion Lauren Tiller, Ashley Cain, Lucas N. Potter and Jeremiah Still, USA</p> <p>A simulation-based approach to development of a new insider threat detection technique: Active indicators Ryan Wohleber, Valarie Yerdon, Gerald Matthews and Lauren Reinerman-Jones, USA</p>	

140	Designing the Learning Experiences Co-Chairs: De Vere-Michael Kiss and Magnus Feil, USA	TELS
14:00-16:00 - TURKS 6	<p>Enhanced pilot learning interface De Vere-Michael Kiss, USA</p> <p>Small world networks in education sciences Miguel Arcos-Argudo, Fernando Pesántez and Diego Peñaloza-Rivera, Ecuador</p> <p>Design and realization of police training testing evaluation system Bo Shi, China</p> <p>Design, implementation and efficiency analysis of the Special Degree Unit as an alternative for the graduate students' degree: UPS case Miguel Arcos-Argudo and Fernando Pesántez, Ecuador</p> <p>Curriculum design based on agile methodologies Rodolfo Bojorque and Fernando Pesántez, Ecuador</p> <p>Refocus attention towards observing in design foundation education Magnus Feil and Milagros Zingoni, USA</p>	
141	Human Factors and Wearable Technologies IV Co-Chairs: Richard Garnett and Sofia Scataglini, USA/Belgium	HFWT
14:00-16:00 - CAICOS 1	<p>Evaluating an inertial measurement unit based system for after-reach speed measurement in power press applications Richard Garnett, Gerald Davis, Sean Gallagher, Richard F. Sesek, Mark C. Schall, Jr. and Howard Chen, USA</p> <p>Smart clothing design issues in military applications Sofia Scataglini, Giuseppe Andreoni and Johan Gallant, Belgium/Italy</p> <p>Design of intelligent obstacle avoidance gloves based on tactile channel Tongtong Zhang and Lei Zhou, China</p> <p>Study on thermal comfort of virtual reality headsets Zihao Wang, Ke Chen and Renke He, China</p> <p>Eye opener - a simulation game environment which opens the world to blind using augmented reality glasses and a smart cane Ashwanth Thotta, India</p>	
142	Human Factors in Communication of Design II Co-Chairs: Anna-Lisa Osvalder and Qianqian Shangguan, Sweden/China	HFCD
14:00-16:00 - CAICOS 2	<p>A study of semiotics: An investigation of the use of signs and symbols to provide positive shopping experience in a cashier-less store Edward C. K. Hung and Kam Hung Wong, China</p> <p>Design of mobile application interface based on brand image Qianqian Shangguan and Huaxiang Yuan, China</p> <p>Factors affecting legibility and readability of Philippine metropolitan bus signage Christina Marie Moneda, Martin Angelo Semilla, Janine Mae Gonzales and Keneth Sedilla, Philippines</p> <p>Different user groups' perception, experience and need of spoken information in public transportation spaces Anna-Lisa Osvalder and Moa Nybacka, Sweden</p> <p>New principles of visual attention and association influenced mobile devices Pui Wa Chau and Amic Ho, China</p> <p>Research on web design color and beauty of information products Lungwen Kuo and Chih-Chun Lai, Taiwan</p> <p>Exploring map visual cognition efficiency based on the eye movement experiment Shulei Zheng, Chunlei Yang, Yufen Chen and Chengshun Wang, China</p>	

143	Social-Organizational Work Environment Co-Chairs: Taimour Khalid Chaudhary and Aftab Ahmad, Poland/Pakistan	HFML
14:00-16:00 - CAICOS 3	<p>Impact of agility on enterprise performance in SMEs of Pakistan Taimour Khalid Chaudhary and Stefan Trzciliński, Poland</p> <p>Identifying knowledge gaps for successful project leadership in construction Murendeni Liphadzi, Clinton Aigbavboa and Didi Thwala, South Africa</p> <p>To grow or not to grow: The strategic plan for acquisition and integration Pawel Michalski, Zbigniew Wisniewski and Jacek Gralewski, Poland</p> <p>Effective mentorship of graduates employees in the construction industry: A literature review William Nkomo, Wellington Didibhuku Thwala and Clinton Aigbavboa, South Africa</p> <p>Effects of workplace stress on managers of textile industries of developing countries: A case study from Pakistan Aftab Ahmad, Amjad Hussain, Mohammad Pervez Mughal, Nadeem Ahmad Mufti, Muhammad Qaiser Saleem, Badar Ul Islam and Hamid Mahmood Malhi, Pakistan</p> <p>Design and realization of police physical fitness assessment management system Xin Wang, China</p>	
144	Augmented Reality Co-Chairs: Simon Su, Mark Livingston and R. Alberto Bernabeo, USA/UAE	HFSIM
14:00-16:00 - CAICOS 4	<p>Human factors for military applications of head-worn augmented reality displays Mark A. Livingston, Zhuming Ai, and Jonathan W. Decker, USA</p> <p>Augmented reality in the cockpit: Training operator aids for aviators R. Alberto Bernabeo, Kirk Webster and Elias Nikolaidis, UAE</p> <p>Determining the effect of object based foveated rendering on quality of simulated reality Varun Aggarwal, Denise Nicholson and Kathleen Bartlett, USA</p> <p>The wide area virtual environment - An augmented reality theater for medical team training Alan Liu, USA</p> <p>Virtual abstraction: What happens when there is no up? Paul Havig, USA</p>	
145	New Research on Team Performance Co-Chairs: Heather Medema and Kateryna Savchenko, USA	HERRP
14:00-16:00 - CAICOS 5	<p>Measuring mutual awareness for digital human-machine interfaces: A questionnaire for simulator studies Kateryna Savchenko, Heather Medema, Ronald Boring and Thomas Ulrich, USA</p> <p>Analysis of team situation awareness errors in digital nuclear power plants Pengcheng Li, Xiaofang Li, Li Zhang, Licao Dai and Xiao Jin, China</p> <p>Defining mutual awareness: Results of reactor operator surveys on the emergence of digital technology in main control rooms Heather Medema, Kateryna Savchenko, Ronald Boring and Thomas Ulrich, USA</p> <p>Human error prediction using eye tracking to improvise team cohesion in human-machine teams Praveen Damacharla, Ahmad Javaid and Vijay Devabhaktuni, USA</p> <p>Exploring how to measure the tactical picture accuracy of submarine command teams Aaron Roberts, Neville Stanton and Kiome Pope, UK</p> <p>Human factors analysis of pediatric critical care Lauren Kolodzey, Sonia Pinkney, Carly Warren, Mark Fan, Jessica Tomasi, Patricia Sutton, Andrea McCormick, Anne-Marie Guerguerian, Roxanne Kirsch, Peter Laussen and Patricia Trbovich, Canada</p> <p>Using a team oriented virtual environment to support resilient team decisions Oliver Straeter and Kristin Meyer, Germany</p>	

146	Systems Engineering Applications II Co-Chairs: Ebru Cankaya and Suad AlRamouni, USA/Saudi Arabia	HFSSE
14:00-16:00 - CAICOS 6	<p>Guided terrain synthesis through distance transforms Caleb Holloway and Ebru Cankaya, USA</p> <p>Model for detecting the provenance of news articles Suad AlRamouni and Ruba Alsuheimi, Saudi Arabia</p> <p>Interactive mining for learning analytics by automated generation of pivot table Konomu Dobashi, Japan</p> <p>An objective performance and engagement assessment tool for human-in-the-loop control systems Antoni Kopyt, Chad Stephens and Alan Pope, Poland/USA</p> <p>Slot-ultra-wideband patch antenna for wireless body area networks applications Javier Procel and Edgar Chuva, Ecuador</p> <p>Methods of tracking UX design value in agile it development programs David Dunkle, USA</p>	
16:00-16:30 Refreshments will be provided in Grand Caribbean Ballroom		
147	Emotion, Culture and Community II Co-Chairs: Anton Nijholt and Shuichi Fukuda, The Netherlands/Japan	APD
16:30-18:30 - GRAND CARIBBEAN 1	<p>Emotional crowdsourcing tool design for product development: A case study using local crowds Shengfeng Qin and Yuxuan Zhou, UK</p> <p>On poster design in the subway public space in China based on the regional culture Huaxiang Yuan and Yejun Yuan, China</p> <p>Research on the effect of different types of OLED screens on visual search performance and visual fatigue Yunhong Zhang, Yuan Lyu, Wei Li, Zhongting Wang and Jiao Li, China</p> <p>Verification of brain activity when watching TV commercials using optical topography Haruka Tanida and Toshikazu Kato, Japan</p> <p>Case study: How to determine if designers should be featured in a crowdfunding video clip Jose Rivera-Chang, USA</p>	
148	Aviation: Accidents and Incidents Co-Chairs: Victoria Banks and Gabriel Edwin Santiago, UK/Philippines	AVI
16:30-18:30 - GRAND CARIBBEAN 2	<p>A historical view on mental illness in commercial aviation: The crash of Japan Airlines 350 Daniela Schmid, Germany</p> <p>Human factors and helicopter accidents: An analysis using the human factors analysis and classification System (HFACS) Anastácio Pinto Gonçalves Filho, Carlos Souza, Eduardo Siqueira, Mozart Anderson and Tales Vasconcelos, Brazil</p> <p>Intelligibility of the public address (PA) system in an international airport in the Philippines: An assessment Michael Angelo Patrick Cohen, Dominique Daval-Santos, Gabriel Edwin Santiago and Benette Custodio, Philippines</p>	

<p>149</p>	<p>Trends in Neurophysiological Sensing Co-Chairs: Hasan Ayaz and Murat Perit Cakis, USA/Turkey</p>	<p>CN</p>
<p>16:30-18:30 - GRAND CARIBBEAN 3</p>	<p>The relationship between aesthetic choices, ratings, and eye-movements Elif Celikors and Chris Sims, USA</p> <p>Does comfort with technology affect use of wealth management platforms? Usability testing with fNIRS and eye-tracking Siddharth Bhatt, Atahan Agrali, Rajneesh Suri and Hasan Ayaz, USA</p> <p>Gaze strategies can reveal the impact of source code features on the cognitive load of novice programmers Andreas Wulff-Jensen, Kevin Vignola Ruder, Evangelia Triantafyllou and Luis Emilio Bruni, Denmark</p> <p>An investigation of human error identification based on bio-monitoring system (EEG and ECG analysis) Jung Hwan Kim, Young A. Suh and Man-Sung Yim, South Korea</p> <p>Group eye tracking (GET) paradigm for investigating interaction under social context Cengiz Acarturk and Murat Perit Cakir, Turkey</p>	
<p>150</p>	<p>Healthcare Processes and Systems Co-Chairs: Berglind Smaradottir and Shihui Wang, Norway/China</p>	<p>EHMD</p>
<p>16:30-18:30 - GRAND CARIBBEAN 4</p>	<p>User-centered design of a national medical registry for tick-borne diseases Berglind Fjola Smaradottir, Randi Eikeland, Harald Reiso and Rune Werner Fensli, Norway</p> <p>Smart skin flap postsurgical pre-warning mobile app design Shihui Wang, Weihong Huang, Lingli Peng, Ding Pan, Nvtong Huang, Jianzhong Hu and Yonghong Peng, China/UK</p> <p>Delineation of hemorrhagic mass from CT volume Manas Nag, Anusha Vupputuri, Saunak Chatterjee, Anup Sadhu, Jyotirmoy Chatterjee and Nirmalya Ghosh, India</p> <p>Research of service design for active healthcare based on community healthcare system Zheng Yijing, China</p>	
<p>151</p>	<p>Panel: User Experience Design in Inclusive Service Design Co-Chairs: Debra Satterfield and Troy Abel, USA</p>	<p>HSSE</p>
<p>16:30-18:30 GRAND CARIBBEAN 5</p>	<p>Emotional method cards for healthcare workers Maria Miller, USA</p> <p>Diversity and inclusion in the large enterprise Christine White, Ronda Caswell and Laura Romero, USA</p> <p>Beyond usability: Making the case for idiosyncratic and marginalized audience participation in mainstream usability research Troy Abel, USA</p> <p>Inclusion of autistic voices: Strategies to navigate the grey area of informed consent Andrew Colombo-Dougovito, USA</p>	

152	Ergonomics Evaluations in Industry Co-Chairs: Thalia San Antonio and Francisco Javier Ortiz Ortiz, Ecuador	PEHF
16:30-18:30 - GRAND CARIBBEAN 8	<p>Computational feedback tool for muscular rehabilitation based in quantitative analysis of sEMG signals Carlos Eduardo Quizhpe Cárdenas, Francisco Javier Ortiz Ortiz, Freddy Leonardo Bueno Palomeque and Marco Vinicio Vásquez Cabrera, Ecuador</p> <p>Ergonomic evaluation of daily activities of women from a community in the Ecuadorian Highlands Thalia San Antonio, Anita Larrea, Alejandra Lascano and Janet Urrutia, Ecuador</p> <p>Manual handling in fish port: An ergonomic assessment on the porters Kargadors in Navotas fishing port complex Fatima Mae Luto, Angelica Asuncion, Francine Gail de Guzman and Keneth Sedilla, Philippines</p> <p>Determination of lifting index for paddy storage activity performed by farm women Mira Kalita, Ruplekha Borah and Nandita Bhattacharyya, India</p> <p>Implementation of rapid upper limb assessment technique in automotive parts manufacturing industry - A case study Skanda Moda Gururajaro and Arunkumar Doreswamy, India</p> <p>Ergonomic evaluation's contribution in a technological innovation process of meat boning's work environments Ana Oliveira, Antonio Xavier and Ariel Michaloski, Brazil</p>	
153	Eco-Driving, Electric Hybrid and Autonomous Vehicles Co-Chairs: Denis Coelho and Oriol Amor, UK/Spain	RR
16:30-18:30 - GRAND CARIBBEAN 9	<p>Using cognitive work analysis to inform policy recommendations to support fuel-efficient driving Craig Allison and Neville Stanton, UK</p> <p>With a little help from my government – a user perspective on state support for electric vehicles Ralf Philipsen, Teresa Brell, Teresa Funke, Waldemar Brost and Martina Ziefle, Germany</p> <p>Electric and hybrid vehicles crash test protocol improvements Oriol Amor and Nuria Parera, Spain</p> <p>Is there bright future for autonomous vehicles? Petr Zamecnik, Darina Havlickova, Veronika Kureckova, Vit Gabrhel and Pavel Rezac, Czech Republic</p> <p>Millennials and autonomous vehicles Petr Zamecnik, Darina Havlickova, Veronika Kureckova and Vit Gabrhel, Czech Republic</p> <p>Electric vehicle parking system expectation in Shanghai, China: An integrated approach Xinyu Yang and Jianxin Cheng, China</p>	
154	Interfaces and Interaction III Co-Chairs: Kirsten Revell and Vadim Melnicuk, UK	RR
16:30-18:30 - GRAND CARIBBEAN 10	<p>How acceptable is it to monitor driver state? Using the UTAUT model to analyse drivers' perceptions towards the system Vadim Melnicuk, Stewart Birrell, Simon Thompson, Alex Mouzakitis and Paul Jennings, UK</p> <p>Exploring the usability of a connected autonomous vehicle human machine interface designed for older adults Phillip L. Morgan, Alexandra Voinescu, Praminda Caleb-Solly and Chris Alford, UK</p> <p>Human-machine interface system for motorcyclists: Quantification of total reliability as human-machine system Joohyeong Lee, Ikumi Ozaki, Saya Kishino, Keisuke Suzuki and Masumi Nakajima, Japan</p> <p>Visual-manual task analysis framework Peter Bengtsson and Robert Broström, Sweden</p>	

155	Social and Occupational Ergonomics: Evaluation, Optimization and Job Design Co-Chairs: Maud Gonella and Alessio Silveti, Canada/Italy	SOE
16:30-18:30 - GRAND CARIBBEAN 11	<p>Evaluating training for manual handling in the workplace Maud Gonella, Denys Denis, Marie Comeau and Martin Lauzier, Canada</p> <p>Optimizing the workstation of a dentist Yassaman Khodadadeh and Elnaz Najafi, Iran</p> <p>Job design and ergonomic risk in administrative jobs Oswaldo Jara, Esteban Carrera, Pablo Davila and Fanny Ballesteros, Ecuador</p> <p>Prevalence of repetitive strain injury (RSI) and its associated factors among data entry workers in Malaysia Titi Rahmawati Hamedon and Ming Keong Wan, Malaysia</p> <p>Biomechanical risk assessment of pathologist in the morgue Alessio Silveti, Adriano Papale, Luigi Cipolloni, Simona Vittorio and Francesco Draicchio, Italy</p> <p>The case for paternity leave in Ghana: Imperatives and implications for gender parity Olivia Anku-Tsedee, Michael Asiedu Gyensare, Elisha Elikplim Kunu and Lucky Enyonam Kumedzro, Ghana</p> <p>Workplace and sexual harassment: Time to take a second look at the law? Olivia Anku-Tsedee, Reginald Arthur, Emmanuel Nuakoh and Adwoa Sarpong Boakye Yiadom, Ghana</p>	
156	Ergonomics in Building and Architecture II Co-Chairs: Wojciech Bonenberg and Jerzy Charytonowicz, Poland	SUPI
16:30-18:30 - GRAND CARIBBEAN 12	<p>The latitudinal vomitories at the stadium stands - the new concept versus classical solutions Zdzislaw Pelczarski, Poland</p> <p>Civil projects (participatory), company funds and small grants as factors integrating local communities Jerzy Charytonowicz and Alicja Maciejko, Poland</p> <p>Ergonomics in functional and spatial shaping of bedrooms Przemyslaw Nowakowski, Poland</p> <p>From Industry 4.0 to Nature 4.0 – sustainable infrastructure evolution by design Leszek Świątek, Poland</p> <p>Cultural characteristics as key factors in the management process of Chinese scenic landscape parks Lin Li, China</p>	
157	Human Factors, Sustainable Urban Planning and Infrastructure III Co-Chairs: Rafał Radziejewicz-Winnicki, Klaudiusz Fross and Katarzyna Ujma-Wasowicz, Poland	SUPI
16:30-18:30 - TURKS 1	<p>Kurdish garden as an example for Middle East botanical garden, new approach and aspect Kardo N. Kareem, Wojciech Bonenberg and Bahram K. Maulood, Poland/Iraq</p> <p>The improvement of the quality of public spaces on the example of student competition designs: A case study Rafał Radziejewicz-Winnicki, Poland</p> <p>Space architecture Klaudiusz Fross and Maria Biela-Zasadzka, Poland</p> <p>Structural system for development of scenic, historical landscape parks in China Teresa Bardzinska-Bonenberg and Shoufang Liu, Poland/China</p> <p>Assessment of parking demand in the central business district of Lahore Ammad Arshad, Irum Sanaullah, Amna Chaudhry, Zahara Batool and Hina Saleemi, Pakistan</p> <p>Opportunities and challenges in Polish smart cities Robert Masztalski, Poland</p>	

158	Human Factors in Sports, Injury Prevention and Outdoor Recreation I Co-Chairs: Chi-Wen Lung and Akhiro Ito, Taiwan/Japan	SIPOR
16:30-18:30 - TURKS 2	<p>Three-dimensional elastography gradient of the plantar soft tissue: Methodology and preliminary study Ben-Yi Liao, Chien-Liang Chen, Yih-Kuen Jan, Hsin-Ying Chiu, Yu-Wen Huang and Chi-Wen Lung, Taiwan/USA</p> <p>A test setting to enhance bobsled performance at start phase Thomas Peeters, Michiel Van de Velde, Erik Haring, Jochen Vleugels, Koen Beyers, Raman Garimella and Steven Truijen, Belgium</p> <p>Measuring tactics of taking the ball away from the defender in Japanese Football League Michiko Miyamoto and Yuji Kaneki, Japan</p> <p>Proposing a model to catch the momentum of games: Visualization of momentum in Japanese professional baseball Akihiro Ito and Michiko Miyamoto, Japan</p> <p>Risk analysis in mountain bike, using questionnaire and event tree analysis Rodrigo Dominguez, Chile</p>	
159	Artificial Intelligence and Social Computing III Co-Chairs: Javed Anjum Sheikh and César Andrés Inga Chalco, Pakistan/China	AISC
16:30-18:30 - TURKS 3	<p>Hierarchical clustering for collaborative filtering recommender systems César Andrés Inga Chalco, Rodolfo Bojorque and Remigio Hurtado, Ecuador</p> <p>User input-based construction of personal knowledge graphs Xiaohua Sun and Shengchen Zhang, China</p> <p>Decision rules mining with rough set Haitao Wang, Jing Zhao, Zhao Chao, Gang Wu, Zhang Fan and Xinyu Cao, China</p> <p>Social sensors: Early detection of contagious outbreaks in social media Arunkumar Bagavathi and Siddharth Krishnan, USA</p> <p>Community engagement in Barbados during environmental health risks: An empirical study Adel Alshehri, Wainella Isaacs, Aseel Addawood, Maya Trotz and Sriram Chellappan, USA</p>	
160	Inclusive Approaches in Interdisciplinary Design Education Co-Chairs: Scott Shim and Adam Feld, USA	IPID
16:30-18:30 - TURKS 4	<p>Design education as an inclusive pedagogy Scott Shim, USA</p> <p>Trans-disciplinarity as a core value: The Richmond Institute for Design and Innovation Michael Elwell, USA</p> <p>Everyday design: A participatory/co-design experience Adam Feld, USA</p> <p>Collaborative learning in industrial design Hector Silva, USA</p> <p>Utilizing music education methods and concepts to enhance industrial design education George Chow, USA</p>	

Tuesday, July 24

161	Interactive Multimedia and eLearning Co-Chairs: Salman Nazir and Roy Roper, Norway/USA	TELS
16:30-18:30 - TURKS 5	<p>Computer supported collaborative learning as an intervention for maritime education & training Amit Sharma, Salman Nazir, Astrid Camilla Wiig, Charlott Sellberg, Marius Imset and Steven Mallam, Norway</p> <p>Managing design and ergonomics at the macro level: The design policies Rita Almendra, Portugal</p> <p>Participant training for a flight test evaluation of interval management Roy Roper, Brian Baxley, Kurt Swieringa and Clay Hubbs, USA</p> <p>Conceptual description of the key determinants of effective monitoring and evaluation system Callistus Tengan, Clinton Aigbavboa and Willington Didibhuku Thwala, South Africa</p> <p>Effectiveness of enhancing classroom by using augmented reality technology Kunyanuth Kularbphetong, Pattarapan Roonrakwit and Jaruwan Chutrung, Thailand</p> <p>Using Twitter to enhance the students' skills: Motivation - a disregarded factor in educational design Michele Della Ventura, Italy</p>	
162	Design for Inclusive Transportation Co-Chairs: Carlos Aceves-Gonzalez and Brianna Posadas, Mexico/USA	DI
16:30-18:30 - TURKS 6	<p>Developing personas with disabilities to aide in the design of accessible automotive systems Julian Brinkley, Brianna Posadas, Julia Woodward, Shaundra Daily and Juan Gilbert, USA</p> <p>Understanding the experience of teenagers as bus passengers for the design of a more inclusive bus service Stephanie Daphne Prado-Jiménez, Carlos Aceves-González and Zuli T. Galindo-Estupiñan, Mexico</p> <p>Managing inclusive technologies Anna Szopa, Poland</p> <p>Inclusive smart parking: Usability analysis of digital parking meter from the perspective of younger and elder users Andrea Alejandra Tejada-Gutiérrez, Paula Raquel González-Torres, Ileana María Chávez-Sánchez and Carlos Aceves-Gonzalez, Mexico</p> <p>Design of a low-cost wheelchair for open-source platform: First phase Alberto Rossa-Sierra, Cecilia Landa and Omar Jiménez López, Mexico</p>	
163	HFRUS in the Naval Environment Co-Chairs: Jacob Norris and Christopher Rodeheffer, USA	HFRUS
16:30-18:30 - CAICOS 1	<p>Human fatigue in operations of unmanned underwater vehicle systems Rachel Markwald and Evan Chinoy, USA</p> <p>Behind the black box: Transparency and the human response to unexpected automation failure Eric Vorm, USA</p> <p>The computer told me so: Improper planning concepts in automated decision-making systems in the naval setting Jacob Norris and Wes Dunsford, USA</p> <p>Creating a computerized interactive psychological treatment program for submariners Ethan Hada and Christopher Rodeheffer, USA</p> <p>Enhanced human-machine interaction by fuzzy logic in semi-autonomous maritime operations Bjørn-Morten Batalden, Peter Wide, Johan-Fredrik Røds and Øyvind Haugseggen, Norway</p>	

164	Virtual Reality and Digital Environments in Design Co-Chairs: Francisco Rebelo and Yanick Trindade, Portugal	ED
16:30-18:30 - CAICOS 2	<p>Evaluation of 3D crosswalks design Francisco Rebelo, Diogo Cerqueira, Inês Freixinho and Paulo Noriega, Portugal</p> <p>Affordances on route selection in an emergency situation: A study with children Paulo Noriega, Ines Santos, Vitória Gameiro, Elisângela Vilar and Francisco Rebelo, Portugal</p> <p>Alternative realities in interstellar storytelling: Viewer cognitive reading and screen depiction Carlos Figueiredo and Inês Coimbra, Portugal</p> <p>Digital ergonomics: Understanding the bridges to the digital world Gianni Montagna and Luís Santos, Portugal</p> <p>A framework to use virtual reality for behavior change to promote safety and health at work Francisco Rebelo, José Veronesi and Paulo Noriega, Portugal</p> <p>Emotions appraisal with face reading in a touristic virtual environment prototype Yanick Trindade, Francisco Rebelo and Paulo Noriega, Portugal</p>	
165	Modelling and Systems in Occupational Ergonomics Co-Chairs: Zbigniew Wisniewski and Aleksandra Polak-Sopinska, Poland	SOE
16:30-18:30 - CAICOS 3	<p>Dynamics of resistance in the change process Zbigniew Wisniewski, Aleksandra Polak-Sopinska and Malgorzata Wisniewska, Poland</p> <p>The concept of teaching modeling and simulation of manufacturing systems Anna Maczewska, Aleksandra Polak-Sopinska, Zbigniew Wisniewski and Paulina Krason, Poland</p> <p>Methods for assessing the effectiveness of language learning - a comparative study Zbigniew Wisniewski and Adrianna Kozłowska, Poland</p> <p>A look at the ergonomic situation of the bakery industry in the city of Quito Esteban Carrera, Oswaldo Jara, Pablo Davila, Fanny Ballesteros and Pablo Suasnavas, Ecuador</p> <p>A finite element model based parametric study of plug muffler installed on agricultural tractors for noise attenuation Virendra Kumar Tewari and Naveen Kumar, India</p> <p>Vibration analysis of tractor drivers: A review Ishbir Singh, Jagjit Singh and S. S. Sehgal, India</p>	
166	Human Factors in Aging and Gerontology Co-Chairs: Annika Johnsen and Takashi Sakamoto, Germany/Japan	AGE
16:30-18:30 - CAICOS 4	<p>Requirements for assisting senior cyclists – an integrative approach Annika Johnsen and Walter Funk, Germany</p> <p>Colors of handrails considering the visibility of elderly people: An experimental evaluation using handrail photographs Takashi Sakamoto, Japan</p> <p>The effects of website white space on elders Yu-Chun Liu and Chih-Hsiang Ko, Taiwan</p>	

167	New Flight Deck Concepts and Interfaces Co-Chairs: James Huddleston and Max Friedrich, UK/Germany	AVI
8:00-10:00 - GRAND CARIBBEAN 1	<p>Development of a status display for supervisory control of multiple remotely piloted aircraft operated in controlled airspace Max Friedrich, Germany</p> <p>Aircraft controllability and primary flight displays Knut Lande, Norway</p> <p>On the complexity of loss of control in aviation Tiziano Bernard, USA</p> <p>Flight deck optimization for a future SESAR / NEXTGEN operating environment James Blundell, John Huddleston, Steve Scott and Rodney Sears, UK</p> <p>Presentation format effects on information integration under time pressure: Evidences from a state identification task scenario Ningyue Peng and Chengqi Xue, China</p>	
168	Brain-Computer Interface for Rehabilitation and Neuroergonomics Co-Chairs: Hasan Ayaz and Erik Haring, USA/Belgium	CN
8:00-10:00 - GRAND CARIBBEAN 2	<p>A proof of concept that stroke patients can steer a robotic system at paretic side with myo-electric signals Stijn Verwulgen, Wim Saeys, Lex Biemans, Annelies Goossens, Gido Grooten, Joris Ketting, Aurelie Vanlsegheem, Brecht Vermeesch, Erik Haring, Kristof Vaes and Steven Truijen, Belgium</p> <p>Implementing the horizontal vestibular ocular reflex test while using an eye tracker as an assessment tool for concussions diagnosis Atefeh Katrahmani and Matthew Romoser, USA</p> <p>How does the mobile phone PPI design affect the visual acuity with the change of viewing distance Yunhong Zhang, Wei Li and Jinhong Ding, China</p>	
169	Innovative Medical Devices Co-Chairs: Hideyuki Okano and Kosuke Morinaga, Japan	EHMD
8:00-10:00 - GRAND CARIBBEAN 3	<p>Measurement of prevention effect to leg swelling with partially pressure socks Kosuke Morinaga and Shigekazu Ishihara, Japan</p> <p>Design and development of a medical device (artificial ganglio) for aids in the treatment of lymphedema Gabriela Durán-Aguilar, Alberto Rossa-Sierra and Fabiola Cortes Chavez, Mexico</p> <p>Soft-brush: A novel tendon driven tactile stimulator for affective touch in children with autism Zhaobo Zheng, Dayi Bian, Amy Swanson, Amy Weitlauf, Zachary Warren and Nilanjan Sarkar, USA</p> <p>Squatting support device for labor Ghi-Hwei Kao, T. K. Philip Hwang Hwang, Yi Lin and Yu-Ching Lin, Taiwan</p> <p>On modeling the stress/shock effect in an artificial cognitive system Olga Chernavskaya and Yaroslav Rozhylo, Russia</p> <p>Evaluation of the hemodynamic effects of AC magnetic field exposure by measurement of an FMD and a microscope Tsukasa Kondo, Hideyuki Okano, Hiromi Ishiwatari and Keiichi Watanuki, Japan</p>	

170	Ergonomics and Safety I Co-Chairs: Esteban Peña-Pitarch and Nicola Francesco Lopomo, Spain/Italy	SMHF
8:00-10:00 - GRAND CARIBBEAN 4	<p>Visibilization of hidden characteristics of firefighting tasks and factors predictive of firefighters' work-related musculoskeletal disorders Mohammed-Aminu Sanda and Justice Wiredu, Ghana</p> <p>Comparison finger angles after stroke vs healthy hand Esteban Peña-Pitarch, Jordi Vives Costa, Neus Tico-Falguera, Anas Al Omar and Iñaki Alcey-Larión, Spain</p> <p>Occupational stress inventory (OSI) for ergonomic evaluation of work stress among VDT operators Namrata Arora Charpe and Stuti Gupta, India</p> <p>OHSAS 18001 certification as leadership commitment factor for improvement of the safety management performance in a mining company Ana Paula Ferreira Martins Pignaton, Marcelo Oliveira, Camilla Carneiro and Aglei Duques, Brazil</p> <p>A study on preventing runaway reaction of batch reactor by installing the safety instrumented system (SIS) Hyung-Sub Lee, In-Su Han and Jong-Bae Baek, South Korea</p> <p>Occupational exposure to bioaerosols in the waste sorting industry – characterization of bacteria and fungi in air, surfaces and operators Marta Vasconcelos Pinto, Vânia Santos and João Paulo Figueiredo, Portugal</p>	
171	Evaluation Methods Co-Chairs: Chih-Yang Lin and Robin Lawrence Cruz, Philippines/USA	PEHF
8:00-10:00 - GRAND CARIBBEAN 5	<p>Research on comparison experiment of visual fatigue caused by smart TV and micro-projector Zhongting Wang, Ling Luo, Linghua Ran and Shaojun Zhang, China</p> <p>Steel surface defects detection based on deep learning Wei-Yang Lin, Chih-Yang Lin, Guan-Shou Chen and Chao-Yung Hsu, Taiwan</p> <p>Ergonomic risk assessment for the prolonged usage of smartphones on students Jannie Lou Canaria, John Bernard Croox, Adam Hans Dayao, John Russel Macatangay, Ryan Vinluan and Lizbeth Mariano, Philippines</p> <p>Research on the characteristic and gender differences in adult hand shape in China Jing Zhao, Zhao Chao, Zhang Fan, Haitao Wang, Gang Wu and Wenxing Ding, China</p> <p>An ergonomic assessment of the Philippine <i>kalesa</i> Robin Lawrence Cruz, Marian Nicole Inocencio, Moreen Ann Montefalcon and Alyssa Jean Portus, Philippines</p> <p>The effects of lumbar tissue elongation on lumbar-pelvic motion rhythm Boyi Hu, USA</p>	
172	Modelling Drivers and Driving Co-Chairs: Aaron Roberts and Dave Kaber, UK/USA	RR
8:00-10:00 - GRAND CARIBBEAN 8	<p>Cognitive driver behavior modeling: Influence of personality and driver characteristics on driver behavior Manuela Witt, Lei Wang, Felix Fahrenkrog, Klaus Kompaß and Günther Prokop, Germany</p> <p>Measurement of an occupant's lateral motion by using the inertial measurement unit Sunwoong Kim, Yong-Man Kim, Sok-Min Choi Yoon Hyuk Kim and Won-Man Park, South Korea</p> <p>Assessing the integration of driving behavior and ergonomics in virtual environment: Developing a transactional framework Praveen Maghelal and Kinda Khalaf, UAE</p> <p>Generalized estimating equation models based on recursive partitioning in distracted driving Hyoshin Park and Nigel Pugh, USA</p> <p>Evaluation of the performance of random forests technique in predicting the severity of road traffic accidents Salah Taamneh and Madhar Taamneh, Jordan</p>	

173	Automated Driving I Co-Chairs: Neville Stanton and Jediah Clark, UK	RR
8:00-10:00 GRAND CARIBBEAN 9	<p>Handover assist in highly automated vehicles: How vocal communication guides visual attention Jediah Clark, Neville Stanton and Kirsten Revell, UK</p> <p>Role of artificial intelligence in car-following and lane change models for autonomous driving Ata Khan, Canada</p> <p>Autonomous driving cars: Future prospects, obstacles, user acceptance and public opinion Sibashis Parida, Matthias Franz, Sylvester Abanteriba and Sai Satish Chandra Mallavarapu, Germany</p> <p>Carriage without a driver – user requirements for intelligent autonomous mobility services Ralf Philippsen, Teresa Brell and Martina Ziefle, Germany</p>	
174	Human Factors, Sustainable Urban Planning and Infrastructure IV Co-Chairs: Donatella Radogna and Mo Zhou, Italy/Poland	SUPI
8:00-10:00 GRAND CARIBBEAN 10	<p>How vertical farming influences urban landscape architecture and sustainable urban developments Mo Zhou, Wojciech Bonenberg, Xia Wei and Shoufang Liu, Poland/China</p> <p>Public space projects in the open areas Alicja Maciejko and Roman Czajka, Poland</p> <p>Sound and form in public spaces of contemporary hotels Joanna Jablonska, Elzbieta Trocka-Leszczynska and Romuald Tarczewski, Poland</p> <p>Resilience in housing regeneration for a smart city model Donatella Radogna and Manuela Romano, Italy</p> <p>The path impact of the underclass group's entrepreneurial behavior in the process of urbanization Lu Han and Helen Bao, China</p>	
175	User Experience and Visualization in Automotive Industry Co-Chairs: Robert Broström and Bo Ouyang, Sweden/China	UUE
18:00-10:00 GRAND CARIBBEAN 11	<p>Drivers quickly trust autonomous cars Robert Broström, Annie Rydström and Christoffer Kopp, Sweden</p> <p>Scenario-based user experience research in automobile interior lighting innovation Bo Ouyang and Yun He, China</p> <p>Usability research of in-vehicle 3D interactive gestures Zhang Qin and Tan Hao, China</p> <p>A study on the application of voice interaction in automotive HMI experience design Xiemin Huang and Zhaohui Huang, China</p> <p>Navigating Google Street View Tour with different map visualizations: A user experience study Guanlong Li and Yueqing Li, USA</p>	
176	Human Factors in Sports, Injury Prevention and Outdoor Recreation II Co-Chairs: Jeroen Bergmann and Paula Stenzler, UK/USA	SIPOR
8:00-10:00 GRAND CARIBBEAN 12	<p>Recruitment, mentorship, and retention of young referees in amateur sport Nathan Pinder and Shane Pinder, Canada</p> <p>Federal legislation: Regulation of ride system G-forces versus amusement industry autonomy: Designing for human endurance Paula Stenzler, USA</p> <p>Unobtrusive bioanalytics for impact-related sport activities William Davies, Hua Ye and Jeroen Bergmann, UK</p> <p>Design of modified altitude training masks with additional vents Sourya Gubbala, Vijay Goruntla, Pramod Sukhavasi and Yueqing Li, USA</p>	

177	Human Factors, Business Management and Society IV Co-Chairs: Ana María Vallina-Hernández and Malgorzata Wisniewska, Chile/Poland	HFBMS
8:00-10:00 - TURKS 1	<p>Analysis econometrics of the factors that strengthen the position of the small mining producers in Chile Ana María Vallina-Hernández, Daniel Josué Möder-Armijo, Sebastián Tomás Moya-Camus and Hanns de la Fuente-Mella, Chile</p> <p>The relationship between knowledge security and the propagation of innovation Malgorzata Wisniewska and Zbigniew Wisniewski, Poland</p> <p>Comprehensive internationalization at HAN University of Applied Sciences. Curriculum, co-curriculum, and learning outcomes Florentin Popescu and Erna Helsen, The Netherlands</p> <p>Appraising the linkages between NPD team climate and organizational trust through transformational leadership Asiya Kazmi, Marja Naaranoja, Juha Kytola and Jussi Kantola, Finland</p> <p>Relationship between firm's performance and factors involved in the selection of innovation providers Afnan Zafar and Jussi Kantola, Finland</p> <p>A study of correlation analysis between safety climate and accident rate in workplace Suya Jeon, Chu Chang Yeop and Jong-Bae Baek, South Korea</p> <p>Neural correlates of communication effectiveness: How perceived popularity affects comprehension Merrill Liechty and Robert Phillips, USA</p>	
178	Management of Productivity in Smart Manufacturing/Industry 4.0 Co-Chairs: Tim Jeske and Sven Hinrichsen, Germany	SYSI
8:00-10:00 - TURKS 2	<p>Opportunities of digitalization for productivity management Tim Jeske, Marc-André Weber, Marlene Würfels, Frank Lennings and Sascha Stowasser, Germany</p> <p>How digital assistance systems improve work productivity in assembly Sven Hinrichsen and Sven Bendzioch, Germany</p> <p>Human work design: Modern approaches for designing ergonomic and productive work in times of digital transformation - an international perspective Martin Benter and Peter Kuhlmann, Germany</p> <p>Socio-technical capability assessment to support implementation of cyber-physical production systems in line with people and organization Fabian Nöhring, René Wöstmann, Tobias Wienzek and Jochen Deuse, Germany</p> <p>Competences and competence development in a digitized world of work Kathrin Schnalzer, Walter Ganz and Bernd Dworschak, Germany</p> <p>The challenges of globalization concerning European identity and urban development Fabrizio Fornari, Italy</p>	
179	Assistive Technology I Co-Chairs: Anne-Marie Hebert and Mila Stepanovic, Canada/Italy	HFAT
8:00-10:00 - TURKS 3	<p>Reducing scanning keyboard input errors with extended start dwell-time Frode Eika Sandnes, Evelyn Eika and Fausto Orsi Medola, Norway</p> <p>Towards a macroscopic view of using an assistive technology for mobility for its development: Assessing users' and co-users' experience Anne-Marie Hebert, Philippe Archambault and Dahlia Kairy, Canada</p> <p>An exploratory study of closed captioning / subtitles and affect Nicole Snell, USA</p> <p>Designing and creating a prototype of robotic skeleton systems for computerized lower limb prosthesis Yatip Auarmorn, Nantakrit Yodpijit and Manutchanok Jongprasithporn, Thailand</p> <p>Digitalize limits for increased capability: Technology to overcome human mechanisms Mila Stepanovic and Venere Ferraro, Italy</p> <p>Multimedia repository for speech and language therapy based on ontologies Diego Quisi-Peralta, Martín López-Nores, Vladimir Robles-Bykbaev, Daniel Calle-Lopez and Liliana Chaglla-Rodriguez, Ecuador</p>	

180	Future of Training, Education and Learning Sciences Co-Chairs: Igor Škorić and Jennifer Smith, Croatia/Canada	TELS
8:00-10:00 - TURKS 4	<p>Inspirational messages to motivate students: A human centered smartphone application for stress relieve Saad Almesalm, Lucas Stephane and Mohammad Algarni, USA</p> <p>"Step into the future" program as the system of non-formal research education in Russia Alexander Karpov, Russia</p> <p>Sense and sensibility in fashion design education Ines Simoes, Mario Ribeiro da Silva and Nuno Nogueira, Portugal</p> <p>Experimental investigation of the retention of emergency egress competence acquired in a virtual environment Jennifer Smith, Kyle Doody and Brian Veitch, Canada</p> <p>Learning to code and collaborate in a web environment Igor Škorić, Tihomir Orehovački and Marina Ivašić-Kos, Croatia</p> <p>Technological issues in lessons preparation: The interactive whiteboards (IWB) as a pedagogical tool in teaching aviation engineering courses R. Alberto Bernabeo and Kirk Webster, UAE</p>	
181	Design for Inclusive Education Co-Chairs: Zuzana Ceresnova and Azam Majooni, Slovakia/USA	DI
8:00-10:00 - TURKS 5	<p>An eye-tracking study on usability and efficiency of blackboard platform Amir Akhavan, Azam Majooni and Dietmar Offenhuber, USA</p> <p>Case studies of inclusive higher education in Norway, Sweden and Slovakia Zuzana Ceresnova and Lea Rollova, Slovakia</p> <p>Promoting digital accessibility with MOOCS and OERS Christophe Strobbe and Gottfried Zimmermann, Germany</p> <p>Teaching an innovative E-learning design program for visually impaired students Theresa Lobo and Cristina Caldeira, USA</p> <p>Braille cursor: An innovative and affordable refreshable braille display designed for inclusion Daniele Leonardis and Claudio Loconsole, Italy</p>	
182	Organizational Complexity and Leadership Management Co-Chairs: Valerie Rice and Christian Vocke, USA/Germany	HFML
8:00-10:00 - TURKS 6	<p>Investigating human resource roles in research-based university: An evidence from Malaysia Azlineer Sarip, Roziana Shaari and Mohamad Abdillah Royo, Malaysia</p> <p>Predictive analytics for leadership assessment Johan de Heer and Paul Porskamp, The Netherlands</p> <p>Risk based thinking – new approach for modern enterprises' management Hana Pacaiova and Anna Nagyova, Slovakia</p> <p>Resilient and mindful organizations Valerie Rice and Paul Schroeder, USA</p> <p>Transforming to an agile enterprise - how to handle the challenge of organizational ambidexterity Wilhelm Bauer and Christian Vocke, Germany</p> <p>What do they do? A taxonomy of team leader interventions in various meeting scenarios Peter Bengtsson, Kjell Ledin and Tore Ärlemalm, Sweden</p> <p>Inspiring European small and medium enterprise (SME) sector by inserting effective business transfer process Asiya Kazmi and Marja Naaranoja, Finland</p>	

183	Human Interaction with Unmanned Aerial Systems Co-Chairs: Anna Trujillo and Lynne Martin, USA	HFRUS
8:00-10:00 - CAICOS 1	<p>Operator trust function for predicted drone arrival Anna Trujillo, USA</p> <p>Traditional vs gesture based UAV control Brian Sanders, Dennis Vincenz, Sam Holley and Yuzhong Shen, USA</p> <p>Investigation of unmanned aerial vehicle routes to fulfill power line management tasks Gunta Strupka and Ivars Rankis, Latvia</p> <p>Establishing a variable automation paradigm for UAV-based reconnaissance in manned-unmanned teaming missions: Experimental evaluation and results Christian Ruf, Germany</p> <p>Information displays and crew configurations for UTM operations Quang V. Dao, Lynne Martin, Joey Mercer, Cynthia Wolter, Ashley Gomez and Jeffrey Homola, USA</p> <p>Don't look down! A comparison between augmented reality platforms for commercial small unmanned aircraft systems operations Durant Bridges, USA</p>	
184	Kansei Engineering in VR, AI, HCI and Miscellaneous Co-Chairs: Masashi Murakami and Shigekazu Ishihara, Japan	KE
8:00-10:00 - CAICOS 2	<p>Development of a Kansei engineering artificial intelligence sightseeing application Mitsuo Nagamachi, Shigekazu Ishihara and Toshio Tsuchiya, Japan</p> <p>The impact of design semantic on the user emotional image in the interface design Jiali Zhang and Long Ren, China</p> <p>Understanding young Chinese consumers' perception of passenger car form in rear quarter view by integrating quantitative and qualitative analyses Chunrong Liu, Yang Xie, Yi Jin and Xiaoguo Ding, China</p> <p>Research on female university students' winter clothing colors in Guangdong, China Huajuan Lin, Xiaoping Hu and Huang Wenguan, China</p> <p>Music retrieval and recommendation based on musical tempo Masashi Murakami, Takashi Sakamoto and Toshikazu Kato, Japan</p> <p>Analysis of frame structure of shared bikes in Mainland China Lin Xingmin, China</p>	
185	Assistive Technology II Co-Chairs: Ahmad Abualsamid and Thomas Schack, USA/Germany	HFAT
8:00-10:00 - CAICOS 3	<p>Modeling augmentative communication with Amazon Lex and Polly Ahmad Abualsamid and Charles Hughes, USA</p> <p>Adaptive cognitive training (ACT) Thomas Schack, Germany</p> <p>Interdisciplinary-based development of user-friendly customized 3D printed upper limb prosthesis Leticia Alcará Silva, Ana Claudia Tavares Rodrigues, Frode Eika Sandnes, Osmar Vicente Rodrigues and Fausto Orsi Medola, Brazil</p> <p>An interactive play environment on mathematics and cognitive training with behavioral tracking for children with autism Pinata Winoto, Jie Chen, Hangzhi Guo and Tiffany Tang, China</p> <p>Examining visually impaired people's embossed dots graphics with a 3D printer: Physical measurements and tactile observation assessments Kazunori Minatani, Japan</p> <p>Touchscreen-based haptic information access for assisting blind and visually-impaired users: Perceptual parameters and design guidelines Hari Palani, Jennifer Tennison and Nicholas Giudice, USA</p> <p>Analysis of mobile application users behavior Lungwen Kuo and Chih-Chun Lai, Taiwan</p>	

<p>186</p>	<p>Military Applications Co-Chairs: Tiffany Jastrzembki and Christopher Stevens, USA</p>	<p>HFSIM</p>
<p>8:00-10:00 - CAICOS 4</p>	<p>No representation without integration! Better cognitive modeling through interoperability Walter Warwick, Christian Lebiere and Stuart Rodgers, USA</p> <p>Training for a Mars mission Immanuel Barshi and Donna Dempsey, USA</p> <p>Avoiding information overload in the cockpit: An electronic kneeboard design that integrates apps and data feeds to support work Kelly Neville, Curtis Krauskopf, Ben Bachelor and Joseph Geeseman, USA</p> <p>Cognitive metrics profiling: A model-driven approach to predicting and classifying workload Christopher Stevens, Christopher Fisher, Megan Morris, Christopher Myers, Allen Dukes and Sarah Spriggs, USA</p> <p>Personalized learning in the wild: Accounting for effects of spacing, retention, and relearning through use of a cognitive model Tiffany Jastrzembki, USA</p>	
<p>187</p>	<p>Game Design Applications II Co-Chairs: Nicholas Caporusso and Daniel Railsback, USA</p>	<p>HFGD</p>
<p>8:00-10:00 - CAICOS 5</p>	<p>Impressions and congruency of pictures and voices of characters in "The Idolmaster" Ryo Takaoka, Naoto Hayashi, Yosuke Nakagawa and Masashi Yamada, Japan</p> <p>Case study: Game character creation process Flavio Andalo, Cassiano Canheti and Milton Luiz Horn Vieira, Brazil</p> <p>Investigating the human factors in eSports performances Nicholas Caporusso and Daniel Railsback, USA</p>	
<p>10:00 - 10:30 Refreshments will be provided in Grand Caribbean Ballroom</p>		
<p>188</p>	<p>Integrated Arrival, Departure and Surface (IADS) Systems Co-Chairs: Savita Verma and Deborah Bakowski, USA</p>	<p>AVI</p>
<p>10:30-12:30 - GRAND CARIBBEAN 1</p>	<p>Flight deck implications for integrated arrival, departure, and surface (IADS) traffic management systems Becky Hooley, Deborah Bakowski and David Foyle, USA</p> <p>Impact of data exchange provided by ATD2 tools at Charlotte Douglas International Airport Bonny Parke, Kimberly Jobe, Eric Chevalley, Savita Verma, Victoria Dulchinos and Lindsay Stevens, USA</p> <p>Tactical surface metering procedures and information needs for Charlotte Douglas International Airport Savita Verma, William J. Coupe, Hanbong Lee, Victoria Dulchinos, Yoon Jung, Liang Chen, Lindsay Stevens and Isaac Robeson, USA</p>	

Wednesday, July 25

189	Emotion and Design II Co-Chairs: Shuichi Fukuda and Masanari Toriba, Japan	APD
10:30-12:30 - GRAND CARIBBEAN 2	<p>Intelligent 'nail film' product design based on the application flexible electronic materials Yu Zhang, Qian Ji and Jiayu Zheng, China</p> <p>Deeper user experience - Emotional design Shan Wang and Huaxiang Yuan, China</p> <p>Empathy and design. Affective participations for the clothing design in Colombia Claudia Fernandez-Silva, Angela Maria Echeverri-Jaramillo and Sandra Marcela Velez-Granda, Colombia</p> <p>Principles of developing an effective environment for affective and pleasurable design team Amic Ho, China</p> <p>Attitudes toward exercise and investigating motivation suitable for TPO Masanari Toriba, Toshikazu Kato, Fumitake Sakaori and Etsuko Ogasawara, Japan</p>	
190	Neuroergonomics for Business Solutions Co-Chairs: Atahan Agrali and Hasan Ayaz, USA	CN
10:30-12:30 - GRAND CARIBBEAN 3	<p>Neuro-marketing approaches to evaluate value added surplus products Jeonggyu Lee, Siddharth Bhatt, Hasan Ayaz, Rajneesh Suri, Benjamin Fulton and Jonathan Deutsch, USA</p> <p>All Super Bowl advertisements are not created equal: Neural correlates unearthing consumer preferences Atahan Agrali, Siddharth Bhatt, Rajneesh Suri and Hasan Ayaz, USA</p> <p>EEG technology for UX evaluation: A multisensory perspective Marieke Van Camp, Muriel De Boeck and Guido De Bruyne, Belgium</p> <p>Neural correlates of math anxiety of consumer choices on price promotions Amanda Sargent, Atahan Agrali, Siddharth Bhatt, Hongjun Ye, Kurtulus Izzetoglu, Banu Onaral, Hasan Ayaz and Rajneesh Suri, USA</p> <p>Recall of spatial locations of prices: Neural correlates of math anxiety Atahan Agrali, Amanda Sargent, Siddharth Bhatt, Hongjun Ye, Kurtulus Izzetoglu, Banu Onaral, Hasan Ayaz and Rajneesh Suri, USA</p> <p>Using brain responses while watching music excerpts to predict valence and arousal levels Tuna Çakar and Mevlüt Serdar, Turkey</p>	
191	Product Design and Packaging Co-Chairs: Ke Chen and Cristina Salvador, China/Portugal	ED
10:30-12:30 - GRAND CARIBBEAN 4	<p>Design specifications for a new equipment to be used by workers in aircraft industry maintenance Waldemar Freitas Neto, Francisco Rebelo and Fernando Moreira da Silva, Portugal</p> <p>A review on thermal comfort evaluation of head-worn devices Ke Chen, China</p> <p>Human interaction, emotion and sustainability – designing wooden children's furniture Cristina Salvador, Portugal</p> <p>Designing for unpredictable households: Furniture design requests for a flexible use of dwellings Rute Gomes, Portugal</p>	

192	Medical Devices: Development and Results Co-Chairs: Kiana Alikhademi and Guido De Bruyne, USA/Belgium	EHMD
10:30-12:30 - GRAND CARIBBEAN 5	<p>A review of user-centered design for medical devices Shuning Li and Hua Wang, USA</p> <p>The development of an innovative corneal biopsy tool: A usability comparison of four ergonomic handle prototypes Lore Veelaert, Muriel De Boeck, Erik Haring, Guido De Bruyne and Carina Koppen, Belgium</p> <p>A cryotherapeutic device for preventing nail toxicity during chemotherapy: Comparison of three cooling strategies Muriel De Boeck, Guido De Bruyne, Jochen Vleugels, Marc Peeters and Tess Aernouts, Belgium</p> <p>A comparative usability study of a commercially acquired and a locally developed prototype of a newborn hearing screening device Eireen Ng, Joanna Nicole Yu, Benette Custodio and James II Curtney Li, Philippines</p> <p>Designing AR therapeutic experiences for in-home preventative care Anna Williams, Kiana Alikhademi and Juan Gilbert, USA</p> <p>Auto injector design – does everyone want a small device? Richard Featherstone, UK</p>	
193	Development and Implementation of Human Knowledge Co-Chairs: Stefan Trzcielinski and Vesa Salminen, Poland/Finland	MFG
10:30-12:30 - GRAND CARIBBEAN 8	<p>Regional development in modern robotic education on industrial and society context Heikki Ruohomaa and Vesa Salminen, Finland</p> <p>The effect of speed variation on initial and sustained forces during pushing and pulling activities: A preliminary study Lucia Botti, Cristina Mora, Giorgio Zecchi and Giulia Baruffaldi, Italy</p> <p>Human factor and working out of NBIC technologies Evgeny Kolbachev and Tatiana Kolbacheva, Russia</p> <p>Prior knowledge and opportunity recognition Stefan Trzcielinski, Poland</p> <p>Organizational innovations in Polish enterprises in their context of knowledge based economy Edmund Pawlowski and Krystian Pawlowski, Poland</p> <p>Qualitative features of the human capital in the formation of the agility of enterprises. Research results in Polish companies Hanna Wlodarkiewicz Klimek, Poland</p>	
194	Automated Driving II Co-Chairs: Kirsten Revell and Phillip Morgan, UK	RR
10:30-12:30 - GRAND CARIBBEAN 9	<p>Trust in an autonomously driven simulator and vehicle performing maneuvers at a T-junction with and without other vehicles Phillip Morgan, Craig Williams, Jonathan Flower, Chris Alford and John Parkin, UK</p> <p>Rating of take-over performance in conditionally automated driving using an expert-rating system Oliver Jarosch and Klaus Bengler, Germany</p> <p>Effect of knowledge of automation capability on trust and workload in an automated vehicle: A driving simulator study Siddhartha Khastgir, Stewart Birrell, Gunwant Dhadyalla and Paul Jennings, UK</p> <p>Derivation of a model of safety critical transitions between driver and vehicle in automated driving Nicolas D. Herzberger, Gudrun Voß, Fabian Becker, Filippo Grazioli, Eugen Altendorf, Yigiterkut Canpolat, Frank Flemisch and Maximilian Schwalm, Germany</p> <p>Predicting take-over times of truck drivers in conditional autonomous driving Alexander Lotz and Sarah Weissenberger, Germany</p> <p>Driving style modelling with adaptive neuro-fuzzy inference system and real driving data Yuxiang Feng, Simon Pickering, Edward Chappell, Pejman Iravani and Chris Brace, UK</p>	

195	Simulators and Human-Vehicle Interface Co-Chairs: Maïke Scholtes and Birte Thomas-Friedrich, Germany	RR
10:30-12:30 - GRAND CARIBBEAN 10	<p>Evaluation of roadway geometrics and posted speed limits with random forest in the PR-22 dynamic toll lane using a driving simulator Johnathan Ruiz, Bryan Ruiz Cruz, Didier Valdés, Benjamin Colucci Rios and Wandaliz Torres-Garci, Puerto Rico</p> <p>Development of a situation awareness assessment tool for rail signalers Birte Thomas-Friedrich, Jan Grippenkovén and Anja Naumann, Germany</p> <p>Implementation and evaluation of a gaze dependent in-vehicle driver warning system Maïke Scholtes, Philipp Seewald and Lutz Eckstein, Germany</p> <p>Operational and safety based analysis of unfamiliar drivers in a hybrid toll plaza using a driving simulator Johnathan Ruiz, Puerto Rico</p> <p>HRI-based human-vehicle interaction design Jintian Shi, China</p>	
196	Human Factors, Sustainable Urban Planning and Infrastructure V Co-Chairs: Christianne Falcão and Huang Shengyu, Brazil/China	SUPI
10:30-12:30 - GRAND CARIBBEAN 11	<p>Design activism in an old, urban community building: The case of the application of design tools –“issue map” in an Open Your Space project Huang Shengyu and Chenhan Jiang, China</p> <p>Law in motion or passionate observer on the shelf?: The Ghanaian disaster experience Olivia Anku-Tsedé, Believe Quaqoo Dedzo, Michael Asiedu Gyensare and Aaron Makafui Ametorwo, Ghana</p> <p>Sustainable housing environment – form and territory Wojciech Januszewski, Poland</p> <p>Barriers of building maintenance in private tertiary institutions in Nigeria Douglas Aghimien, Ayodeji Oke and Clinton Aigbavboa, South Africa</p> <p>Use of decision making system for container selection Ludimilla Zeule, José Manuel Teixeira and Sheyla Serra, Brazil</p>	
197	Usability and User Experience: Applications Co-Chairs: Julian Brinkley and Zhe Chen, USA/China	UUE
10:30-12:30 - GRAND CARIBBEAN 12	<p>Quick reply messaging: A study of a core feature modification in the Apple CarPlay automotive infotainment system and the impact on system usability Julian Brinkley, Shaundra Daily and Juan Gilbert, USA</p> <p>The interface design of mobile library: A case study Siyu Yang, Peng An and Zhe Chen, China</p> <p>vis-UI-lise: Developing a tool for assessing user interface visibility Ian Hosking and John Clarkson, UK</p> <p>Design of location-based audio guide system for city tourism Shiori Furuta and Katsuhiko Ogawa, Japan</p> <p>#metoo: An app to enhancing women safety Javed Anjum Sheikh and Zonia Fayyaz, Pakistan</p> <p>Usability recommendations for a learning management system (LMS) - A case study with the LMS of IFPE Marcelo Penha and Walter Franklin Marques Correia, Brazil</p> <p>The inaccessibility of video players Gian Wild, Australia</p>	

198	Human-Machine Interaction for Continuous Biomedical Monitoring and Intervention Co-Chairs: Ricardo Vigário and Julie Jacko, Portugal/USA	SYSI
10:30-12:30 - TURKS 1	<p>Patient reported outcomes for women with advanced stage ovarian cancer based on a web platform for learning and preference specification Julie Jacko, USA</p> <p>Elderly population home-based intervention program and experimental study to reduce food insecurity: Using the TV application “Saúde.Come with Seniors” Ana M Rodrigues, Rita Lopes Silva, Maria Joao Gregorio, Pierre Gein, Mónica Eusébio, Maria José Santos, Rute de Sousa, Pedro Simões Coelho, Jorge Mendes, Pedro Graça, Pedro Oliveira, Jaime C Branco and Helena Canhão, Portugal</p> <p>An integrated system combining virtual reality with a glove with biosensors for neuropathic pain: A concept validation Cláudia Quaresma, Madalena Gomes, Heitor Cardoso, Nuno Ferreira, Ricardo Vigário, Carla Quintão and Micaela Fonseca, Portugal</p> <p>Development of a low-cost eye tracker – a proof of concept Ricardo Vigário, Filipa Gamas, Pedro Morais and Carla Quintão, Portugal</p>	
199	Concepts, Simulations and Selected Applications in Industrial Processes Co-Chairs: Murray Gibson and Salvador Ávila Filho, USA/Brazil	APMPC
10:30-12:30 - TURKS 2	<p>The technical effect of using the Kumihimo Disk to make braids, compared to using the Marudai Akiko Kimura, Makiko Tada, Noriyuki Kida, Yuka Takai and Akihiko Goto, Japan</p> <p>Simulated ergonomics evaluation to prevent worker fatigue and optimize worker rotation/assignment Murray Gibson, USA</p> <p>Application of tool to evaluate the causes of accident according to the social-technical model of Rasmussen: Case of wreck in Mar Grande-Brasil Ivone Cerqueira, Julio Nascimento, Salvador Ávila Filho and Jade Avila, Brazil</p> <p>Analysis of cutting operation with flower scissors in ikebana Akihiko Goto, Naoki Sugiyama, Ikenobo Yuki, Norihito Yamaguchi and Hiroyuki Hamada, Japan</p> <p>Contemporary low-cost hardware for ergonomic evaluation: Needs, applications and limitations Märt Reinvee and Beata Mrugalska, Estonia/Poland</p> <p>Delivery efficiency improvement to reduce the transportation cost Supanunt Tunwannarux, Thailand</p> <p>Relationship between technique for curving or shaping stems in ikebana and the characteristics of floral materials Norihito Yamaguchi, Ikenobo Yuki, Akihiko Goto and Hiroyuki Hamada, Japan</p>	
200	Human Factors, Software, and Systems Engineering Co-Chairs: Judi See, Francesca de Rosa and Brenda Aymerich, USA/Italy/Costa Rica	HFSSE
10:30-12:30 - TURKS 3	<p>Gamified approach in the context of situational assessment: A comparison of human factors methods Francesca de Rosa, Anne-Laure Jouselme and Alessandro De Gloria, Italy</p> <p>Estimation of risks in Scrum using agile software development Muhammad Ahmed, Babur Hyat Malik, Rana Muhammad Tahir Ghafoor, Sidra Perveen, Rabia Imtiaz Alvi, Azra Rehmat, Qura Tul Ain and Mehrina Asghar, Pakistan</p> <p>Why are we still failing at DevOps? Christine White and Sunil Joshi, USA</p> <p>Software development practices in Costa Rica: A survey Brenda Aymerich, Ignacio Diaz, Julio Guzman, Gustavo Lopez and Diana Garbanzo, Costa Rica</p> <p>Smart ordering application system for assignment sequence number of customers at offline store Myoungbeom Chung, South Korea</p> <p>Convincing systems engineers to use human factors experts during process design Judi See, USA</p>	

201	<p>Privacy and Cybersecurity Co-Chairs: Maysoon Abulkhair and Mandeep Pannu, Saudi Arabia/Canada</p>	CYBER
10:30-12:30 - TURKS 4	<p>Privacy preferences vs. privacy settings: An exploratory Facebook study Munene Kanampiu and Mohd Anwar, USA</p> <p>Who shares what with whom? Information sharing preferences in the online and offline worlds Chang Liu, Hsiao-Ying Huang, Dolores Albarracin and Masooda Bashir, USA</p> <p>Worker's privacy protection in mobile crowdsourcing platform Amal Albilali and Maysoon Abulkhair, Saudi Arabia</p> <p>Using Dark Web Crawler to uncover suspicious and malicious websites Mandeep Pannu, Iain Kay and Daniel Harris, Canada</p> <p>Design and operation framework for industrial control system security exercise Haruna Asai, Japan</p> <p>Training cyber security exercise facilitator: Behavior modeling based on human error Shiho Taniuchi, Tomomi Aoyama, Ichiro Koshijima and Haruna Asai, Japan</p> <p>Boon or trap? A comparative study of security of virtual private network and its effect on society Zhipeng Zhang, Jingyao Sun, Shilin Yan, Jingji Zang, Yunnan Yu and Sonali Chandel, USA</p>	
202	<p>Usability of Learning Technology Co-Chairs: Thomas Alexander and Mitchell Tindall, Germany/USA</p>	TELS
10:30-12:30 - TURKS 5	<p>Increasing flexibility of employees in production processes using the differential learning approach - Adaption and validation of motor learning approaches Kirsten Weisner, Marco Knittel, Thomas Jaitner and Jochen Deuse, Germany</p> <p>Challenges in creating a mobile digital tutor for clinical communications training Wayne Zachary, Steven Bishop, Janis Cannon-Bowers, Addison Blanda, Prathmesh Pethkar, Theresa Wilkin, Taylor Carpenter, Annika Horgan and Thomas Santarelli, USA</p> <p>Interactive HMI for qualification and programming in process automation (EduBrain 4.0) Sebastian Schmitz, Daniel Schilberg and Sabina Jeschke, Germany</p> <p>Advancing performance assessment for aviation training Beth Atkinson, Mitchell Tindall and John Killilea, USA</p> <p>Evaluating training efficacy and return on investment for augmented reality: A theoretical framework Amanda Bond, Kelly Neville, Joseph Mercado, Lauren Massey, Adam Wearne and Sherry Ogreten, USA</p>	

203	Inclusive Service Design and Ageing Co-Chairs: Daniele Busciantella Ricci and Kamaran Fathulla, Italy/UK	DI
10:30-12:30 - TURKS 6	<p>Social footprint? An exploratory analysis of the existing evidence and opportunities Avril Accolla and Francesca Hansstein, China</p> <p>Bridging the cultural heritage of rural China with villagers' abilities, necessities and aspirations for a good-clean-fair sustainable development Avril Accolla and Anna Paola Pola, China</p> <p>Supporting inclusive approaches in service design with netnography Daniele Busciantella Ricci, Alessandra Rinaldi and Francesca Tosi, Italy</p> <p>Understanding human creativity through Dooyeweerd's philosophy: The case of creative diagramming Kamaran Fathulla, UK</p> <p>Inclusive design of wearable smart objects for elder users: Design principles for combining technical constraints and human factors Giuseppe Mincoelli, Michele Marchi, Lorenzo Chiari, Alessandra Costanzo, Elena Borelli, Sabato Mellone, Diego Masotti, Giacomo Paolini and Silvia Imbesi, Italy</p> <p>Internet of things and elderly: Quantitative and qualitative benchmarking of smart objects Giuseppe Mincoelli, Silvia Imbesi, Gian Andrea Giacobone and Michele Marchi, Italy</p> <p>Use of the functional state simulator of the elderly adult to identify requirements for the design of food containers Johana Hoyos Ruiz and Gustavo Sevilla Cadavid, Colombia</p>	
204	Human-Robot Collaborations and Interactions Co-Chairs: Erik Chumacero and Daniel Rucker, USA/Germany	HFRUS
10:30-12:30 - CAICOS 1	<p>Human-inspired balance control of a humanoid on a rotating board James Yang and Erik Chumacero, USA</p> <p>Investigating ergonomics in the context of human robot collaboration as a sociotechnical system Daniel Rucker, Rüdiger Hornfeck and Kristin Paetzold, Germany</p> <p>How does presence of a human operator companion influence people's interaction with a robot? Yuwei Sun and Daniel Carruth, USA</p> <p>NAO as a copresenter in a robotics workshop - participant's feedback on the engagement level achieved with a robot in the classroom Joseby Hernandez-Cedeño, Luis A. Guerrero, Kryscia Ramírez-Benavides and Adrian Vega, Costa Rica</p> <p>Human attention processes and situation awareness: A novel framework for assistance systems in human-robot collaboration Lucas Paletta, Amir Dini and Ursula Augsdörfer, Austria</p> <p>Qbo robot as an educational assistant - participants feedback on the engagement level achieved with a robot in the classroom Raúl Madrigal Acuña, Kryscia Ramírez-Benavides and Adrian Vega Vega, Costa Rica</p> <p>The effects of robot assisted therapy on hand functions and targeted activity performance in individuals with hemiplegia Gonca Bumin, Sibel Demir and Beyza Ozkaya, Turkey</p>	

205	Human-Autonomy Teaming Co-Chairs: Patrick Craven and Kevin Oden, USA	HFSIM/ HFRUS
10:30-12:30 - CAICOS 2	<p>Trust and communication in driver-passenger dyads during open interstate driving Jason Metcalfe, Javier Garcia, Robert Fernandez, Matthew O'Donnell, Tony Johnson, Emily Falk and Jean Vettel, USA</p> <p>Trust in human-autonomy teaming: A review of trust research from the US Army Research Laboratory Robotics Collaborative Technology Alliance Kristin Schaefer, Sue Hill and Florian Jentsch, USA</p> <p>Technological architecture to enable state awareness of human collaborators in human-autonomy teams Spencer Frazier, Patrick Craven and Kevin Oden, USA</p> <p>Virtual environment-based situational awareness training for cognitive enhancement in unmanned ground vehicle operators Akash Rao, Raghav Bhat, Sushil Chandra, Vishal Pandey, Prachi Joshi and Ronnie Daniel, India</p> <p>Impact of different fields of view and simulation-based training in rover teleoperation via an indirect visual interface K. Raghav Bhat, Vishal Pandey, Ronnie V. Daniel, Akash K. Rao, Sushil Chandra, RamSingh Negi and Manoj Prabhat, India</p> <p>Continuous training for human agent teams Kevin Oden, USA</p> <p>ITS and driver cognitive distraction in a different communication modalities: A simulator study Ales Zaoral, Czech Republic</p>	
206	Cognitive Modeling Co-Chairs: Brandon Perelman and Walter Warwick, USA	HFSIM
10:30-12:30 - CAICOS 3	<p>From cognitive modeling to robotics: How research on human cognition and computational cognitive architectures can be applied to robotics problems Troy Dale Kelley and Christian Lebiere, USA</p> <p>Adaptive automation in cybersecurity Daniel Cassenti, Vladislav Veksler and Blaine Hoffman, USA</p> <p>An integrated model of human cyber behavior Walter Warwick, Norbou Buchler and Laura Marusich, USA</p> <p>Conditional deterrence: An agent-based framework of escalation dynamics in an era of WMD proliferation Mark Abdollahian, Zining Yang and Jacek Kugler, USA</p> <p>Human behavior under emergency and its simulation modeling: A review Yixuan Cheng, Dahai Liu, Jie Chen, Sirish Namilae, Jennifer Thropp and Younho Seong, USA</p> <p>ACT-R modeling to simulate information amalgamation strategies John Richardson, Justine Caylor, Eric Heilman and Timothy Hanratty, USA</p>	

207	Understanding and Preventing Errors in Safety-Critical Environments Co-Chairs: Valerie Rice and Yochan Kim, USA/Korea	HERRP
10:30-12:30 - CAICOS 4	<p>Estimating diagnosis time of emergency situations in digitalized control rooms Yochan Kim, Jeonghun Choi, Jinkyun Park, Wondea Jung and Seung Jun Lee, South Korea</p> <p>Extrapolating nuclear process control microworld simulation performance data from novices to experts - a preliminary analysis Thomas Ulrich, Ronald Boring and Roger Lew, USA</p> <p>Looking for additional data sources for HRA: Microworlds and beyond Martin Rasmussen, Karin Laumann and Ronald Boring, Norway/USA</p> <p>Study on the randomness of EOM behavior in a nuclear power plant Jianhua Chen, Guimei Zuo and Licao Dai, China</p> <p>Training for readiness and resilience Debbie Patton, Joan Johnston, Katherine Gamble, Laura Milham, Lisa Townsend, Dawn Riddle and Henry Phillips, USA</p> <p>Team resource management (TRM) skill training guide in nuclear emergency headquarters in Japan Kohei Nonose, Hisao Shibue and Akihiko Nagasaka, Japan</p> <p>Fault identification of multi-state units of flight control system based on Bayesian network for handling quality evaluation Zhifan Qiu, Yanjun Zhang and Youchao Sun, China</p>	
208	Occupational Safety Co-Chairs: Brianna Eiter and Timothy Orr, USA	HFSIM
10:30-12:30 - CAICOS 5	<p>The effect of hazard clustering and risk perception on hazard recognition Timothy Orr, Jennica Bellanca, Brianna Eiter, William Helfrich and Elaine N. Rubinstein, USA</p> <p>From the laboratory to the field: Developing a portable workplace examination simulation tool Brianna Eiter, William Helfrich, Jonathan Hrica and Jennica Bellanca, USA</p> <p>Using high fidelity physical simulations of the environment to evaluate risk factors for slips and falls in the mining industry Mahiyar Nasarwanji, Jonisha Pollard and Lydia Kocher, USA</p> <p>The effectiveness of tactical communication and protection systems (TCAPS) on minimizing hearing hazard and maintaining auditory situational awareness Jeremy Gaston, Ashley Fouts, Timothy Mermagen and Angelique Scharine, USA</p> <p>Improving safety training through gamification: An analysis of gaming attributes and design prototypes Leonard Brown and Mary Poulton, USA</p> <p>The factors affecting the quality of learning process and outcome in virtual reality environment for safety training in the context of mining industry Shiva Pedram, Australia</p>	
Lunch Break 12:30 - 14:00 • Enjoy lunch at the restaurant of your choice		

209	Sensory Engineering and Emotion Co-Chairs: Kazutaka Ueda and Yutaka Ishii, Japan	APD
14:00-16:00 - GRAND CARIBBEAN 1	<p>A neural model of aesthetic preference for product appearance Kazutaka Ueda, Japan</p> <p>Development of a speech-driven embodied entrainment character system with a back-channel feedback Yutaka Ishii, Makiko Nishida and Tomio Watanabe, Japan</p> <p>Open tool for collecting physiological data: Collection of emotional data during gameplay Victor Moreira, Rodrigo Carvalho and Maria Lucia Okimoto, Brazil</p> <p>Epoxy resin lamps design base on emotional needs research Xiong Wei and Wang Yalun, China</p> <p>Evaluation system of automotive interior rendering based on visual perception Tiantian Li, Danhua Zhao and Jianghong Zhao, China</p> <p>Two-dimensional emotion evaluation with multiple physiological signals Jyun-Rong Zhuang, Ya-Jing Guan, Hayato Nagayoshi, Louis Yuge, Hee-Hyol Lee and Eiichiro Tanaka, Japan</p>	
210	Cross-Cultural Decision Making II Co-Chairs: Atsuo Murata and Samira Shaikh, Japan/USA	CCDM
14:00-16:00 - GRAND CARIBBEAN 2	<p>Using social media to understand cyber attack behavior Amy Sliva, Kai Shu and Huan Liu, USA</p> <p>Hiding behind the words of others: Does redundant word choice reflect suppressed individuality when tweeting in the first-person singular? Eliza Barach, Samira Shaikh, Vidhushini Srinivasan and Laurie Beth Feldman, USA</p> <p>Proactivity in a career and identity styles in the world oriented towards a global change Agnieszka Cybal-Michalska, Poland</p> <p>Novel multi-objective optimization algorithm incorporating decisions factors in design modeling of hydraulic nets Jesus Rafael Hechavarria Hernandez, José Arzola Ruiz and Umer Asgher, Ecuador</p> <p>Cross-cultural difference and cognitive biases as causes of gap in approach toward safety Atsuo Murata, Japan</p>	
211	Persistent Monitoring Within a Work Environment Co-Chairs: Matthias Ziegler and Casey Lindberg, USA	CN
14:00-16:00 - GRAND CARIBBEAN 3	<p>Identifying the right array of passive, non-invasive sensors to predict personality, cognitive traits and work performance Matthias Ziegler, Amanda Kraft, Bartlett Russell and William Casebeer, USA</p> <p>Advantages of a dual-track modeling approach Amanda Kraft, Matthias Ziegler, Raquel Galvan, Peter Bryan and William Casebeer, USA</p> <p>Identifying environmental conditions to predict office worker performance and health using non-invasive sensors Casey Lindberg and Esther Sternberg, USA</p> <p>Using the electronically activated recorder (EAR) to identify the behavioral manifestations of individual differences in daily life Allison Tackman, Ramon Reyes and Matthias Mehl, USA</p> <p>Culture factor modifies numeral space mapping: A cross-cultural study Yu Zhang, China</p>	

212	Digital Human Modeling in a Virtual World Co-Chairs: Thomas Alexander and Sofia Scataglini, Germany/Belgium	DHMAO
14:00-16:00- GRAND CARIBBEAN 4	<p>Automatic generation of statistical shape models in motion Femke Danckaers, Sofia Scataglini, Robby Haelterman, Damien Van Tiggelen, Toon Huysmans and Jan Sijbers, Belgium</p> <p>Multi-patch B-spline statistical shape models for CAD-compatible digital human modeling Toon Huysmans, Femke Danckaers, Jochen Vleugels, Daniël Lacko, Guido De Bruyne, Stijn Verwulgen and Jan Sijbers, Belgium</p> <p>Beyond anthropometry and biomechanics: Digital human models for modeling realistic behaviors of virtual humans Thomas Alexander and Lisa Fromm, Germany</p> <p>Latent heat loss of a virtual thermal manikin for evaluating the thermal performance of bicycle helmets Shriram Mukunthan, Jochen Vleugels, Toon Huysmans and Guido De Bruyne, Belgium</p> <p>Using digital human modeling to evaluate large scale retailers' furniture: Two case studies Carlo Emilio Standoli, Stefano Elio Lenzi, Nicola Francesco Lopomo, Paolo Perego and Giuseppe Andreoni, Italy</p> <p>Statistical comparison of 3D scanning data and manual measuring data in anthropometry Zhang Fan, Zhao Chao, Jing Zhao, Gang Wu, Haitao Wang and Wenxing Ding, China</p>	
213	Design for User Experience Co-Chairs: Marcelo Soares and Margherita Peruzzini, Brazil/Italy	ED
14:00-16:00 - GRAND CARIBBEAN 5	<p>User experience analysis based on physiological data monitoring and mixed prototyping to support human-centred product design Margherita Peruzzini, Fabio Grandi, Marcello Pellicciari and Claudia Elisabetta Campanella, Italy</p> <p>Design methodologies for continuous improvement Martin Stein and Peiyi Ko, USA</p> <p>User experience design and architecture of IoT ecosystem employed in students' activities tracking Dijana Plantak Vukovac, Mišo Džeko, Zlatko Stapić and Tihomir Orehovački, Croatia</p> <p>Comprehensive evaluation method of interface elements layout aesthetics based on improved AHP Qing Kong and Qi Guo, China</p> <p>An ergonomic analysis on the viewing distance and angles of the UP Film Institute Videotheque Christine Joyce Beltran, Michael Karl Calunsag and Danica Mae Berunio, Philippines</p> <p>Research on upper seat back for supporting performance in different vertical angles Tianyi Hu, Ligang Luo and Wenhan Zhong, China</p> <p>User experience evaluation in product ergonomic standards Chaoyi Zhao, China</p>	
214	Patient Safety Co-Chairs: Helen Fuller and Peter Young, USA/UK	EHMD
14:00-16:00 - GRAND CARIBBEAN 8	<p>Reducing medication errors and increasing patient safety: Utilizing the fault tree analysis Maryam Tabibzadeh and Anjana Muralidharan, USA</p> <p>Emory Healthcare's Safe Patient Handling Program Kathleen Norris, USA</p> <p>The impacts on patient safety of changes in the design of medical products and devices used in patient care settings Helen J. A. Fuller, Timothy Arnold, Nancy Lightner and Tandi Bagian, USA</p> <p>The WireSafe™ for preventing retained central venous catheter guidewires: Clinical usability Maryanne Mariyaselvam, Darcy Pearson, Robin Heij, Emad Fawzy and Peter Young, UK</p> <p>Blood mis-sampling fatalities: A human factors simulation study to determine staff error recognition Peter Young and Maryanne Mariyaselvam, UK</p> <p>Ergonomic hazards in otolaryngology John Vaughan, Yona Vaisbuch, Justin Moore and Robert Jackler, USA</p> <p>Improving communication between job rotations in junior doctors in the UK: An end to system knowledge failure leading to medical error Sarah Bury, UK</p>	

<p>215</p>	<p>Cognitive Computing and Internet of Things (IoT) Co-Chairs: Hasan Ayaz and Yübo Wang, USA/Germany</p>	<p>CCIoT</p>
<p>14:00-16:00 GRAND CARIBBEAN 9</p>	<p>Building consumer trust to improve internet of things (IoT) technology adoption Areej Alhogail and Mona Alshahrani, Saudi Arabia</p> <p>Holistic scenarios by using platform technologies for small batch-sized production Yübo Wang, Michaela Dittmann and Reiner Anderl, Germany</p> <p>Runtime generation and delivery of guidance for smart object ensembles Daniel Burmeister and Andreas Schrader, Germany</p> <p>The cognitive computing journey - why it's attainable for your company John Head, USA</p>	
<p>216</p>	<p>Ergonomics and Safety II Co-Chairs: Regina Pope-Ford and Diogo Cunha dos Reis, USA/Brazil</p>	<p>SMHF</p>
<p>14:00-16:00 - GRAND CARIBBEAN 10</p>	<p>Thermal comfort assessment of Metro Manila Development Authority (MMDA) traffic enforcers in Pasig City, Philippines Ivan John Galang, Keneth Sedilla, Josiah John Bernales, Nikko Alexander Alquiros, Pericles Dakay, Jr., and Edwin Lasig Olmos, Philippines</p> <p>Development and assessment of agricultural safety clothing through wear test: Human physiological and subjective comforts Myung-Chul Lee and Ryang-Hee Kim, South Korea</p> <p>Evaluation for development of construction safety work-wear under severe environmental conditions Myung-Chul Lee, South Korea</p> <p>Back flexion and extension: The effects of static posture on children using mobile devices Regina Pope-Ford, USA</p> <p>Evaluation of risk factors of upper limb musculoskeletal disorders in a meat processing company Diogo Cunha dos Reis, Adriana Seára Tirloni, Eliane Ramos and Antônio Renato Pereira Moro, Brazil</p> <p>Safety and risks factor assessment by telecommunication mast riggers and technicians in Nigeria Clinton Aigbavboa and Wale Kukoyi, South Africa</p> <p>Analysis of accidents involving machines and equipment using the human factor analysis and classification system method (HFACS) Anastacio Gonçalves Filho, Thais Berlink and Tales Vasconcelos, Brazil</p>	
<p>217</p>	<p>Ubiquitous Ergonomics Co-Chairs: Reiko Mitsuya and Ivan Joseph Valdez, Japan/Philippines</p>	<p>PEHF</p>
<p>14:00-16:00 - GRAND CARIBBEAN 11</p>	<p>An ergonomic assessment of a Philippine Catholic Church Ivan Joseph Valdez, Javi Reyes, John Roger Sobremonte and Alyssa Jean Portus, Philippines</p> <p>Effect of combined plyometric-sprint training on selected hormones of underweight males Hassan Almoslim, Saudi Arabia</p> <p>An ergonomic evaluation of elevating the work desk: The relationship of sitting work with standing work Reiko Mitsuya, Keisuke Nakamura, Takuro Sugita, Naoya Ozawa, T. Yaita and Takashi Kawai, Japan</p> <p>The psychophysical evaluations of baby carriers Te-Hung Chen, Ya-Yen Kao and Mao-Jiun J. Wang, Taiwan</p> <p>Consumer acceptance of nutritional enrichment of fish crackers used for snacks with fish bones Naruemon Prapasuwannakul, Thailand</p> <p>Discussion of the factors affecting sleep quality in sleep posture Yu-Ting Lin and Fong-Gong Wu, Taiwan</p>	

218	Automated Driving III Co-Chairs: Victoria Banks and Mario Hirz, UK/Austria	RR
14:00-16:00 - GRAND CARIBBEAN 12	<p>Integrated approach supporting virtual conception of passenger ergonomics in automated driving cars Mario Hirz and Patrick Rossbacher, Austria</p> <p>A literature review of seating and body angles for non-driving secondary activities in autonomous driving vehicles Sibashis Parida, Sai Mallavarapu, Matthias Franz and Sylvester Abanteriba, Germany</p> <p>Motion sickness and human performance - Exploring the impact of driving simulator user trials Joseph Smyth, Stewart Birrell, Paul Jennings and Alexandros Mouzakitis, UK</p> <p>Safety perceptions of self-driving cars: A survey study in China and Pakistan Amna Chaudhry, Peng Liu, Amjad Hussain and Irum Sanaullah, Pakistan</p> <p>Expectations of non-automated road users for interactions in mixed traffic Johanna Josten, Jens Kotte and Lutz Eckstein, Germany</p> <p>Discussions on ergonomics design for the car body of driverless vehicle Quan Yuan, Zhongxiang Feng, Haitian Shi and Ligang Duo, China</p>	
219	Social and Occupational Factors of Comfort, Discomfort and Pain Co-Chairs: Sophia Sandoval and Kyle Jarque, Philippines	SOE
14:00-16:00 - TURKS 1	<p>A postural analysis of rice farming in San Miguel, Bulacan Sophia Sandoval, Russel Avery Roco, Kyle Jarque and Benette Custodio, Philippines</p> <p>The need for ergonomic studies for the reduction of injuries and redesign of tools in the agricultural sector through TRIZ Lidilia Cruz-Rivero, Ruben Purroy-Vasquez, Lorena Jocelyn Pacheco-Lozano, Nicolas Francisco Mateo-Diaz and Alberto Aguilar-Lassarre, Mexico</p> <p>How to improve ancient handcraft: The bobbin lace Isabel Bieger, Gianni Montagna and Cristina Carvalho, Portugal</p> <p>Psychosocial toxicity in Colombian service companies Olga Helena Piñeros Mora and Carlos Armando Marin Valencia, Colombia</p> <p>Occupational ride comfort in cultivation operation: An investigation by Taguchi's Method Amandeep Singh, Harwinder Singh, Lakhwinder Pal Singh, Sarbjit Singh, Naresh Kumar Chuneja and Manjeet Singh, India</p> <p>Perception on body discomfort level during prolong standing activities among electronics males worker in Malaysia Ismail Abdul Rahman, Raemy Md Zein, Noorul Azreen Azis and Jafri Mohd Rohani, Malaysia</p> <p>Comfort evaluation of a hybrid air/foam seat-pad. Comparison with a standard foam-pad on a rigid-seat office chair Alessandro Naddeo and Ornella Cannavacciuolo, Italy</p>	
220	Human Factors, Sustainable Urban Planning and Infrastructure VI Co-Chairs: Katarzyna Ujma-Wasowicz and Cristiana Cellucci, Poland/Italy	SUPI
14:00-16:00 - TURKS 2	<p>The role of active mobility for the promotion of urban health Cristiana Cellucci and Michele Di Sivo, Italy</p> <p>The needs of children and their caregivers in new urban lifestyles: A case study of playground facilities in Hong Kong Kin Wai Michael Siu, Yi Lin Wong and Mei Seung Lam, Hong Kong</p> <p>Problems of ergonomics in lecturing history of architecture and town planning throughout architectural studies course Teresa Bardzinska-Bonenberg, Poland</p> <p>Micro-space planning: Social action for popularizing of this planning method in Silesian's case-study Katarzyna Ujma-Wasowicz, Malgorzata Kądziała and Agnieszka Piórkowska, Poland</p> <p>Researching on old street transformation from a macro perspective: Chongqing Huangjueya Street Ruyue Xue, Wen Luo and XingYu Luo, China</p>	

221	Usability and User Experience: Eye Tracking and Visualization Co-Chairs: Nima Ahmadi and Liu Wu, USA/China	UUE
14:00-16:00 - TURKS 3	<p>Bullet graph versus gauges graph: Evaluating human information processing of industrial visualization based on eye-tracking methods Lei Wu, Lingli Guo, Hao Fang and Lijun Mou, China</p> <p>Effectiveness of eye-gaze input method: Comparison of speed and accuracy among three eye-gaze input method Atsuo Murata, Makoto Moriwaka and Toshihisa Doi, Japan</p> <p>Application of eye tracking technology in naturalistic usability assessment of an academic library website Nima Ahmadi, Matthew R. Romoser, Lindsay M. Guarnieri, Theresa G. Kry and Emily I. Porter-Fyke, USA</p> <p>Log-based process visualization Johannes Schwank, Sebastian Schoeffel and Achim Ebert, Germany</p>	
222	Human Factors in Sustainable Manufacturing Co-Chairs: Anne Reimer and Mohammed-Aminu Sanda, Germany/ Ghana	SYSI
14:00-16:00 - TURKS 4	<p>Indicators and goals for sustainable production planning and controlling from an ergonomic perspective Maximillian Zarte, Agnes Pechmann and Isabel L. Nunes, Portugal</p> <p>Environment-integrated human machine interface framework for multimodal system interaction on the shop floor Katrin Schilling, Simon Storms and Werner Herfs, Germany</p> <p>Design of a user interface for sustainable production planning and controlling from an user centered perspective Maximilian Zarte, Agnes Pechmann and Isabel L. Nunes, Portugal</p> <p>Evaluation and systematic analysis of ergonomic and work safety methods and tools for the implementation in lean production systems Uwe Dombrowski, Anne Reimer and Tobias Stefanak, Germany</p> <p>Digitization of industrial work environments and the emerging challenges of human-digitized system collaborative work organization design Mohammed-Aminu Sanda, Ghana</p>	
223	Human Factors in Communication of Design III Co-Chairs: João Carlos R Placido da Silva and Stewart Birrell, Brazil/UK	HFCO
14:00-16:00 - TURKS 5	<p>Using the Ideas Cafe to explore trust in autonomous Vehicles Arun Ulahannan, Rebecca Cain, Paul Jennings, Gunwant Dhadyalla, Stewart Birrell, Mike Waters and Alexandros Mouzakitis, UK</p> <p>Usability, interactivity and cognition of a multicampi university website Lívia Inglesis Barcellos, Galdenoro Botura, Jr., Ekaterina Emmanuil Iglesias Barcellos and Eric Ingelsis Barcellos, Brazil</p> <p>Evaluation of graphic brands developed with a targeted method by specialists through informational ergonomics João Carlos R Placido da Silva, Valeria Ramos Friso, Luis Carlos Paschoarelli and José Carlos Placido da Silva, Brazil</p> <p>Color in glossolalia: Red in western culture (Part I) Leonor Ferrão, Portugal</p> <p>A study on improvement of operation log for kindergarten school bus safety using human-centered design methodology SunYoung Park, Long Xu, Sungeun Lee and Sangwon Lee, South Korea</p> <p>The generative methodology to analyze problems and design solutions to communicate the craft products: A transdisciplinary approach Ramona Aiello, Gianluca Simonetta, Eugenio Pandolfini, Ilaria Marchionne and Luca Toschi, Italy</p>	

224	Design for Inclusion: Materials and Multisensory Co-Chairs: Francesca Bozza and Masayoshi Kubo, Italy/Japan	DI
14:00 - 16:00 - TURKS 6	<p>Design for the sensitive experience: Inclusive design in historical-archaeological contexts Francesca Bozza, Italy</p> <p>Inclusive, active, and adaptive design as approaches to user-centered design Cristiana Cellucci and Michele Di Sivo, Italy</p> <p>The influence of adding vibration on the impression of messaging on smartphones Karin Ishitsu and Masayoshi Kubo, Japan</p> <p>Visual-to-auditory sensory substitution for the visually impaired: Assessing dichotic listening for optimal presentation of auditory displays Michael Proulx and Alexandra de Sousa, UK</p> <p>Engineering advanced material solutions for improving universal usability of products, systems and environments Micol Costi, Italy</p> <p>Civilization heritage solidified in wooden buildings Ying Li, Japan</p>	
225	Medical Simulations Co-Chairs: Teresita Sotomayor and Alyssa Tanaka, USA	HFSIM
14:00 - 16:00 - CAICOS 1	<p>Trust in automation among volunteers participating in a virtual world telehealth mindfulness meditation training program Valerie Rice, Rebekah Tree, Gary Boykin, Petra Alfred and Paul Schroeder, USA</p> <p>Real-time and non-contacting 3D position tracking of end-effectors Fluvio Lobo Fenoglietto and Jack Stubbs, USA</p> <p>Modular platform for medical training in a patient management context Carol Wideman and Edward Sims, USA</p> <p>User centered and customized brace, orthotic, and prosthetic design for military amputees Christine Allen, Fluvio Lobo Fenoglietto and Jack Stubbs, USA</p> <p>Perceived workload and performance in the presence of a malodor William Y. Pike, Michael D. Proctor, Christina-Maile C. Pico and Mark V. Mazzeo, USA</p> <p>Perfecting the art of medical training through the science of rapid prototyping technologies Edward Stadler, Angela Alban and Trevor Ellis, USA</p> <p>Intelligent systems for medical training Alyssa Tanaka, Brian Stensrud, Adam Wearne, Glenn Taylor and Denise Nicholson, USA</p>	
226	Determining and Classifying Causes of Human Error Co-Chairs: Pengcheng Li and Kateryna Savchenko, China/USA	HERRP
14:00 - 16:00 - CAICOS 2	<p>Human trust factors in image analysis Anna Williams, Imani Sherman, Simone Smarr, Briana Posadas and Juan Gilbert, USA</p> <p>Study on impact of time load on searching and recognition of visual information Yiqian Zhao, Tianyu Wu, Ming Zhou and Yajun Li, China</p> <p>A visual analytics approach to combat confirmation bias for a local food bank Ritson Delpish, Steven Jiang, Lauren Davis and Kehinde Odubela, USA</p> <p>The impact of natural shadows on visibility Robyn Brinkerhoff, Caroline Crump and Genevieve Nauhaus, USA</p> <p>Segmentation and stillness make human checks secure Toru Nakata, Japan</p>	

16:00 - 16:30 Refreshments will be provided in Grand Caribbean Ballroom		
227	Cognitive Design Co-Chairs: Paul Porskamp and Hongjun Ye, The Netherlands/USA	CN
16:30-18:30 - GRAND CARIBBEAN 1	<p>Cognitive architecture based simulation of perception and behavior controls for robot Yanfei Liu, China</p> <p>Machine usability effects on preferences for hot drinks Hongjun Ye, Jan Watson, Amanda Sargent, Hasan Ayaz and Rajneesh Suri, USA</p> <p>Socio-technical health and usage monitoring systems (HUMS) Johan de Heer and Paul Porskamp, The Netherlands</p> <p>Study on the influence mechanism between ordinal factors and cognitive resource consumption Wenqing Xi, Lei Zhou, Xingyuan Ma, Yuqi Liu and Huijuan Chen, China</p> <p>Redundancy as a compositional and communicative figure for interaction design, and cognitive stimulation in older adults Claudia Rojas, Colombia</p>	
228	Workspace and Learning Environments Co-Chairs: Alexandra Luis and Denise Gaudiot, Portugal/Brazil	ED
16:30-18:30 - GRAND CARIBBEAN 2	<p>The classroom built environment as an inclusive learning process agent for the deaf student: Contribution of the ergonomics in design Denise Gaudiot and Laura Martins, Brazil</p> <p>Comparison of posture, comfort and satisfaction between a dynamic seat and a seat with ergonomic criteria Gabriela Luna and Elvia Gonzalez, Mexico</p> <p>The teaching curriculum in product design Alexandra Luis and Paulo Dinis, Portugal</p> <p>The hard life: A pedagogical experience in industrial design Afonso Borges and José Vicente, Portugal</p>	
229	Training and Benefits of Exercise and Simulation and Cultural Effects on Healthcare Co-Chairs: Chanonya Chaiwongroj and Miyoko Okamoto, Thailand/Japan	EHMD
16:30-18:30 - GRAND CARIBBEAN 3	<p>Developing culturally sensitive care in Japan: Comparison of competence in healthcare and education Miyoko Okamoto, Norihito Taniguchi, Manami Nozaki, Yui Matsuda and Naoko Saito, Japan</p> <p>Thai nutrition beliefs and eating behaviors associated with non-communicable diseases (NCDs) Chanonya Chaiwongroj, Thailand</p> <p>Designing for social support in a mobile health application for children and adolescents Jette Selent and Michael Minge, Germany</p> <p>Most effective enforcement exercise time for aerobic exercise to burn body fat Tamaki Mitsuno and Yuko Shinohara, Japan</p> <p>Towards playful monitoring of executive functions: Deficits in inhibition control as indicator of cognitive impairment in first stages of Alzheimer Lucas Paletta, Martin Pszeida and Mariella Panagl, Austria</p>	

230	Safety Management Miscellaneous Co-Chairs: Meng Shi and Klaire Somoray, Hong Kong/Australia	SMHF
16:30-18:30 - GRAND CARIBBEAN 4	<p>Analysis of the influence factors affecting campus security based on SEM model Xinran Li, Xuebo Chen and Qiubai Sun, China</p> <p>A novel emotion-determined update scheme for evacuation dynamics modeling Meng Shi, Eric Wai Ming Lee and Yi Ma, China</p> <p>Development of proactive safety behavior scale within the work driving context Klaire Somoray, Cameron Newton, Darren Wishart and Ioni Lewish, Australia</p> <p>The REPAIRER Reporting System for integrating human factors into SMS in aviation maintenance Bettina Mrusek and Mark Miller, USA</p> <p>Red or blue light? Which one is better? Is there a right answer? Sandra Preto, Portugal</p> <p>Ergonomic evaluation of a manual load in a car assembling company Aldair Espinoza, Yadira Isabel Salgado, Roberto Adolfo García, Luis Cuautle and Luis Alberto Uribe, Mexico</p> <p>The role and tasks of occupational health competent persons in Malaysia Mohd Nur Ikhwan Shafiee, Shahronizam Noordin, Tengku Hizir Tengku Abdul Rashid, Siti Nazhatul Marina Mior Iskandar, Rabaayah Daud, Ridzwan Che Rus, Nimi Ahmad, Shawaludin Husin, Muhammad Salahuddin Abdul Majid, Norafiza Saim, Zulfadhli Suhaili, Mohd Hussin Abdul Salam and Muhammad Ifwat Ahmad, Malaysia</p>	
231	Fit, Anthropometry and Posture Co-Chairs: Hong Luo and Todd Garlie, China/USA	PEHF
16:30-18:30 - GRAND CARIBBEAN 5	<p>Custom made cycling jerseys prediction based on Kinect analysis for improved performance Thoms Peeters, Jochen Vleugels and Guido De Bruyne, Belgium</p> <p>Effects of body armor fit on encumbered anthropometry relative to bulk and coverage Hyejoo Choi, Todd Garlie and K. Blake Mitchell, USA</p> <p>Postural analysis on manual materials handling tasks and prevalence of work-related musculoskeletal symptoms among Filipino school transport service conductors Beatrice Anne Lim, Maria Kyla Lyn Cueto, Vanessa Carl Co and Benette Custodio, Philippines</p> <p>Using Kinect to capture the joint angles of static driving posture Yuting Zhao, Yu Wang, Jianwei Niu, Linghua Ran and Taijie Liu, China</p> <p>Study on upper limb reachable threshold in driving posture Huimin Hu, Yahui Bai, Hong Luo, Aiping Yang, Pu Hong, Xin Zhang and Haimei Wu, China</p>	
232	Driving Safety Co-Chairs: Victoria Banks and Ian Reagan, UK/USA	RR
16:30-18:30 - GRAND CARIBBEAN 8	<p>Study on the influences of vehicle braking failure on human's physiological and psychological behavior Yunhong Zhang, Lingyun Xiao, Wenhao Hu, Yuzhong Chen, Chaoyi Zhao and Huimin Hu, China</p> <p>Effects of an aftermarket crash avoidance system on warning rates and driver acceptance in urban and rural environments Ian Reagan, USA</p> <p>Exploring the effect of sun glare on motorcycle motorist injury severity in the United Kingdom Chen Liang Hao, Chin-Wei Pai, Ping-Ling Chen and Shang-Ku Chen, Taiwan</p> <p>Effects on driver's behavior of illegal pedestrian crossings Francesco Bella, Viviana Borrelli, Manuel Silvestri and Federica Nobili, Italy</p> <p>Drivers' behavior in pedestrian detection: Effects of road types Francesco Bella, Valentina Natale, Manuel Silvestri and Federica Nobili, Italy</p> <p>A qualitative investigation of professional driver behavior due to socio-economic, cultural, religious factors and its impact on Dubai road safety Shahid Tanvir, Noor Habib and Guy Walker, UK</p>	

233	<p>Social and Occupational Ergonomics Stress, Mental Factors and Musculoskeletal Disorders Co-Chairs: Nicolas Caporusso and Kiara Santiago, USA</p>	SOE
16:30-18:30 - GRAND CARIBBEAN 9	<p>Addressing mental health consequences of social networking from the social services perspective Nicholas Caporusso and Kiara Santiago, USA</p> <p>A systematic review of musculoskeletal disorders (MSDs) among port workers Guanlong Li, USA</p> <p>The blessings and curses of job stress: Exploring the job stress – OCB/CWB nexus among Ghanaian bankers Reginald Arthur and Olivia Anku-Tsedee, Ghana</p> <p>Applied forces and sEMG activity contribution to risk assessment for assistance workers helping passengers with restricted mobility Alessio Silvetti, Lorenzo Fiori, Giorgia Chini, Massimo Gismondi, Valerio Nardi and Francesco Draicchio, Italy</p> <p>Self-esteem in the middle and late adolescence of students from the urban area of the city of Cuenca Wilson Siguenza, Enith Quezada and Maria Iorena Reyes, Ecuador</p> <p>Evaluation of the physical risk factors associated with rapid upper limb assessment in mining industry Norhidayah Mat Sout, Ahmad Rasdan Ismail, Muhamad Arifpin Mansor and Nik Mohd Zuki Nik Mohamed, Malaysia</p>	
234	<p>Human Factors, Sustainable Urban Planning and Infrastructure VII Co-Chairs: Christianne Falcão and Junqi Hu, Brazil/USA</p>	SUPI
16:30-18:30 - GRAND CARIBBEAN 10	<p>Modelling of runway infrastructure operations in an effort to increase economic and environmental sustainable development Julio Roa and Junqi Hu, USA</p> <p>Urban informal settlement and infrastructure for sustainable urban design: Investigating the correlates and mitigation strategies Oluwole Soyinka, Ben Spencer, Kin Wai Michael Siu, Jeff Hou and Laure Heland, China/USA</p> <p>School architecture: Components to improve quality and sociability in a city in the northeast of Brazil Maria Juliana de Moraes and Terezinha Silva, Brazil</p> <p>Construction professionals perception of solid waste management in the South African construction industry Douglas Aghimien, Ayodeji Oke, Clinton Aigbavboa and Nkululeko Currie, South Africa</p> <p>Creative cluster and urban rehabilitation: A case study in northeast Brazil Christianne Soares Falcao and Alberico Barreto, Brazil</p> <p>Estimating residents’ preferences in land use planning process Wojciech Bonenberg, Mo Zhou and Xia Wei, Poland</p>	

235	Usability and User Experience VII Co-Chairs: Tingyi Lin and Beth Atkinson, Taiwan/USA	UUE
16:30-18:30 - GRAND CARIBBEAN 11	<p>User experience design manifesto Paulo Maldonado, Portugal</p> <p>The development of a hybrid approach to usability assessment: Leveraging a heuristic guidance framework for end user feedback Beth Atkinson, Mitchell Tindall and Emily Anania, USA</p> <p>A pilot naturalistic study of PC mouse usability Denis Coelho and Miguel L. Lourenço, Portugal</p> <p>Seeing patterns for guiding users and avoiding pitfalls through design Tingyi Lin, Taiwan</p> <p>Usability and interaction evaluation on breakfast delivery mobile app: Users' experience expectations Marcelo Guimarães and Adriano Renzi, Brazil</p>	
236	Human Factors, Business Management and Society V Co-Chairs: Marcin Geryk and Prince Kwame Senyo, Poland/UK	HFBMS
16:30-18:30 - GRAND CARIBBEAN 12	<p>New trends in research on university social responsibility Marcin Geryk, Poland</p> <p>Understanding behaviour patterns of multi-agents in digital business ecosystems: An organisational semiotics inspired framework Prince Kwame Senyo, Kecheng Liu and John Effah, UK</p> <p>Convolutional gravitational models for economic exchange: Mathematical extensions for dynamic processes and knowledge flows Mike Teodorescu, USA</p> <p>From coconut husk waste to community business Kanyarat Bussaban and Jitlada Chumee, Thailand</p> <p>Perceptions of market competition: What is the difference between contractors and clients? Jinding Xing and Kunhui Ye, China</p> <p>Use of technology and virtual communication via Global Virtual Teams at Arnhem Business School Florentin Popescu and Rob Warmenhoven, The Netherlands</p>	
237	Understanding and Transforming Human-System Interactions - Practical Applications Co-Chairs: Filipa Carvalho and Snježana Babić, Portugal/Croatia	SYSI
16:30-18:30 - TURKS 1	<p>#LookWhatIDidNotBuy: Mitigating excessive consumption through mobile social media Arminda Lopes, Pedro Campos, Luisa Soares and Sara Moniz, Portugal</p> <p>The antecedents of intelligent personal assistants adoption Tihomir Orehovački, Darko Etinger and Snježana Babić, Croatia</p> <p>Research on comparison experiment of humanized interface design of smart TV based on user experience Na Lin, Haimei Wu, Huimin Hu and Wei Li, China</p> <p>Serbian and Libyan female divers' anthropometric measurements in the light of the third autonomy level vehicles Ahmed Essdai, Vesna Spasojevic Brkić and Zorica Veljković, Serbia</p>	

238	Social Network Modeling Co-Chairs: Sekwen Kim and Tomek Strzalkowski, USA	AISC
16:30-18:30 - TURKS 2	<p>Analyzing the single-use plastic bags ban policy in California with social network model and diffusion model Sekwen Kim, USA</p> <p>GitHub as a social network Tomek Strzalkowski, Teresa Harrison, Ning Sa, Gregorios Katsios and Ellisa Khoja, USA</p> <p>The moderating roles of network density and redundancy in lurking behavior on user-generated-content online communities Xingyu Chen, Yitong Wang, Xianqi Hu and Zhan Zhou, China</p> <p>Using information processing strategies to predict contagion of social media behavior: A theoretical model Sara Levens, Omar Eltayeb, Bradley Aleshire, Sagar Snandu, Tiffany Gallicano, Ryan Wesslen and Samira Shaikh, USA</p> <p>Online social media addictive behavior: Case study of Thai military officers Siriporn Poolsuwan, Thailand</p>	
239	Assistive Technology III Co-Chairs: Matteo Zallio and Wang Rui, Ireland/China	HFAT
16:30-18:30 - TURKS 3	<p>A software based on eye gaze to evaluate mathematics in children with cerebral palsy in inclusive education Omar Alvarado, Belen Jara, Paul Barzallo and Hugo Torres, Ecuador</p> <p>Research on the environmental thermal comfort based on manikin Wang Rui, Chaoyi Zhao, Huimin Hu, Yifen Qiu and Xueliang Cheng, China</p> <p>Research challenge for ergonomics and design applied in the assistive technology Maria Lucia Okimoto, Brazil</p>	
240	Technology and Aging: Innovation for Enhanced Quality of Life Co-Chairs: Yu Zhao and Yoshinori Kobayashi, China/Japan	AGE
16:30-18:30 - TURKS 4	<p>Research based on the design of personalized exercise program for community elderly Yuting Lin, China</p> <p>Robotic shopping trolley for supporting the elderly Yoshinori Kobayashi, Seiji Yamazaki, Hidekazu Takahashi, Hisato Fukuda and Yoshinori Kuno, Japan</p> <p>Design and research of health aids based on app in the elderly Yu Zhao, Xiaoping Hu and Delai Men, China</p> <p>Study on the visual experience of senior people shopping website interface Xueying Mei, China</p> <p>Investigation on taking driving lessons among the elderly and the quasi elderly people Cuiping Wu, China</p>	
241	Hands & Feet: How Modern Anthropometric Technology Can Inform Performance Design Co-Chairs: Susan Sokolowski and Linsey Griffin, USA	IPID
16:30-18:30 - TURKS 5	<p>Dimensions of the dynamic hand: Implications for glove design, fit, and sizing Linsey Griffin, Nokyeon Kim, Robin Carufel and Susan Sokolowski, USA</p> <p>Methods and tools for 3D measurement of hands and feet Linsey Griffin, Susan Sokolowski, Heajoo Lee, Emily Seifert, Nokyeon Kim and Robin Carufel, USA</p> <p>Firefighting turnout boots: How a human factors approach can improve performance Susan Sokolowski, Nick Cantrell and Linsey Griffin, USA</p> <p>Drawing hands for glove design: Does the data match-up? Susan L. Sokolowski, Linsey Griffin, Robin Carufel and and Nokyeon Kim, USA</p> <p>The future of footwear design & lasts: Do we now really need them? Susan Sokolowski and Jacob Winkler, USA</p>	

<p>242</p>	<p>Collaborative Human-Centered Design Co-Chairs: EuiChul Jung and Deok Chan Lee, Canada/South Korea</p>	<p>IPID</p>
<p>16:30-18:30 - TURKS 6</p>	<p>A study on user cognitive and affective information supporting system development for product design Long Xu, Heejae Eo, SunYoung Park and Sangwon Lee, South Korea</p> <p>The design process in interior design studio: Integrating interdisciplinary approach in undergraduate level for improving professional practices Alaa Makki, Maham Farooq and Nojoud Alaskar, Canada</p> <p>Analysis of the emotional user experience elements of wireless earphones Hoonsik Yoo and Da Young Ju, South Korea</p> <p>Emotional elements of user experience on autonomous vehicle Jung Min Lee and Da Young Ju, South Korea</p> <p>Collaboration between design and science: Designing lab equipment for biologists/creating the fly motel analogy Pablo Arzate, Canada</p>	
<p>243</p>	<p>Human Factors and Wearable Technologies V Co-Chairs: Laura Merhar and Lukas Merkel, Germany</p>	<p>HFWT</p>
<p>16:30-18:30 - CAICOS 1</p>	<p>Digitization of manufacturing companies: Employee acceptance towards mobile and wearable devices Laura Merhar, Christoph Berger, Stefan Braunreuther and Gunther Reinhart, Germany</p> <p>IMU-based motion capture wearable system for ergonomic assessments in industrial environment Francesco Caputo, Alessandro Greco, Egidio D'Amato, Immacolata Notaro and Stefania Spada, Italy</p> <p>Laboratory experiment on visual attention of pedestrians while using twitter and line with a smartphone on a treadmill Shigeru Haga and Taimon Matsuyama, Japan</p> <p>Determination of cognitive assistance functions for manual assembly systems Lukas Merkel, Christoph Berger, Stefan Braunreuther and Gunther Reinhart, Germany</p> <p>Biomechanical load evaluation by means of wearable devices in industrial environments: An inertial motion capture system and sEMG based protocol Maria Grazia Lourdes Monaco, Agnese Marchesi, Alessandro Greco, Lorenzo Fiori, Alessio Silveti, Francesco Caputo, Nadia Miraglia and Francesco Draicchio, Italy</p>	

Wednesday, July 25

Interactive Poster Demonstrations

Posters will be displayed Monday, July 23 - Wednesday, July 25, 2018, during the designated timeslots listed below. Posters should be positioned 30 minutes prior to the designated start of the session and removed no later than 30 minutes after the end of the session.

POSTER/DEMONSTRATION SESSIONS, MONDAY, JULY 23

Time: 10:30-12:30

Room: Grand Caribbean Ballroom (Lobby Level)

- A1. A framework for modelling crash likelihood information under rainy weather conditions
Younshik Chung, Seonjung Kim and Seunghoon Cheon, South Korea
- A2. Postural balance and vitamin D receptor gene polymorphism in physically independent older adults
Regina Poli-Frederico, Karen Fernandes, Marcos Parron, Gabriel Abe and Rubens Alexandre Silva, Jr., Brazil
- A3. An investigation of key factors influencing aircraft comfort experience
Wenhua Li, Jianjie Chu, Bingchen Gou and Hui Wang, China
- A4. Evaluating a proposed design for Aal (DfA) manual for architecture
Erica Isa Mosca, Jasmien Herssens, Andrea Rebecchi, Megan Strickfaden and Stefano Capolongo, Italy
- A5. Assessing UAS operator performance and workload during simulated search and rescue
James Ferraro, Logan Clark, Naomi Christy, Salim Mouloua, Phillip Mangos and Mustapha Mouloua, USA
- A6. The feasibility of ontological description of medical device connectivity for laparoscopic surgery
Kazuhiko Shinohara, Japan
- A7. Effects of body armor fit on warfighter mobility as measured by range of motion (ROM)
HyegJoo Choi, Todd Garlie, K. Blake Mitchell and Linda DeSimone, USA
- A8. Integration of muse headband EEG system to detect workload and G-Force induced loss of consciousness (GLOC)
Nathan Tenhundfeld, Kerstin Haring, James Wen, Victor Finomore and Chad Tossell, USA
- A9. What's your password? Exploring password choice conformity in group decision making
Imani N. Sherman, Anna Williams, Kiana Alikhademi, Simone Smarr, Armisha Roberts and Juan E. Gilbert, USA
- A10. Construction of easy-to-build and easy-to-manipulate house model
Jessica Vianney García Vázquez, Miguel Ángel Cruz Domínguez Hernández and Humberto Díaz Baleón, Mexico
- A11. Characteristics of offense style leading up to a shot in floorball
Taishi Asai, Japan
- A12. Relationship between body motion and accompanying music in rhythmic gymnastics
Sayuri Kanke, Japan
- A13. Electronic instrumentation and didactic materials
Selene Margarita Vázquez Soto, Abelardo Rivera Corsi and Gerardo Jesús Carabes Real, Mexico
- A14. Development and innovation in the classroom
Enrique García, Miguel Angel Cruz Domínguez Hernández and Humberto Díaz Baleón, Mexico

Interactive Poster Demonstrations

POSTER/DEMONSTRATION SESSIONS, MONDAY, JULY 23

Time: 10:30-12:30

Room: Grand Caribbean Ballroom (Lobby Level)

- A15. Cognitive and behavioral differences between morning-type and evening-type drivers in China
Yuexin Xiong, Yan Ge and Weina Qu, China
- A16. The effect of fall prevention methods for construction scaffolds in accident prevention
Katsutoshi Ohdo, Japan
- A17. Human-centered cognitive training: Adaptive smart terminal to enrich feedback in daily activities
Ludwig Vogel, Germany
- A18. Research on shared product design based on service design concept Illustrated by the case of "ofo" design
Jiayu Zheng, Qian Ji and Yu Zhang, China
- A19. Effects of active recovery actions on cognitive performance
Kari Kallinen, Finland
- A20. Development of an intuitive, visual packaging assistant
Benedikt Maettig and Martin Doeltgen, Germany
- A21. We are on Facebook, Twitter, and Instagram. What do we do now?: Social media data analytics for small businesses
Amrut Sadachar, Hongjoo Woo and Wi-Suk Kwon, USA
- A22. Human factors influencing adoption of social media data in business analytics: Social norms, risk awareness, perceived risk, and hedonic motivation
Benjamin Larson, USA
- A23. Auditory conduction equal-loudness: A perceptual method of comparing relative frequency response
Rafael Patrick, Steven Jiang, Maranda McBride and Tomasz Letowski, USA
- A24. Interpersonal resonance: Developing interpersonal biofeedback for the promotion of empathy and social entrainment
John M. Tennant, Simon Cook, Mihnea C. Moldoveanu, Jordan B. Peterson and William A. Cunningham, Canada
- A25. The impact of anxiety on skill training: Retention of hauling system preparation for a rope rescue task
Brenna McWilliams, Elizabeth Sanli, Linda Rohr and Heather Carnahan, Canada
- A26. Back-pain diagnosis support system development through ergonomics principle - a pilot test
Seung Nam Min, Jung Nam Im, Murali Subramaniyam, Kyung Sun Lee, Park Se Jin and Dong Jun Kim, South Korea
- A27. Stress, anxiety, and resilience among U. S. Service members and veterans who volunteer for mindfulness training: Does deployment make a difference?
Gary Boykin and Valerie Rice, USA
- A28. Improving car drivers response time through adaptive eye tracking
Holger Schmidt and Gottfried Zimmermann, Germany
- A29. Improving mobile interfaces for the elderly
Ana Rebeca Marques Araujo, Eveline Sá, Ivana Maia, Karla Fook and Luíza Rosa, Brazil
- A30. A comparison of motion path trajectories between reactive and planned agility
Christine Joseph and Leia Stirling, USA
- A31. The effects of icon design and background color on visual search performance and user preferences on LCD monitors
Baris Bumin, Mehmet Turhan and Deniz Daybelge, Turkey

Interactive Poster Demonstrations

POSTER/DEMONSTRATION SESSIONS, MONDAY, JULY 23

Time: 10:30-12:30

Room: Grand Caribbean Ballroom (Lobby Level)

- A32. Exploring possible incorporation of civilian MEDEVAC air evacuation standards to military air evacuation
Amber Linde, USA
- A33. Font size design of LED guidance signboard with different display brightness
Ling Luo, Linghua Ran, Zhongting Wang, Xin Zhang, Huimin Hu, Haimei Wu and YuWei Jiang, China
- A34. Assessing the ACGIH TLV's for lifting beyond 30 degrees torso asymmetry
Khaled Hafez, Nils Hakansson, Jeremy Patterson and Michael Jorgensen, Saudi Arabia
- A35. An anthropometric survey in aging design of kitchen cabinet for Taiwanese
Yu-Cheng Lin, Hai-Fen Lin and Tsun-Hung Huang, Taiwan
- A36. Camera movement in VR
Woohyun Park, South Korea
- A37. The effects of perceived accuracy and social perceptions on satisfaction with mobile recommender systems
Jaewon Choi, South Korea
- A38. Collaborative system modeling tool for model-based systems engineering education
Masashi Miura, Japan

POSTER/DEMONSTRATION SESSIONS, MONDAY, JULY 23

Time: 14:00-16:30

Room: Grand Caribbean Ballroom (Lobby Level)

- B1. Wellness in cognitive workload - a conceptual framework
Euarda Pereira, Susana Costa, Nelson Costa and Pedro Arezes, Portugal
- B2. Serious games in virtual environments: Cognitive ergonomic trainings for workplaces in intralogistics
Veronika Kretschmer and André Terharen, Germany
- B3. Prevention of communication error: Learning effect of looking back one's communication
Ryo Nakamura, Yasuhiro Kitamura and Ayanori Sato, Japan
- B4. Effect of 8 weeks of weight training on body composition and muscular endurance variables of collage male students
Hamed Abuhilal and Hassan Almoslim, Saudi Arabia
- B5. To crash or not to crash? An analysis of outcome bias for novice and expert pilots
Bradley S. Baugh, Mattie N. Milner, Emily C. Anania, Gajapriya Tamilselvan, Stephen Rice and Scott R. Winter, USA
- B6. Automation and human monitoring performance: Effects of automation reliability and task load
Logan Clark, James Ferraro, Naomi Christy and Mustapha Mouloua, USA
- B7. The influence of level of automation, adaptive automation and exercise on performance and well-being
Franziska Schmalfuß, Sebastian Mach, Michael Bojko, Ralph Riedel and Josef Krems, Germany
- B8. A live style under the transformation: Upper Silesia region, Poland
Barbara Stankiewicz, Poland

Interactive Poster Demonstrations

POSTER/DEMONSTRATION SESSIONS, MONDAY, JULY 23

Time: 14:00-16:30

Room: Grand Caribbean Ballroom (Lobby Level)

- B9. Research on visual sensing capability difference between designers and non-designers based on difference threshold measurement
Sha Liu, Runqi Li and Jiaxin Dai, China
- B10. Proposal of video game using concept of becoming the dotted main character
Namgyu Kang, Minayo Okumura, Kana Hirose and Keigo Yabuki, Japan
- B11. Design of an enhanced disc golf game to facilitate players with visual impairments
Kaycee Glatke, Bijan Fakhri, Corey Heath, Meredith Moore and Marziye Rahimi, USA
- B12. The influence of organizational safety climate on group safety outcomes: The mediation role of supervisor safety communication & monitoring
Rajkiran Kandola, Matteo Curcuruto, Mark Griffin and James Morgan, UK
- B13. Applying human factors techniques to knowledge sharing and decision support for a contaminant migration tracking tool
Jessica Voge, Paula Jacobs, Michael Farry and Alex Negri, USA
- B14. Swift trust in medical robotics
Marc Pfahler, Ashley Neimeier and Slava Guznov, USA
- B15. Crucial moments in professional careers of preschool and primary teachers
Adriana Wiegerova and Hana Navratilova, Czech Republic
- B16. Designing cushioning properties with desktop 3D-printing
Yasuo Nagura and Hiroya Tanaka, Japan
- B17. Investigation of EEG-based indicators of skill acquisition as novice participants practice a lifeboat manoeuvring task in a simulator
Rifat Biswas, Sinh Bui, Brian Veitch and Sarah Power, Canada
- B18. Human factors and ergonomics exploration of heel heights and body types: Implications for design
Aditya Jayadas, Sarah Lizzie Johnson, Adriana Petrova and Semra Peksoz, USA
- B19. Risk management in a changing world
Zahra Hamdani, Mohamed Hamdani and Belkacem Zairi, Algeria
- B20. Analysis of physical feature in the course turn while walking
Ryota Sakashita and Hisaya Tanaka, Japan
- B21. User centered design for unmanned systems in a dynamic environment
Michael McWilliams and Glenn Osga, USA
- B22. Visualization of the muscle tension in stand-up and sit-down motion using MOCAP and EMG
Ryuma Sawaguchi and Hisaya Tanaka, Japan
- B23. Ergonomic evaluation of physical workload among steel workers
Amira Omrane, Taoufik Khalfallah and Lamia Bouzgarrou, Tunisia
- B24. Improving threat detection: Interface design changes for security surveillance
Victoria Blakely, USA
- B25. A qualitative analysis of the social and self-conceptual consequences of limitations in transportation for PWE
Ji In Han, Madeline Rita, Christian Goodwin, Garland Mooney, Elise Brosnan and Rupa Valdez, USA
- B26. Visualized messages: how they change the communication and why we use them
Seung Jae Lee, South Korea
- B27. An affective environment based on human emotion recognition using neural networks
Ícaro Weyll and Francisco Barretto, Brazil
- B28. Player-developer convergence: Examining the role of audience in game development practices
Richard Wirth, USA

Interactive Poster Demonstrations

POSTER/DEMONSTRATION SESSIONS, MONDAY, JULY 23

Time: 14:00-16:30

Room: Grand Caribbean Ballroom (Lobby Level)

- B29. System requirements of a virtual reality balance system for elders
Shih-Chen Fan, Taiwan
- B30. Risk management optimization based on glassware application for natural disasters with visible results in integrated development environment
Liliana Chaglla-Rodriguez and Diego Quisi-Peralta, Ecuador
- B31. Rural pleasure – smart innovative marketing for the Shanglin community
Hui-Jiun Hu, Taiwan
- B32. Instructional interaction research of participatory design applied in rural community design
Lishu Lu, Taiwan
- B33. The impacts of electric vehicle penetration and electricity generation mix on emissions in the U. S.
Roxana J. Javid and Khayree Clark, USA
- B34. Prevalence and risk factors of work-related low back pain among nurses
Emel Özcan, Tuğba Baysak, Sara Asghari Kaleibar, Ekin Ilke Sen, İrfan Ozcan and Sina Esmaeilzadeh, Turkey

POSTER/DEMONSTRATION SESSIONS, TUESDAY, JULY 24

Time: 10:30-12:30

Room: Grand Caribbean Ballroom (Lobby Level)

- C1. Enabling military virtual reality and mixed reality simulations with a flexible peripheral framework and automated assessments
Michael Jenkins, Scott Irvin, David Wong-Faull and Michael Makevic, USA
- C2. Unmanned aerial systems privacy concerns
Mattie Milner, Stephen Rice, Scott Winter, Gajapriya Tamilselvan, Daniel Marte and Emily Anania, USA
- C3. Effects of different information amounts and types on willingness to ride in a driverless vehicle
Emily Anania, Nathan Walters, Matthew Pierce, Stephen Rice, Scott Winter and Mattie Milner, USA
- C4. Robot operability simulation model for human workload and mission assessments
Sang Yeong Choi, South Korea
- C5. Auditory evoked potentials and pet-scan: early and late mechanisms of selective attention
Sergey Lytaev, Mikhail Aleksandrov, Tatjana Popovich and Mikhail Lytaev, Russia
- C6. Research on the optimal control-display ratio of smart phone touch screen
Yunhong Zhang, Hong Chen, Wei Li, Zhongting Wang and Xiaolei Xin, China
- C7. A framework to implement building information modeling (BIM) in buildings industry
Abdulaziz Banawi, Saudi Arabia
- C8. Field evaluation of task requirements of mining jobs in Nigerian quarry mines: A pilot study
Afamefuna Egwuonwu and Henry Chinaemelu Egwuonwu, Nigeria
- C9. Operator error types in a DCS of a nuclear power plant
Licao Dai and Lu Wenjie, China

Interactive Poster Demonstrations

POSTER/DEMONSTRATION SESSIONS, TUESDAY, JULY 24

Time: 10:30-12:30

Room: Grand Caribbean Ballroom (Lobby Level)

- C10. A safety influencing factors screening method for space man-machine system
Lu Chen, Liming Ren, Xiaopeng Li, Fuqiu Li, Chunhui Wang, Bo Wang, Wenming Zhou and Sha Qin, China
- C11. Reliability and safety assessment for human involved complex spaceflight tasks
Wenming Zhou, Liming Ren, Xiaopeng Li, Fuqiu Li, Yi Xiao, Lu Chen, Wei Zhang and Yan Liu, China
- C12. Dehydroepiandrosterone administration as a prophylaxis against acute stress reactivity in military personnel
Valerie Rice and Cory Overby, USA
- C13. Student satisfaction using Google Classroom
Amadeu Sa De Campos Filho, Mirelly Atanazio Ciriaco and Joelton Santos, Brazil
- C14. Proposal and evaluation of "Cariño Index"- A new coordination index based on weather conditions
Akari Fujiwara and Katsuhiko Ogawa, Japan
- C15. The musculoskeletal contribution in wheelchair propulsion: Numerical analysis
Nadir Skendraoui, Fabien Bogard, Sébastien Murer, Tareq Ahram, Krzysztof Fiolek and Redha Taiar, France/USA
- C16. Effectiveness of balance seat on vibration comfort
Seo Young, Hong Seung Hee, Kim Da Mee, Hussain Iqram, Park Se Jin, Kim Young Jin, and Seo Byoung Jun, South Korea
- C17. Barriers to university merger - comparative analysis of universities in Europe
Lukasz Sulkowski, Andrzej Wozniak and Robert Seliga, Poland
- C18. A stakeholder's perspective on the causes of poor service delivery of road infrastructure
Nokulunga Mashwama, Clinton Aigbavboa and Wellington Thwala, South Africa
- C19. Exchange patterns and community solidarity in online communities
Eunyoung Han, Kyung Kyu Kim and Youngin Lee, South Korea
- C20. Development of rapid earthquake hazard assessment for human safety: Machine learning-based geospatial grid information
Han-Saem Kim, Chang-Guk Sun and Hyung-Ik Cho, South Korea
- C21. Evaluation of the expression of error messages on dialysis machines using a decision table
Yoshitaka Maeda and Satoshi Suzuki, Japan
- C22. Effects of ambient lighting on skill acquisition and retention during helicopter egress simulation training
Stefanie Martina, Gal Ziv, Elizabeth Sanli and Heather Carnahan, Canada
- C23. Validation of a virtual reality training simulation for interoperability in crisis management emergency responders
Isabelle Turcotte, Lucie Rivard, Kevin Breault, Harold Dumur, Jean-Pierre Verville and Sébastien Tremblay, Canada
- C24. The influence of avatar stylization on perceptions of avatar realism
Elaine Choy, Jennie Ablanado, Christopher Rodeheffer and Tamara Griffith, USA
- C25. The impact of the visualization mode on situation awareness during a CCTV surveillance task
Serge Pelletier, Cindy Chamberland, Helen Hodgetts, François Vachon and Sébastien Tremblay, Canada
- C26. Visualization analysis on macro quality data
Gang Wu, Haitao Wang, Jing Zhao, Zhao Chao, Zhang Fan and Wenxing Ding, China
- C27. Cognitive function evaluation of dementia patients using P300 Speller
Ryo Morooka, Hisaya Tanaka, Takahiko Umahara, Akito Tsugawa and Haruo Hanyu, Japan

Interactive Poster Demonstrations

POSTER/DEMONSTRATION SESSIONS, TUESDAY, JULY 24

Time: 10:30-12:30

Room: Grand Caribbean Ballroom (Lobby Level)

- C28. Game for the digital inclusion of the physically disabled with reduced mobility
Luana Alves, Andrew Reis, Eveline Sá and Thiago Silva, Brazil
- C29. Intelligent power wheelchair (IPW) upgrade kit
Jesse Leaman, USA
- C30. Deductive reasoning with a simulated information extraction pipeline
Erin Zaroukian, USA
- C31. Design for situated cognition method applied to aeronautical domain
Luis Gonzaga Trabasso, Brazil
- C32. Experimental study on contrast sensitivity of people at different ages
Linghua Ran and Haimei Wu, China
- C33. Psychophysiological indices of workload by task domain
Amanda Kelley and Katie Feltman, USA
- C34. Ambient alerting
Kristin Hare and Brian Jones, USA
- C35. Understanding multi-modal displays to reduce distraction in locomotive engineers
Rachel Grice, USA
- C36. Helping to shape ethical, legal and social implications of the digital revolution through participation
Alexander Mertens, Germany
- C37. Cognitive space and accessory design for bone carving artisans facing different musculoskeletal disorder
Praveen Srivastava and Jeff Davis, India
- C38. Perceptual optimization of 3D graphics: A velocity-based level of detail management for high-speed train driving simulation
Beiyuan Guo, Yujie Mao and Weining Fang, China

POSTER/DEMONSTRATION SESSIONS, TUESDAY, JULY 24

Time: 14:00-16:30

Room: Grand Caribbean Ballroom (Lobby Level)

- D1. EEG classification by SVM for EEG-based four mode switch
Hisaya Tanaka and Masahiro Nishikawa, Japan
- D2. The influence of dry cupping of differing intensities on heart rate variability
Jing-Shia Tang, Chi-Wen Lung, Fang-Hsin Lee, Chia-Chang Chuang, Ben-Yi Liau and Chien-Liang Chen, Taiwan
- D3. A study of learning effectiveness in disaster nursing course based on Kirkpatrick's evaluation model
Jing-Shia Tang, Chien-Liang Chen, Chia-Chang Chuang, Chia-Jung Chen and Jui-Ying Feng, Taiwan
- D4. Certain approaches to automated designing of competence-oriented models for knowledge engineers using the tutoring integrated expert systems
Galina Rybina and Elena Fontalina, Russia
- D5. Verification of blinking LED block installed crosswalk entrance for low-vision people
Shoichiro Fujisawa, Tomohiro Okada, Daiki Kihara, Hideaki Nagahama, Tomoyuki Inagaki, Norihiro Ikeda, Kazuya Takahashi, Kiyohito Takeuchi, Hiroshi Ogino, Shin-Ichi Ito, Katsuya Sato and Osamu Sueda, Japan

Interactive Poster Demonstrations

POSTER/DEMONSTRATION SESSIONS, TUESDAY, JULY 24

Time: 14:00-16:30

Room: Grand Caribbean Ballroom (Lobby Level)

- D6. Market basket analysis of safety at active highway-railroad grade crossings using video surveillance
Julius Codjoe, William Saunders and Saleh Mousa, USA
- D7. A study of nursing competence for nursing graduates among different vocational education programs
Yu-Ching Tu, Cheng-Chieh Tsai and Hsiu-Rong Cheng, Taiwan
- D8. Evaluation of thumb joint angles of order pickers
Olfa Haj Mahmoud, Tony Monnet, Tareq Ahram, Ellie Abdi, Patrick Lacouture and Redha Taiar, France/USA
- D9. Biomechanical motion and behavior of trans-tibial amputee during gait
Houda Salah, Isabelle Loiret, Jean Paysant, Coralie Villa, Helene Pillet, Camille Fournier-Farley, Tareq Ahram, Ellie Abdi, Redha Taiar, Martinet Noel and Pierret Jonathan, France/USA
- D10. How does seat position affect seat comfort: Do culture, gender, affiliative tendency, and tasks matter?
Woyram Aba Kofi-Bediako, Ghana
- D11. Methodology for adaptable footwear design; development of shoes for economically vulnerable children in Colombia
Fausto Zuleta Montoya, Pamela Hernandez Pelaez and Karen Rosales Calderon, Colombia
- D12. Reliability analysis of operators in the DCS of a nuclear power plant based on accident simulation
Licao Dai and Wenjie Lu, China
- D13. Ergonomic and anthropometric preliminary study to determine if moving a loaded cart can cause musculoskeletal disorders
Martha Roselia Contreras Valenzuela, Roy López Sesenes, Alejandro David Guzmán Clemente, Alber Eduardo Duque Alvarez and Francisco Cuenca-Jiménez, Mexico
- D14. Multi-view model contour matching based food volume estimation
Xin Zheng, Qian Yin, Yifei Gong, Qinyi Lei and Run Yao, China
- D15. The related factors for self-efficacy of condom use among adolescent girls: Taking HPV acquisition preventing as an example
Cheng-Chieh Tsai, Jing-Shia Tang, Tung-I Tsai and Yu-Ching Tu, Taiwan
- D16. Assessing preferences of attributes of women's business apparel based on body type: Implications for design
Aditya Jayadas, Courtney Unruh, Adriana Petrova and Semra Peksoz, USA
- D17. Improving human factors of personal protective equipment for healthcare workers using performance cooling fabrics
Juyeon Park, USA
- D18. Analysing worker exposure to WBV at the Doñana Biological Reserve (Spain). A case study
María Dolores Martínez-Aires, Joaquín Jesús Quirós Priego and Mónica López-Alonso, Spain
- D19. Sequential recognition rate and latency of frequency-based Tactons
Ana Jimenez and Ricardo Jimenez, USA
- D20. Semantic dissonance and mental rotation in engineering and non-engineering students
Brian Hardy and Lisa Elliott, USA
- D21. A recreational-pedagogical game-based approach for ergonomics learning to improve musculoskeletal discomfort
Ricardo Massola, Michelle Missio and Patricia Magri, Brazil

Interactive Poster Demonstrations

POSTER/DEMONSTRATION SESSIONS, TUESDAY, JULY 24

Time: 14:00-16:30

Room: Grand Caribbean Ballroom (Lobby Level)

- D22. Design implications of urban public spaces for female physical activity in Saudi Arabia
Ahmad Maghrabi, Saudi Arabia
- D23. Cognitive effects of modern apathy on privacy, security, and trust
Valarie Yerdon and Peter Hancock, USA
- D24. Ergonomic evaluation of risk level by exposure to forced postures in cattle slaughterhouse workers in Ecuador
Alejandra Lascano, Gustavo Patín, Anita Larrea and Thalia San Antonio, Ecuador
- D25. Ergonomic analysis of the operators' activity in an industrial agri-food workshop
Lamia Bouzgarrou, Amira Omrane, Nihel Ellouz and Tahar Hakim Ben Chakroun, France
- D26. A human factor analysis for automated vehicle -introduction of several unique events between automated vehicle and human driver
Naohisa Hashimoto, Yusuke Takinami, Simon Thompson, Hironori Adachi and Shin Kato, Japan
- D27. Individual differences in real-time operator state monitoring
Katie Feltman and Amanda Kelley, USA
- D28. Nimble fingered or all thumbs? The relationship between manual dexterity and touchscreen interaction
Victoria Blakely, Jeff Hansberger, Christopher Kaufman, Sarah Meacham and Jared McArthur, USA
- D29. Research on the effect of screen brightness and movement speed of visual targets on visual acuity
Linghua Ran and Chaoyi Zhao, China
- D30. Why do they keep clicking? Understanding causal factors for repeat phishing victims
Matthew Canham, USA
- D31. Reconstruction of attractiveness in rural field: study of innovation exhibition mode in community culture
Lishu Lu and Yi-Wun Lin, Taiwan
- D32. Applying the visual creation method of "from concrete to abstract" to the development of campus souvenirs
Hui-Ping Lu, Taiwan
- D33. Ergonomic design and layout for control center of urban rail transit
YueYuan Chen, China
- D34. Creating a 21st-century classroom
Melissa Giraldo Henao, USA
- D35. A design method of civil commercial aircraft cabin human factors based on systems engineering concepts
Zou Zhaoliang, China
- D36. The effect of technology on pedestrian and driver behavior
Manon Limousis-Gayda, Rami Hashish, Dinko Kranjac and Felix Lee, USA

Interactive Poster Demonstrations

POSTER/DEMONSTRATION SESSIONS, WEDNESDAY, JULY 25

Session Time: 10:30-12:30

Room: Grand Caribbean Ballroom (Lobby Level)

- E1. The quality of work life for health care workers in Guadalajara, Mexico
Raquel González-Baltazar, Silvia G. León-Cortés, Mónica I. Contreras-Estrada,
Gustavo Hidalgo-Santacruz and Ma. Liliana Hidalgo-González, Mexico
- E2. Internet of things - New paradigm for learning. Challenges for business
Lukasz Sulkowski and Dominika Kaczorowska-Spychalska, Poland
- E3. Research on the optimization method of website based on user experience
Chun-fu Li and Ya-Qi Jiang, China
- E4. Effects of personality traits on pedestrian behavior in a Chinese Sample
Tingting Zheng, Weina Qu, Yan Ge, Xianghong Sun and Kan Zhang, China
- E5. Human factors in simulation: The importance of the whole patient journey in
interdisciplinary health and social care curricula
Natasha Taylor, UK
- E6. An age-adapting electrolarynx – A feasibility study
Pieter Coetzee, Joice Lamfel, David Rubin and Vered Aharonson, South Africa
- E7. Enhancing voice quality in vocal tract rehabilitation device
Bianca Sutcliffe, Lindzi Wiggins, David Rubin and Vered Aharonson, South Africa
- E8. Test for specific dyslexia evaluation (TEDE): Two tasks using augmented reality
Maritzol Tenemaza, Rosa Navarrete, Erika Jaramillo and Andrés Rodríguez, Ecuador
- E9. Mobile application for crowd-mapping accessibility places and generation of
accessible routes
Nigel da Silva Lima, Anselmo Paiva, Ivana Maia, Aristófanés Corrêa Silva and
Geraldo Braz, Jr., Brazil
- E10. Diagnosing a concussion by testing horizontal saccades using an eye tracker
Atefeh Katrahmani and Matthew Romoser, USA
- E11. Graphic design of interactive tools for people with autistic spectrum disorders
João Pedro Leite, Ivana Maia, Luíza Rosa and Alinne Ferreira, Brazil
- E12. Modeling of 3D environments for collaborative immersive applications scenarios
Alinne Ferreira, João Pedro Leite, Anselmo Paiva, Ivana Maia and Jordan Boaz, Brazil
- E13. Different wheelchairs designs influence emotional reactions from users and non-
users?
Luciana Carneiro, Francisco Rebelo, Paulo Noriega and Joana Pais, Portugal
- E14. Graphical environment for application interfaces accessible by seniors
Luíza Rosa, Ivana Maia, Eveline Sá and Alinne Ferreira, Brazil
- E15. Redesign and improvement of the system of signaling and visual communication
for the rectory of the Federal Institute of Maranhão that meets the needs of visually
impaired people
Lays Campos, Ivana Maia, Luís Rocha and Luíza Rosa, Brazil
- E16. Characteristics of problem consciousness of Indonesian returnee nurses who
experienced intercultural exchange in foreign countries
Manami Nozaki, Norihito Taniguchi, Miyoko Okamoto, Yui Matsuda, Reiko Mitsuya
and Shunji Morita, Japan
- E17. Toward robust models of cyber situation awareness
Ian A. Cooke, Alexander Scott, Kasia Sliwinska, Novia Wong, Soham V. Shah,
Jihun Liu and David Schuster, USA
- E18. Japanese parents' communication with their children about sex: What are the
parents asking online?
Yui Matsuda, Naoko Saito, Miyoko Okamoto, Norihito Taniguchi and
Manami Nozaki, USA
- E19. Engineering strategies and human safety recommendations based on comparing
two recent earthquakes occurring in Korea
Chang-Guk Sun, Han-Saem Kim and Hyung-Ik Cho, South Korea

Interactive Poster Demonstrations

POSTER/DEMONSTRATION SESSIONS, WEDNESDAY, JULY 25

Time: 10:30-12:30

Room: Grand Caribbean Ballroom (Lobby Level)

- E20. Improving Japanese healthcare education by understanding "intercultural competence"
Norihito Taniguchi, Miyoko Okamoto, Yui Matsuda and Manami Nozaki, Japan
- E21. Should we look in the eyes for safer driving?
Sylvia Kaduk, Neville Stanton and Aaron Roberts, UK
- E22. Influence of the manner of grasping a white cane on the ability of visually impaired persons to use these canes for estimating object weights
Kiyohiko Nunokawa, Manabu Chikai, Kouki Doi and Shuichi Ino, Japan
- E23. A pilot study of physioacoustic treatment in a tractor seat
Jarkko Leppala, Finland
- E24. An integrated holistic conceptual framework for marketing construction business enterprise
Jonas Ekow Yankah, Clinton Aigbavboa and Wellington Didibhuku Thwala, South Africa
- E25. Enterprise-level private data sharing: Framework and user interface concepts
Mark St. John, Ron Moore, April Martin, Woodrow Gustafson, Manuela Jaramillo, Grit Denker, Karsten Martiny and Linda Briesemeister, USA
- E26. Application of 3D scanning to help solve human factors, ergonomics, system safety, and training issues
Andrew Koch, USA
- E27. Inferring a user's propensity for elaborative thinking based on natural language
Veena Chattaraman, Wi-Suk Kwon, Alexandra Green and Juan Gilbert, USA
- E28. Work posture analysis in the ergonomic assessment of products - a case study
Grzegorz Dahlke and Milena Drzewiecka-Dahlke, Poland
- E29. Towards better interpretability of machine learning-based decision support systems
Xiaomei Wang, Ann Bisantz, Matthew Bolton, Lora Cavuoto and Varun Chandola, USA
- E30. Poka-yokes as occupational preventive measures in construction safety: A review
Antonio López Arquillos, M^a del Carmen Pardo Ferreira and Juan Carlos Rubio Romero, Spain
- E31. A social and inclusive design project of a green innovative school
Francesco Spagnoli, Italy
- E32. Design for the sensitive experience. Inclusive design in historical-archaeological contexts
Francesca Bozza, Italy
- E33. Design and realization of catching and grappling course multimedia computer aided instruction system based on web
Xin Wang, China
- E34. Design of ergonomic protective gear to prevent injuries in in-line skating
Catalina Mariani Susanne, Spain
- E35. Audio-tactile medical alarm vest (ATMAV) and users' perception
Amirmasoud Momenipour and Priyadarshini Pennathur, USA
- E36. Civilizational change: Factors of decline and conflict
Michael Hail, USA

APPLIED HUMAN FACTORS AND ERGONOMICS

Proceedings of the 9th International Conference on Applied Human Factors and Ergonomics (AHFE 2018) and the Affiliated Conferences

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19th International Conference on The Human Aspects of Advanced Manufacturing (HAAMAHA): Manufacturing Enterprises in a Digital World	W. Karwowski, Co-Chair S. Trzcielinski, Co-Chair

Exhibits

All conference exhibits, posters/demonstrations, and conference refreshment breaks will be held in the **Grand Caribbean Ballroom** (Lobby Level) at Loews Sapphire Falls Resort, Universal Studios Orlando™

EXHIBITION SCHEDULE

Exhibition Setup:

Sunday, 22 July, 13:00 to 17:00

Monday, 23 July, 8:00 to 10:00

Exhibition Hours:

Monday, July 23, 10:00 to 17:00

Tuesday, July 24, 10:00 to 17:00

Wednesday, July 25, 10:00 to 14:00

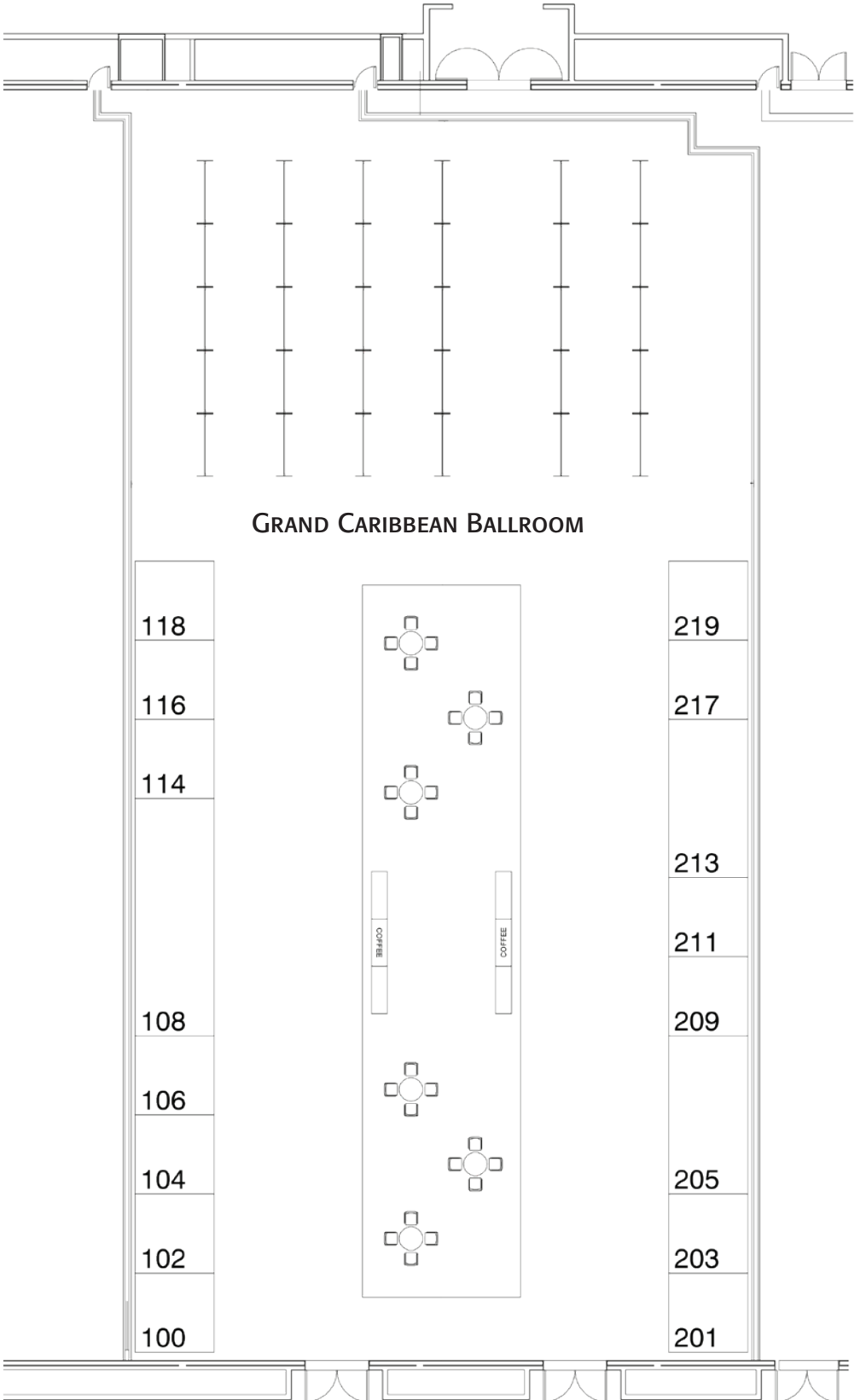
Exhibition Closing/Dismantle:

Wednesday, 25 July, 14:00 to 16:00

EXHIBIT SPACE	COMPANY NAME AND WEB SITE
205-209	Springer International Publishing AG - www.springer.com
108	CRC Press - Taylor & Francis - www.taylorandfrancis.com
106	UMICH Center for Ergonomics - www.centerforergonomics.org
211	NexGen Ergonomics Inc. - www.nexgenergo.com
213	Smart Eye - www.smarteye.se
102-104	Ergoneers - www.ergoneers.com
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118	IHSI 2019 - www.ihsint.org
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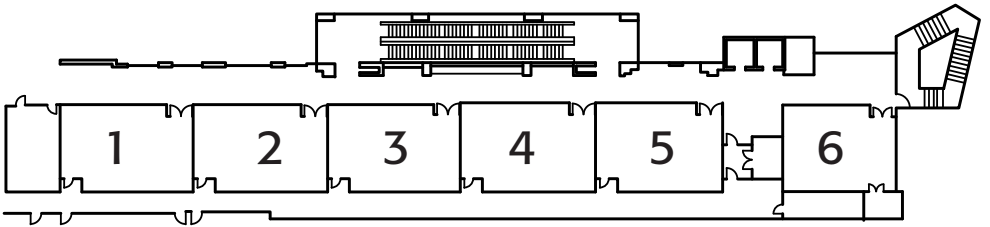
Conference Exhibition and Poster Sessions



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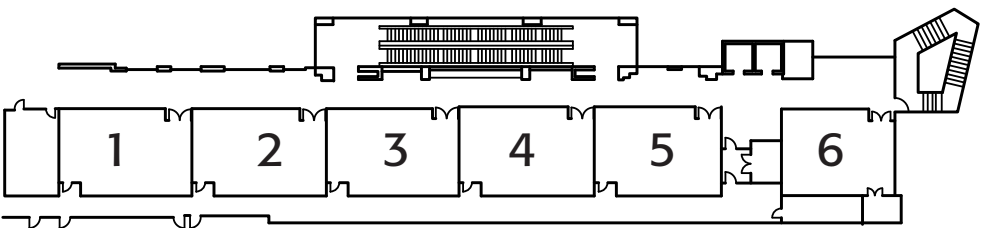
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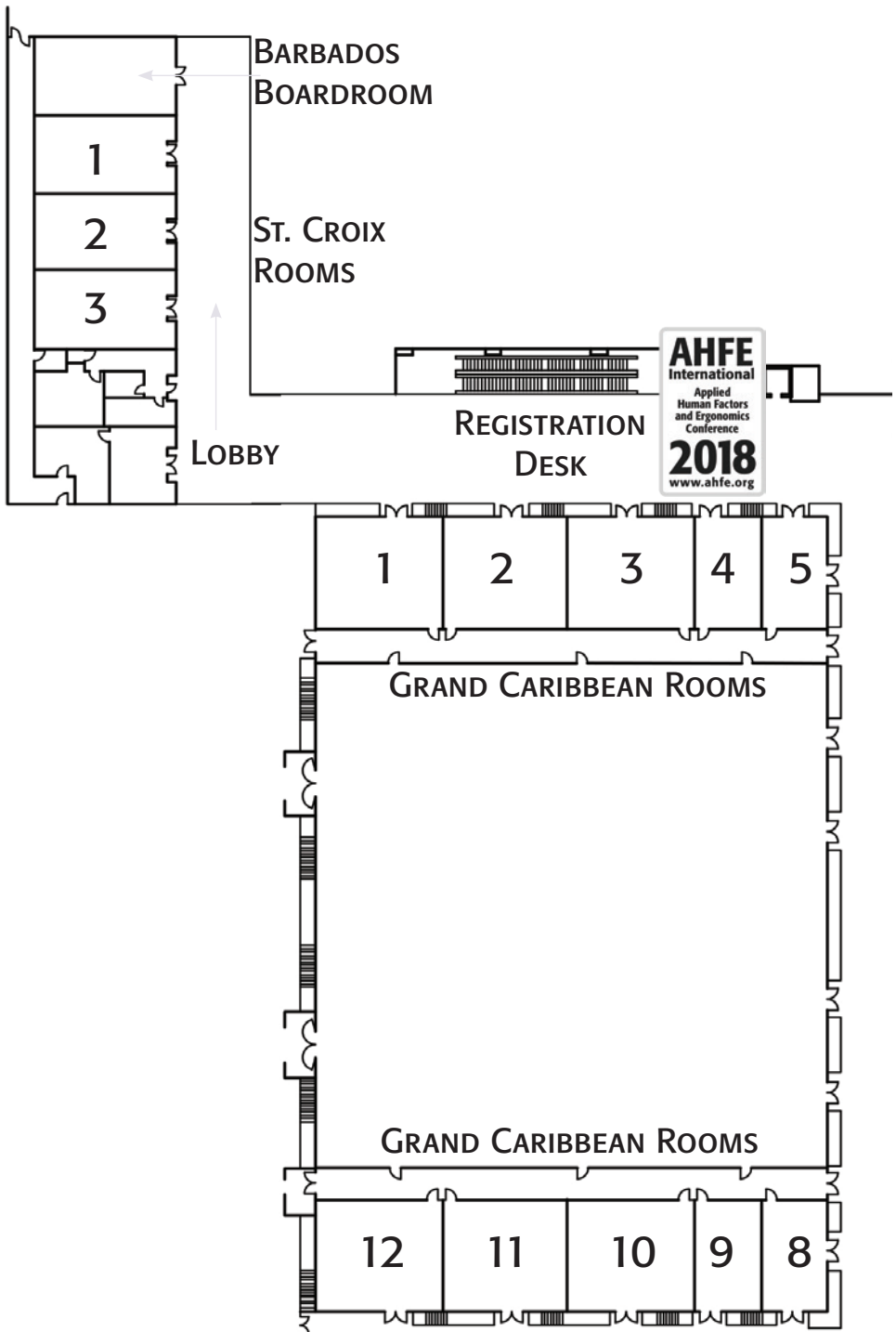
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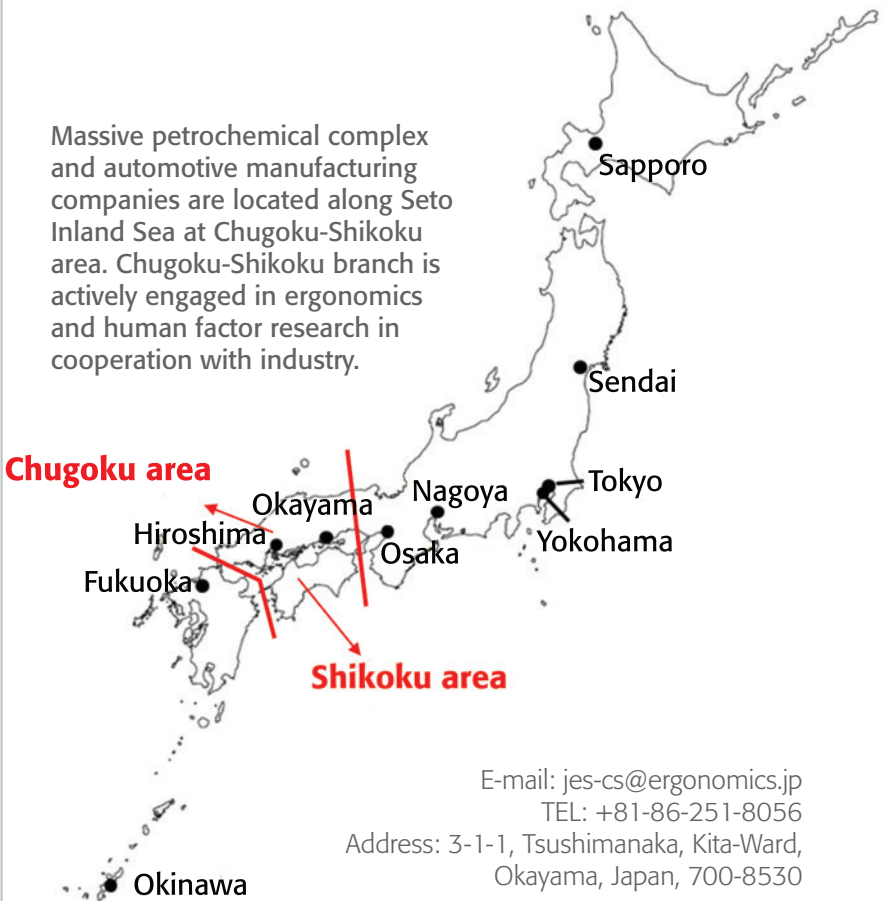
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